Alcatel-Lucent 5620

SERVICE AWARE MANAGER | RELEASE 6.0

Alcatel-Lucent 5650

CONTROL PLANE ASSURANCE MANAGER | RELEASE 2.0

INSTALLATION AND UPGRADE GUIDE

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8.10 This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario. The application of the United Nations Convention on Contracts for the International Sale of Goods is hereby expressly excluded.

Preface

About this document

The *5620 SAM | 5650 CPAM Installation and Upgrade Guide* contains configuration information and procedures for:

- installing the 5620 SAM on a Windows or Solaris platform
- installing database, server, and client components in a standalone configuration on a Windows or Solaris platform
- installing database, server, and client components in a redundant configuration on a Solaris platform
- configuring non-5620 SAM software, such as the 5620 NM, for interaction with the 5620 SAM

Note 1 — Previous versions of the *5620 SAM | 5650 CPAM Installation and Upgrade Guide* contain information about setting up an HTTP or HTTPS connection on the 5620 SAM server for OSS communication. This information is now in the SSL security configuration chapter of the *5620 SAM User Guide*.

Note 2 — Previous versions of the *5620 SAM | 5650 CPAM Installation and Upgrade Guide* contain information about restoring a database. This information is now in the database troubleshooting chapter of the *5620 SAM Troubleshooting Guide*.

About related documentation

There are several documents that describe the 5620 SAM and the managed devices.

- See the *5620 SAM Planning Guide* for information about 5620 SAM scalability and recommended hardware configurations.
- See the *5620 SAM | 5650 CPAM Installation and Upgrade Guide* for information about installing the 5620 SAM database, server, and client software.
- See the *5620 SAM User Guide* for information about using the client GUI to perform network management functions.
- See the *5620 SAM Parameter Guide* for definitions, ranges, dependencies, and default values for configurable 5620 SAM client GUI parameters.
- See the *5620 SAM-O OSS Interface Developer Guide* for information about using the XML OSS interface to create OSS applications, for example, to perform alarm monitoring and inventory control.
- See the *5620 SAM Routine Maintenance Procedures Guide* for information about developing and scheduling regular maintenance activities.
- See the *5620 SAM System Architecture Guide* for information about software component interaction.
- See the *5620 SAM NE Compatibility Guide* for release-specific information about the compatibility of managed-device features with different 5620 SAM releases.
- See the *5620 SAM Statistics Management Guide* for information about managing 5620 SAM statistics collection and to view a list of the MIB counters that are available for collection using the 5620 SAM.
- See the index file in the User_Documentation directory on the application DVD for additional documentation information.

See the 7750 SR, 7450 ESS, 7710 SR, 7705 SAR, 7250 SAS, 7250 SAS-ES, 7250 SAS-ESA, OS 6850, and Telco user documentation for information about device-specific CLI commands, parameters, and installation. Contact your Alcatel-Lucent support representative for information about specific network or facility considerations.

Procedure 1 To find the 5620 SAM user documentation

The user documentation is available from the following sources:

- The User_Documentation directory on the product DVD-ROM
- Help→5620 SAM User Documentation in the 5620 SAM client GUI main menu

Multiple PDF document search

You can use Adobe Reader Release 6.0 and later to search multiple PDF files for a common term. Adobe Reader displays the results in a single display panel. The results are grouped by PDF file, and you can expand the entry for each file.

Note — The PDF files in which you search must be in the same folder.

Procedure 2 To search multiple PDF files for a common term

1. Open Adobe Acrobat Reader.
2. Choose Edit→Search from the Acrobat Reader main menu. The Search PDF panel appears.
3. Enter the search criteria.
4. Click on the All PDF Documents In radio button.
5. Select the folder in which to search using the drop-down menu.
6. Click on the Search button.

   Acrobat Reader displays the search results. You can expand the entries for each document by clicking on the + symbol.

Conventions used in this guide

The following table lists the conventions that are used throughout the documentation.

Table 1 Documentation conventions

Convention	Description	Example
Key name	Press a keyboard key	Delete
Italics	Identifies a variable	*hostname*
Key+Key	Type the appropriate consecutive keystroke sequence	CTRL+G
Key-Key	Type the appropriate simultaneous keystroke sequence	CTRL-G
↵	Press the Return key	↵
—	An em dash in a table cell indicates there is no information.	—
→	Indicates that a cascading submenu results from selecting a menu item	Policies→Routing

Procedures with options or substeps

When there are options in a procedure, they are identified by letters. When there are substeps in a procedure, they are identified by roman numerals.

Example of options in a procedure

At step 1, you can choose option a or b. At step 2, you must do what the step indicates.

1 This step offers two options. You must choose one of the following:

   a This is one option.

   b This is another option.

2 You must perform this step.

Example of substeps in a procedure

At step 1, you must perform a series of substeps within a step. At step 2, you must do what the step indicates.

1 This step has a series of substeps that you must perform to complete the step. You must perform the following substeps:

   i This is the first substep.

   ii This is the second substep.

   iii This is the third substep.

2 You must perform this step.

Important information

The following conventions are used to indicate important information:

Warning — Warning indicates that the described activity or situation may, or will, cause equipment damage or serious performance problems.

Caution — Caution indicates that the described activity or situation may, or will, cause service interruption.

Note — Notes provides information that is, or may be, of special interest.

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1.1 Overview

This chapter contains general and operating system-specific information about the deployment of the Alcatel-Lucent 5620 SAM software components in a network.

Caution 1 — The upgrade or conversion to redundancy of the Alcatel-Lucent 5620 SAM software components in a network requires a thorough understanding of 5620 SAM system administration and operating system-specific requirements. The upgrade procedure must be planned, documented, and tested in advance on a lab system that is representative of the target live network. Contact your Alcatel-Lucent support representative to assess the upgrade requirements for your network implementation of the 5620 SAM software. Alcatel-Lucent offers an upgrade service that should be engaged for upgrades and conversions to redundancy.

Caution 2 — Alcatel-Lucent supports 5620 SAM software deployment only under the conditions described in this guide, the *5620 SAM Planning Guide*, and the current *5620 SAM Release Notice*.

General installation and upgrade application information

A 5620 SAM, Release 6.0 R1 or later software DVD-ROM is platform-specific. Check the label to ensure that you have the correct DVD-ROM for your platform.

The default parameter values for a 5620 SAM software installation or upgrade are acceptable in most deployment environments, but should be validated against your particular requirements, for example, firewall constraints. See the *5620 SAM Planning Guide* and the current *5620 SAM Release Notice* for more information, or contact your Alcatel-Lucent technical-support representative.

A field in an installer panel that has a yellow background is a mandatory field. You cannot proceed to the next panel until there is a valid entry in each mandatory field on the current panel.

Automatic 5620 SAM client updates

Automatic 5620 SAM client update functionality, called auto-client update, is available in the 5620 SAM, Release 5.0 R5 and later. Auto-client update allows the central management and automatic distribution of client software upgrades and configuration changes.

During startup, a Release 5.0 R5 or later 5620 SAM client checks for available updates on a 5620 SAM server. If a configuration change is available, the client automatically applies it. If a 5620 SAM client software upgrade is available, the client applies the upgrade automatically in response to a user prompt.

Client software installation

You can use the 5620 SAM auto-client update functionality to install the 5620 SAM client software. An operator provides minimal input during the installation of the auto-client update utility, then opens the utility, which automatically installs the 5620 SAM client software.

Client software upgrade

After a 5620 SAM server software upgrade to a version later than Release 5.0 R5, a Release 5.0 R5 or later client that connects to the upgraded server automatically detects the version mismatch and attempts an upgrade to the version on the server.

A 5620 SAM client downloads and installs only the files required for a software upgrade. The upgrade process removes previously downloaded local files that are not required by the new client software.

Client configuration changes

When the Release 5.0 or later clients that connect to a 5620 SAM server require a configuration change, a server administrator must only update the client configuration stored on the server. The clients detect the update when they open, and automatically download and apply the required files from the server. See the Device commissioning configurations chapter of the *5620 SAM User Guide* for information about updating 5620 SAM client configurations.

By default, the client configuration after an automatic update matches the server configuration, but this behavior is configurable using client application startup options. For example, when a client has specific configuration requirements, you can specify that it does not apply any files from the server to the local configuration. When the client requires an update that affects the files, you can force the file update and then manually reapply the specific configuration entries. See the 5620 SAM GUI chapter of the *5620 SAM User Guide* for a description of the client startup options.

Considerations and restrictions

Consider the following before you attempt to use the automatic 5620 SAM client update functionality.

- The 5620 SAM client and server versions must both be Release 5.0 R5 or later.
- When a client detects an error during an automatic upgrade attempt, for example, when the client is unable to connect to a download server, it displays a message about the error.
- An automatic client update proceeds only when there is sufficient disk space on the client station. Otherwise, the client displays an appropriate message and exits.
- When a 5620 SAM Release 5.0 R5 or later client attempts to connect to a 5620 SAM server that runs a software version older than the version on the download server, the client displays a message to this effect, restarts, and attempts to connect to the other server.
- An automatic client update backs up the existing configuration files before it proceeds with a configuration change.
- You can configure a client to use secure communication for automatic update activity. See the SSL configuration chapter of the *5620 SAM User Guide* for information about secure client communication.
- The user documentation location is configurable during a 5620 SAM server installation. By default, the clients retrieve the documents from a URL, but you can specify a location such as the client file system.

1.2 General 5620 SAM deployment information

Review the information in this section before you attempt to install or upgrade a 5620 SAM system, regardless of the platform type.

Note — It is important to record all information that you provide when performing a 5620 SAM software configuration procedure in this guide. This information may be required for a future operation. Store the recorded information in a secure location for later use.

Platform

The following are general 5620 SAM platform requirements and restrictions.

- The 5620 SAM installation platform must meet the minimum requirements described in the *5620 SAM Planning Guide* for the 5620 SAM release.
- The 5620 SAM platform must be dedicated to the 5620 SAM application only. 5620 SAM operation may be adversely affected by the activity of another application on the same platform. Alcatel-Lucent does not support the sharing of the 5620 SAM platform with another application.
- The 5620 SAM server and database components in a 5620 SAM system must be installed on stations that use the same operating system at the same patch level.
- Alcatel-Lucent does not support the installation of a 5620 SAM database or server on a workstation that is connected to a SAN.
- A 5620 SAM client on a station that runs Windows, Solaris, or Linux can interact with a 5620 SAM server that runs on any operating system in a standalone or redundant configuration.
- A 5620 SAM client cannot be installed on the same station as a 5620 SAM server or database.
- The 5620 SAM client and server real-time clocks must always be synchronized.

Table 1-1 lists the platforms that each 5620 SAM component supports.

Table 1-1 Platforms supported by 5620 SAM components

5620 SAM component	Solaris 9 on Sun SPARC station	Solaris 10 on Sun SPARC station	Solaris 10 on Sun x86 station	Linux	Microsoft Windows
Main server (distributed)	✓	✓	✓	–	✓
Database (distributed)	✓	✓	✓	–	✓
Collocated main server and database	✓	✓	✓	–	–
Auxiliary server	✓	✓	✓	–	–
Client delegate	✓	✓	✓	–	–
Client	✓	✓	✓	✓	✓

See the appropriate section in this chapter for information about installing or upgrading the 5620 SAM on a particular platform type.

Software

The following are general 5620 SAM software requirements and restrictions.

- The 5620 SAM server and database installers are available in English only.
- The prompts and descriptive text displayed during a client installation are in English; subsequent client upgrades use the language associated with the locale configured for the client on the server.
- An Alcatel-Lucent 5620 SAM license key is required during an 5620 SAM installation or upgrade. Before you install or upgrade a 5620 SAM system, ensure that your license key enables the functionality that you require and is configured for the number of network objects that you want to manage.
- The 5620 SAM supports the upgrade of a 5620 SAM component version that is no more than two major releases older than the upgrade version. For example, you can upgrade a 5620 SAM Release 4.0 or Release 5.0 system to Release 6.0, but you cannot upgrade a Release 3.0 system directly to Release 6.0; you must first upgrade the Release 3.0 components to at least Release 4.0.
- You cannot share an existing Oracle installation with the 5620 SAM
- No other application can use the 5620 SAM Oracle installation.
- The Oracle software installation files must be in the same directory as the database installation executable file, for example, the directory on the product DVD-ROM.
- A 5620 SAM redundant database upgrade and a system conversion to redundancy require the new 5620 SAM software DVD-ROM and the 5620 SAM software DVD-ROM used to install the existing 5620 SAM system.
- The time required to complete a 5620 SAM database upgrade depends on the platform type, database complexity and tablespace configuration. Ensure that there is sufficient time to complete a 5620 SAM database upgrade during a low-activity maintenance window. Consult the *5620 SAM Planning Guide* for database upgrade time guidelines.

Note — A 5620 SAM system upgrade from Release 6.0 R1 or earlier to Release 6.0 R1 or later may remove older NE backups. If the purge mode in the associated backup policy is set to manual, the upgrade disables the manual purge mode and enables an automatic purge scheme that limits the number of retained NE backups. See the *5620 SAM User Guide* for more information about NE backup schemes.

Network

The following are general 5620 SAM network requirements and restrictions.

- Before you upgrade a 5620 SAM system, ensure that the new 5620 SAM software version supports the software versions of the 5620 SAM-managed devices. If this is not the case, you must perform one of the following actions before you attempt the upgrade, or service disruption may occur.
  - Upgrade the devices to a version supported by the new 5620 SAM software.
  - Use a 5620 SAM client to unmanage the devices and remove them from the 5620 SAM-managed network.
- The DNS configuration on a 5620 SAM server station must not interfere with the operation of the 5620 SAM server software.
- Specifying a TCP or UDP port other than the default during an installation or upgrade can affect firewall configuration; ensure that you note changes to default port numbers and make the ports available through firewalls.
- You cannot use "localhost" or another alias to specify an IP address during a 5620 SAM component installation or upgrade; you must provide an IPv4 address in dotted-decimal notation, for example, 192.168.25.110.

  The following is an exception to this rule:
  - During a 5620 SAM server installation or upgrade, you can specify a hostname as a 5620 SAM server IP address that is visible to clients and auxiliary servers. However, you must first define the local host entries and configure local hostname lookup accordingly. Consult your Alcatel-Lucent technical support representative for more information about configuring hostname lookup on 5620 SAM servers.
- The system locale must be C or POSIX.

Note 1 — If you have a Release 5.0 R4 or earlier 5620 SAM system that manages one or more 7250 SAS-ES, Release 2.0 devices, you must unmanage the 7250 SAS-ES, Release 2.0 devices in your network before you attempt to upgrade the 5620 SAM software.

You can resume management of the devices when the 5620 SAM upgrade is complete.

You do not need to unmanage a 7250 SAS-STD device before you upgrade the 5620 SAM software.

Note 2 — If you have a 5620 SAM system that manages one or more OS 6850 devices as generic NEs, you must unmanage and delete the OS 6850 generic NEs before you upgrade the 5620 SAM software.

You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

1.3 5620 SAM deployment on Windows

This section describes the 5620 SAM 6.0 deployment requirements and restrictions that apply to a Microsoft Windows platform. Ensure that you review and comply with the information in this section before you attempt to perform a procedure in chapter 2 of this guide.

The following components comprise a 5620 SAM system on Windows:

- one server
- one database
- one or more clients

Platform

The following are 5620 SAM platform requirements and restrictions that apply to Windows.

- Alcatel-Lucent supports the installation or upgrade of a 5620 SAM component on an x86-based station that runs one of the following Windows operating systems:
  - Windows 2000 Professional, 32-bit edition
  - Windows 2003, 32-bit edition
  - Windows XP Professional, 32-bit edition
  - Windows Vista Business, 32-bit edition
  - Windows Vista Ultimate, 32-bit edition
- Before you attempt to install or upgrade a component on Windows 2003, you must enable Windows XP compatibility for the installer utility executable file. See the appropriate Microsoft product documentation for more information.
- Alcatel-Lucent supports 5620 SAM system deployment on Windows in a distributed standalone configuration only; the server and database must be installed on separate stations.
- The 5620 SAM does not support the installation of a 5620 SAM auxiliary server on Windows or the use of an auxiliary server with a Windows 5620 SAM system.

Note — You cannot install a 5620 SAM server or database on Windows Vista; only 5620 SAM client installation is supported.

Security

The following are 5620 SAM security requirements and restrictions that apply to Windows.

- An operator who installs or upgrades a 5620 SAM server or database requires local administrator account privileges.
- An operator who installs a 5620 SAM client requires local user account privileges but not administrative privileges.
- The user that opens the installed 5620 SAM client application must be the user that installed the client software, or a user with local administrative privileges.
- The user that installs the 5620 SAM client software must be the same user that uninstalls the client software, or a local administrative user.

1.4 5620 SAM deployment on Linux

This section describes the 5620 SAM 6.0 deployment requirements and restrictions that apply to a Linux platform. Ensure that you review and comply with the information in this section before you attempt to perform the client installation procedure in chapter 3 or the client upgrade procedure in chapter 4 of this guide.

Platform

The following are 5620 SAM platform requirements and restrictions that apply to Linux.

- Alcatel-Lucent supports only the installation or upgrade of a 5620 SAM client.
- Alcatel-Lucent supports the installation or upgrade of a 5620 SAM client on a station that runs the following Linux version:
  - Red Hat Enterprise 3.0 WS

Security

The following are 5620 SAM security requirements and restrictions that apply to Linux.

- An operator who installs a 5620 SAM client on Linux requires local user account privileges.
- The Linux user that installs the 5620 SAM client software must be the same user starts the installed 5620 SAM client application.

1.5 5620 SAM deployment on Solaris

This section describes the 5620 SAM 6.0 deployment requirements and restrictions that apply to a Solaris platform. Ensure that you review and comply with the information in this section before you attempt to perform the procedures in the Solaris-specific chapters of this guide.

The following components comprise a 5620 SAM system on Solaris:

- One main server in a standalone deployment, or two in a redundant deployment
- One database in a standalone deployment, or two in a redundant deployment
- Up to two auxiliary servers (optional)
- One or more clients

Note 1 — A redundant 5620 SAM system upgrade involves a network-management outage and must be performed only during a scheduled maintenance window of sufficient duration for the upgrade.

Note 2 — Unless otherwise noted, the conversion of a standalone 5620 SAM system on Solaris to redundancy is treated as a combination of a 5620 SAM upgrade and a 5620 SAM installation.

Platform

See the *5620 SAM Release Notice* for a list of the required Solaris patches.

The following are 5620 SAM platform requirements and restrictions that apply to Solaris.

Caution — If you intend to use a Sun Fire T1000 Server or Sun Fire T2000 Server station, ensure that the Solaris operating system is at patch level 118833-18 or greater. Consult Sun Microsystems for information about obtaining the required patch software.

- A 5620 SAM deployment on Solaris in a live network requires a system with at least two hard disks. Alcatel-Lucent supports a one-disk layout only for lab trials or for demonstration purposes.
- You can deploy a collocated or distributed 5620 SAM system in a standalone or a redundant configuration on Solaris.
- If a 5620 SAM system is expected to collect statistics on a large scale, as defined in the *5620 SAM Planning Guide*, Alcatel-Lucent requires the use of a disk array with the 5620 SAM database to increase system performance.
- 5620 SAM component installation is supported for Solaris version 9 or 10 in 64-bit mode on a Sun SPARC station, and for Solaris version 10 in 64-bit mode on a Sun x86-based station.
- The Solaris versions and patch levels on all main server, auxiliary server, and database components in a 5620 SAM deployment must be identical.
- You must ensure that the Solaris TFTP server is not enabled on a 5620 SAM server, as it conflicts with the internal 5620 SAM TFTP server that is used to manage Telco devices.
- You must relink the Oracle executable files after you apply a Solaris operating system patch or after a Solaris operating system upgrade. See the *5620 SAM Routine Maintenance Procedures Guide* for more information.
- Alcatel-Lucent recommends using a station that has more than one hard disk for the installation of a 5620 SAM database component. See Tables 1-2 through 1-8 for the 5620 SAM disk-partitioning information for different disk configurations.
- If you plan to move the 5620 SAM server to a different station during the conversion from a standalone to a redundant 5620 SAM system, ensure that you reconfigure the managed devices to send traps to the new server station.
- If you plan to convert a standalone 5620 SAM system to a redundant system and plan to upgrade the system, you must perform the upgrade before the conversion.
- The Solaris packages required by the 5620 SAM in addition to a Solaris core installation are listed in Table 1-9. If a required Solaris package is missing, the installer cannot continue until the package is installed. The 5620 SAM may also be installed on a Solaris Entire Distribution installation with the OEM Support option. See the appropriate Solaris operating system documentation for more information about package installation.
- An auxiliary server requires a dedicated station. Alcatel-Lucent does not support the sharing of an auxiliary server station with another 5620 SAM component.
- An auxiliary server must be accessible to each main server and database in a redundant 5620 SAM deployment. Optimally, all components in a deployment are in the same LAN and have high-quality network interconnection.

Security

The following are 5620 SAM security requirements and restrictions that apply to Solaris.

- The Oracle management user requires full read and write permissions to the 5620 SAM database installation directory and any specifically created partitions. For example, /opt/5620sam.
- The Solaris user that installs the 5620 SAM client software must be the same user starts the installed 5620 SAM client application.
- A 5620 SAM domain name defines the network-management domain to which a 5620 SAM component belongs and must be unique to a network. A 5620 SAM component can interact only with other 5620 SAM components in the same 5620 SAM domain. During 5620 SAM installation, you must specify the same domain name for the components in a deployment.

Upgrading from Solaris 9 to Solaris 10

The following are the 5620 SAM requirements and restrictions that apply to upgrading from Solaris 9 to 10.

- In a redundant 5620 SAM deployment, Alcatel-Lucent does not support a 5620 SAM station on Solaris 9 communicating with a 5620 SAM station on Solaris 10. For example, a 5620 SAM server on Solaris 9 cannot operate with a 5620 SAM database on Solaris 10. You must plan a Solaris upgrade so that all 5620 SAM installations use the same platform.
- You can upgrade from Solaris 9 to Solaris 10 at the following points in the 5620 SAM standalone upgrade sequence:
  - On the database station—after upgrading the database.
  - On the server station—after upgrading the server.
  - On a client station—after upgrading the client software.
- You can upgrade from Solaris 9 to Solaris 10 at the following points in the 5620 SAM redundant upgrade sequence:
  - On the standby database station—after upgrading the standby database.
  - On the standby server station—after upgrading the standby server.
  - On the primary database station—after upgrading the primary database.
  - On the primary server station—after upgrading the primary server.
  - On a client station—after upgrading the client software.
- You can upgrade from Solaris 9 to Solaris 10 after you have upgraded the entire standalone or redundant 5620 SAM system.

Disk configurations and partitioning

This section describes the hard-disk configuration requirements and restrictions that apply to 5620 SAM software components on Solaris stations. The partitioning guidelines are based on the use of 73 Gbyte (68Gbyte formatted) hard disks in Sun Microsystems workstations. You may need to adjust the partition-size values in the tables in this section to accommodate disks of a different capacity.

If a 5620 SAM system is expected to collect statistics on a large scale, Alcatel-Lucent requires that you include a disk array in the database disk layout. See the *5620 SAM Planning Guide* for system scaling guidelines regarding statistics processing. Consult your Alcatel-Lucent support representative for information about disk arrays and the 5620 SAM.

Using RAID

Alcatel-Lucent supports the use of RAID technologies, for example, disk mirroring, on Sun Solaris workstations. Disk mirroring requires the use of identical physical disks with the same logical structure. Consult the appropriate Sun workstation documentation for further information about configuring redundant disk arrays.

Caution 1 — Sun Microsystems recommends that you apply disk mirroring only to partitions that are not configured for direct I/O using the "forcedirectio" mount option. Alcatel-Lucent does not support the use of this option in a mirrored disk configuration because the use of unbuffered disk data transfer in a RAID deployment can degrade system performance.

Caution 2 — Oracle recommends that you do not mount the archivelog partition using the "forcedirectio" mount option, or system performance may be degraded.

Partitioning guidelines for a collocated 5620 SAM server and database deployment using one disk

Table 1-2 lists the recommended partition configuration for a single disk on a Solaris workstation that is to host the 5620 SAM server and database applications. The recommendations in the table apply when only one disk is available for use by the 5620 SAM server and database or when two disks are available but one disk is used as a physical mirror of the other disk.

Caution — Alcatel-Lucent does not support the use of a one-disk layout for a collocated 5620 SAM system deployment in a live network. A one-disk layout is supported only for lab trials or for demonstration purposes.

Note — For the configuration described in Table 1-2, the home directory of the Oracle management user account specified by the ORACLE_HOME environment variable is /opt/5620sam/oracle.

Table 1-2 One-disk partitioning recommendations for collocated 5620 SAM system

Partition name	Partition content	Recommended size (Gbytes)
/	root, including /usr	10
–	swap	8
/var	var	3

(1 of 2)

Partition name	Partition content	Recommended size (Gbytes)
/opt/5620sam	5620 SAM server and database software	10
/opt/5620sam/dbbackup	Database backups	9
/opt/5620sam/samdb/tablespace (see Note below table)	Database tablespaces and database redo logs	20
/opt/5620sam/samdb/archivelog	Database archive logs	8

(2 of 2)

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace partition using the "forcedirectio" option. See Procedure 1-1 for more information.

Partitioning guidelines for a collocated 5620 SAM server and database deployment using two disks

Table 1-3 lists the recommended partition configuration for two disks on a Solaris workstation that is to host the 5620 SAM server and database applications. The recommendations in the table apply when only two disks are available for use by the 5620 SAM server and database or when two pairs of disks are available but one disk pair is used as a physical mirror of the other disk pair.

Note — For the configuration described in Table 1-2, the home directory of the Oracle management user account specified by the ORACLE_HOME environment variable is /opt/5620sam/oracle.

Table 1-3 Two-disk partitioning recommendations for collocated 5620 SAM system

Partition name	Partition content	Recommended size (Gbytes)
Disk 1		
/	root, including /usr	10
—	swap	8
/var	var	3
/opt/5620sam	5620 SAM server and database software	10
/opt/5620sam/dbbackup	Database backups	15
/opt/5620sam/samdb/archivelog	Database archive logs	14
/opt/5620sam/samdb/redolog (see Note below table)	Database redo logs	8
Disk 2		

(1 of 2)

Partition name	Partition content	Recommended size (Gbytes)
/opt/5620sam/samdb/tablespace (see Note below table)	Database tablespaces	40
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder

(2 of 2)

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace and /opt/5620sam/samdb/redolog partitions using the "forcedirectio" option. See Procedure 1-1 for more information.

Partitioning guidelines for a main or auxiliary 5620 SAM server

Table 1-4 lists the recommended partition configuration for disks on a Solaris workstation that is to host the 5620 SAM main or auxiliary server application.

The recommendations in Table 1-4 apply regardless of the number of available disks on the station; the available disk space on a 5620 SAM server station typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.

Note — Alcatel-Lucent strongly recommends using at least a two-disk layout for a 5620 SAM main or auxiliary server installation because a single-disk configuration greatly limits the 5620 SAM system performance, managed-network size, and data storage capacity. Alcatel-Lucent discourages the use of a single-disk configuration in a 5620 SAM server deployment.

Table 1-4 Disk partitioning recommendations for main or auxiliary 5620 SAM server

Partition name	Partition content	Recommended size (Gbytes)
/	root, including /usr	10
—	swap	6
/var	var	3
/opt/5620sam	5620 SAM main or auxiliary server software	10
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder

Partitioning guidelines for a 5620 SAM database deployment using one disk

Table 1-5 lists the recommended partition configuration for a single disk on a Solaris workstation that is to host the 5620 SAM database application. The recommendations in the table apply when only one disk is available for use by the 5620 SAM or when two disks are available but one disk is used as a physical mirror of the other disk.

Caution — Alcatel-Lucent does not support the use of a one-disk layout for a 5620 SAM database deployment in a live network. A one-disk layout is supported only for lab trials or for demonstration purposes.

Note — For the configuration described in Table 1-5, the home directory of the Oracle management user account specified by the ORACLE_HOME environment variable is /opt/5620sam/oracle.

Table 1-5 One-disk partitioning recommendations for 5620 SAM database

Partition name	Partition content	Recommended size (Gbytes)
/	root, including /usr	10
—	swap	4
/var	var	3
/opt/5620sam	5620 SAM database software	5
/opt/5620sam/dbbackup	Database backups	12
/opt/5620sam/samdb/tablespace (see Note below table)	Database tablespaces and database redo logs	26
/opt/5620sam/samdb/archivelog	Database archive logs	8

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace partition using the “forcedirectio” option. See Procedure 1-1 for more information.

Partitioning guidelines for a 5620 SAM database deployment using two disks

Table 1-6 lists the recommended partition configuration for two disks on a Solaris workstation that is to host the 5620 SAM database application. The recommendations in the table apply when only two disks are available for use by the 5620 SAM database or when two pairs of disks are available but one disk pair is used as a physical mirror of the other disk pair.

The recommendations in Table 1-6 apply regardless of the number of available disks on the station. The available disk space on a 5620 SAM database station using two disks typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.

Note — For the configuration described in Table 1-6, the home directory of the Oracle management user account specified by the ORACLE_HOME environment variable is /opt/5620sam/oracle.

Table 1-6 Two-disk partitioning recommendations for 5620 SAM database

Partition name	Partition content	Recommended size (Gbytes)
Disk 1		
/	root, including /usr	10
—	swap	4
/var	var	3
/opt/5620sam	5620 SAM database software	10
/opt/5620sam/dbbackup	Database backups	18
/opt/5620sam/samdb/redolog (see Note below table)	Database redo logs	8
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder
Disk 2		
/opt/5620sam/samdb/archivelog	Database archive logs	21
/opt/5620sam/samdb/tablespace (see Note below table)	Database tablespaces	40
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace and /opt/5620sam/samdb/redolog partitions using the “forcedirectio” option. See Procedure 1-1 for more information.

Partitioning guidelines for a 5620 SAM database deployment using four disks

Table 1-7 lists the recommended partition configuration for four disks on a Solaris workstation that is to host the 5620 SAM database application. The recommendations in the table apply when four disks are available for use by the 5620 SAM database or when eight disks are available but four disks are used as a physical mirror of the other disk four.

The recommendations in Table 1-7 apply regardless of the number of available disks on the station. The available disk space on a 5620 SAM database station using four disks typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.

Note — For the configuration described in Table 1-7, the home directory of the Oracle management user account specified by the ORACLE_HOME environment variable is /opt/5620sam/oracle.

Table 1-7 Four-disk partitioning recommendations for 5620 SAM database

Partition name	Partition content	Recommended size (Gbytes)
Disk 1		
/	root, including /usr	10
—	swap	8
/var	var	3
/opt/5620sam	5620 SAM database software	15
/opt/5620sam/dbbackup	Database backups	25
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder
Disk 2		
/opt/5620sam/samdb/tablespace (see Note below table)	Database tablespaces	40
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder
Disk 3		
/opt/5620sam/samdb/redolog	Database redo logs	15
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder
Disk 4		
/opt/5620sam/samdb/archivelog	Database archive logs	30
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace and /opt/5620sam/samdb/redolog partitions using the “forcedirectio” option. See Procedure 1-1 for more information.

Partitioning guidelines for a 5620 SAM client deployment

Table 1-8 lists the recommended partition configuration for disks on a Solaris workstation that is to host the 5620 SAM client application.

The recommendations in Table 1-8 apply regardless of the number of available disks on the station because the available disk space on a 5620 SAM client station typically exceeds the 5620 SAM application requirements. Because the partitioning recommendations do not consume all of the available disk space on a station, the remaining disk space is available for partitioning according to operator discretion.

Table 1-8 Disk configuration recommendations for 5620 SAM client

Partition name	Partition content	Recommended size (Gbytes)
/	root, including /usr	10
/tmp	swap	4
/var	var	3
/opt/5620sam	5620 SAM client software	5
At operator discretion	Customer data (can be partitioned according to customer requirements)	Remainder

Procedure 1-1 To enable the "forcedirectio" partitioning option

Perform this procedure to determine whether the "forcedirectio" option is enabled on a disk partition, and to enable the option on the partition, if required.

Caution 1 — Sun Microsystems recommends that you enable the "forcedirectio" mount option only on partitions that are not part of a RAID configuration. Alcatel-Lucent does not support the use of this option in a mirrored disk configuration because the use of unbuffered disk data transfer in a RAID deployment can degrade system performance.

Caution 2 — Oracle recommends that you do not mount the archivelog partition using the "forcedirectio" mount option, or system performance may be degraded.

Note — Alcatel-Lucent strongly recommends that you mount the /opt/5620sam/samdb/tablespace and /opt/5620sam/samdb/redolog partitions using the "forcedirectio" option.

Determine whether "forcedirectio" option is enabled

1 Log in to the Solaris station as a user with root privileges.

2 Open a console window.

3 To determine whether the "forcedirectio" option is enabled for a partition, enter the following CLI command as the root user:

```
# mount -v
```

The output of the command for a single partition entry is similar to the following:

```
/dev/dsk/c0t0d0s5 on /opt/5620sam/samdb/tablespace type ufs
read/write/setuid/intr/forcedirectio/largefiles/onerror=panic/de
v=2200005 on Wed Jan 2 12:06:03 2008
```

4 If "forcedirectio" is displayed as part of the entry, as shown in the example, the "forcedirectio" option is enabled on the partition. Go to step 8.

Enable "forcedirectio" option on partition

5 Make a backup copy of the /etc/vfstab file by entering the following at the CLI prompt:

```
# cp /etc/vfstab /etc/vfstab.backup
```

6 To enable the "forcedirectio" option on a partition, edit the /etc/vfstab file using a plain text editor such as vi and append a tab and the term "forcedirectio" without quotation marks to the partition entry. The result should resemble the following:

```
/dev/dsk/c0t0d0s5       /dev/rdsk/c0t0d0s5
/opt/5620sam/samdb/tablespace ufs    2      yes     forcedirectio
```

Caution — Do not include cylinder 0 in a partition that is to be mounted with the "forcedirectio" option.

7 Save the file.

8 Close the console window.

Required Solaris packages

If you perform only a core Solaris installation instead of the Entire Distribution + OEM Support installation, you must install additional Solaris packages. If a required package is missing, the installation cannot continue until the packages are installed. Table 1-9 lists the additional Solaris packages required on a station in advance of a 5620 SAM database, server, client, or collocated server and database installation on a station that runs Solaris 9 or Solaris 10.

Table 1-9 Required Solaris packages for 5620 SAM component installation

Package name	Solaris 9	Solaris 10	Description
For database installations, core install + these packages			
SUNWadmfw	Yes	Yes	System and Network Administration Framework
SUNWarc	Yes	Yes	Archive Libraries
SUNWarcx	Yes	No	Archive Libraries (64-bit)

(1 of 3)

Package name	Solaris 9	Solaris 10	Description
SUNWbash	Yes	Yes	GNU Bourne-Again shell (bash)
SUNWbtool	Yes	Yes	CSS tools bundled with SunOS
SUNWbtoox	Yes	No	CSS libraries bundled with SunOS (64-bit)
SUNWcpp	Yes	No	Solaris CPP
SUNWctpls	Yes	Yes	Portable Layout services for Complex Test
SUNWeurf	Yes	Yes	European codeset fonts
SUNWgzip	Yes	Yes	The GNU Zip (gzip) compression utility
SUNWhea	Yes	Yes	SunOS Header Files
SUNWi15cs	Yes	Yes	X11 ISO8859-15 Codeset Support
SUNWi1cs	Yes	Yes	X11 ISO8859-1 Codeset Support
SUNWi1of	Yes	Yes	ISO-8859-1 (Latin-1) Optional Fonts
SUNWi15rf	Yes	Yes	X11 fonts for ISO8859-15 character set (required fonts)
SUNWj2rt	Yes	No	Java virtual machine and core class libraries
SUNWj5rt	No	Yes	JDK 5.0 Runtime Env. (1.5.0_07)
SUNWlibC	Yes	No	Sun Workshop Compilers Bundled libC
SUNWlibCx	Yes	No	Sun Workshop Bundled 64-bin libC
SUNWlibm	Yes	Yes	Forte Developer Bundled libm
SUNWlibmr	No	Yes	Math Library Lint Files (Root)
SUNWlibms	Yes	Yes	Math Library Lint Files (Usr)
SUNWmfrun	Yes	Yes	Motif Run Time Kit
SUNWpool	No	Yes	Resource Pools
SUNWpoolr	No	Yes	Resource Pools (Root)
SUNWsprot	Yes	Yes	Solaris Bundled tools
SUNWsprox	Yes	No	Sun WorkShop Bundled 64-bit make library
SUNWscpr	Yes	No	Source Compatability, (Root)
SUNWscpu	Yes	No	Source Compatability, (User)
SUNWtoo	Yes	Yes	Truss and other troubleshooting tools
SUNWtoox	Yes	No	Programming Tools (64-bit)
SUNWuiu8	Yes	Yes	Iconv modules for UTF-8 Locale
SUNWxcu4	Yes	Yes	XCU4 Utilities
SUNWxcu4t	Yes	Yes	XCU4 make and sccs utilities
SUNWxwfnt	Yes	Yes	X Window System platform required fonts
SUNWxwice	Yes	Yes	X Window System Inter-Client Exchange (ICE)
SUNWxwicx	Yes	No	X Window System ICE library (64-bit)
SUNWxwopt	Yes	Yes	X Window System Optional Clients
SUNWxwplr	No	Yes	X Window System platform software configuration

(2 of 3)

Package name	Solaris 9	Solaris 10	Description
SUNWxwplt	Yes	Yes	X Window System platform software
SUNWxwplx	Yes	No	X Window System library software (64-bit)
SUNWxwrtl	Yes	Yes	X Window System & Graphics Runtime Library
SUNWzlib	Yes	No	The Zip compression library
For server or client installation, core Solaris install + these packages			
SUNWadmfw	Yes	Yes	System and Network Administration Framework
SUNWbash	Yes	Yes	GNU Bourne-Again shell (bash)
SUNWcpp	Yes	No	Solaris CPP; in Solaris core distribution
SUNWctpls	Yes	Yes	Portable Layout services for Complex Test
SUNWgzip	Yes	Yes	The GNU Zip (gzip) compression utility
SUNWlibC	Yes	No	Sun Workshop Compilers Bundled libC; in Solaris 10 core distribution
SUNWlibCx	Yes	No	Sun Workshop Bundled 64-bit libC
SUNWmfrun	Yes	Yes	Motif RunTime Kit
SUNWxcu4	Yes	Yes	XCU4 Utilities
SUNWxwfnt	Yes	Yes	X Windows System platform required fonts
SUNWxwice	Yes	Yes	X Windows System Inter-Client Exchange (ICE)
SUNWxwicx	Yes	No	X Window System ICE library (64-bit)
SUNWxwopt	No	Yes	X Window System Optional Clients
SUNWxwplr	No	Yes	X Window System platform software configuration
SUNWxwplt	Yes	Yes	X Windows System platform software
SUNWxwplx	Yes	No	X Windows System library software (64-bit)
SUNWxwrtl	No	Yes	X Windows System & Graphics Runtime Library
SUNWzlib	Yes	No	The Zip compression library; in Solaris 10 core distribution
For collocated server and database installation, core Solaris install + all packages listed			

(3 of 3)

5620 SAM for Windows

2 — 5620 SAM installation, upgrade, and uninstallation on Windows

2 — 5620 SAM installation, upgrade, and uninstallation on Windows

2.1 5620 SAM installation, upgrade, and uninstallation on Windows overview *2-2*

2.2 5620 SAM installation, upgrade, and uninstallation on Windows procedures list *2-2*

2.3 Workflow for 5620 SAM installation on Windows *2-3*

2.4 5620 SAM installation on Windows procedures *2-3*

2.5 Workflow for 5620 SAM upgrade on Windows *2-35*

2.6 5620 SAM upgrade on Windows procedures *2-36*

2.7 Workflow for 5620 SAM uninstallation on Windows *2-68*

2.8 5620 SAM uninstallation on Windows procedures *2-68*

2.1 5620 SAM installation, upgrade, and uninstallation on Windows overview

This chapter describes how to perform an installation, upgrade, or uninstallation of a 5620 SAM network management system on a Windows platform. The following components comprise a 5620 SAM system on Windows:

- one server
- one database
- one or more Windows, Linux, or Solaris clients

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.

Caution — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

2.2 5620 SAM installation, upgrade, and uninstallation on Windows procedures list

Table 2-1 lists the procedures required to perform 5620 SAM software installation, upgrade, and uninstallation activities on a Windows platform.

Table 2-1 5620 SAM Windows procedures list

Procedure	Purpose
To install a 5620 SAM database on Windows	Install the 5620 SAM database software on a Windows station.
To install a 5620 SAM server on Windows	Install the 5620 SAM server software on a Windows station.
To install a 5620 SAM client on Windows	Install the 5620 SAM client software on a Windows station.
To perform pre-upgrade tasks	Prepare a 5620 SAM system on Windows for a software upgrade by ensuring the correct conditions are in place, backing up the database and configuration files, and gathering the required system information.
To upgrade a 5620 SAM database on Windows	Upgrade the 5620 SAM database software on a Windows platform.
To upgrade the 5620 SAM server software on Windows	Upgrade the 5620 SAM server software on a Windows platform.
To upgrade a 5620 SAM Release 5.0 R3 or earlier client on Windows	Upgrade the 5620 SAM client software on a Windows station from Release 5.0 R3 or earlier.
To upgrade a 5620 SAM Release 5.0 R5 or later client on Windows	Upgrade the 5620 SAM client software on a Windows station from Release 5.0 R5 or later.

(1 of 2)

Procedure	Purpose
To uninstall the 5620 SAM client software on Windows	Remove the 5620 SAM client software from a Windows station.
To uninstall the 5620 SAM server software on Windows	Remove the 5620 SAM main server software from a Windows station.
To uninstall the 5620 SAM database software on Windows	Remove the 5620 SAM database software from a Windows station.

(2 of 2)

2.3 Workflow for 5620 SAM installation on Windows

The following is an overview of the steps required to install a 5620 SAM server and database system on Windows, and a 5620 SAM client on Windows, Solaris, or Linux.

1 Install the 5620 SAM database. See Procedure 2-1 for more information.

2 Install the 5620 SAM server. See Procedure 2-2 for more information.

3 Install a 5620 SAM client. See Procedure 2-3 for information about installing a client on a Windows station. See Procedure 3-2 for information about installing a client on a Solaris or Linux station.

4 Install a client delegate, if required. See Procedure 3-4 for more information.

2.4 5620 SAM installation on Windows procedures

Procedure 2-1 describes how to install the 5620 SAM database software on a Windows platform. Procedure 2-2 describes how to install the 5620 SAM server software on a Windows platform. Procedure 2-3 describes how to install the 5620 SAM client software on a Windows station. The 5620 SAM supports client installation on a Windows, Linux or Solaris station.

Procedure 2-1 To install a 5620 SAM database on Windows

This procedure describes how to install the 5620 SAM database software on a Windows station. The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate. You require local administrator user-account privileges to install the database software.

Ensure that you record all information that you specify during this procedure, for example, folder names, passwords, and IP addresses.

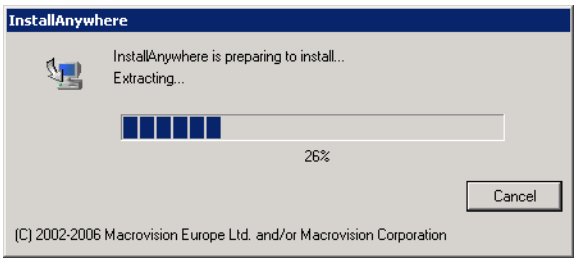
1 Navigate to the Windows folder on the new 5620 SAM software DVD-ROM.

2 Begin the installation by double-clicking on DBConfig_SAM_6_0_*revision_ID*.exe

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

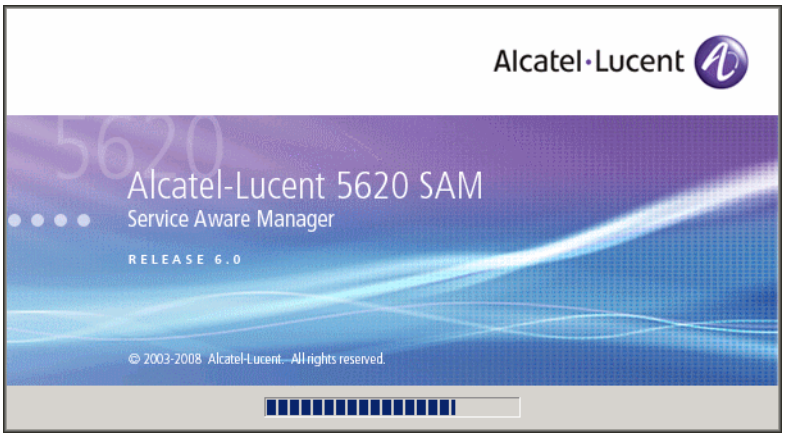
The installer prepares by extracting files, as shown in Figure 2-1.

Figure 2-1 Installer preparation



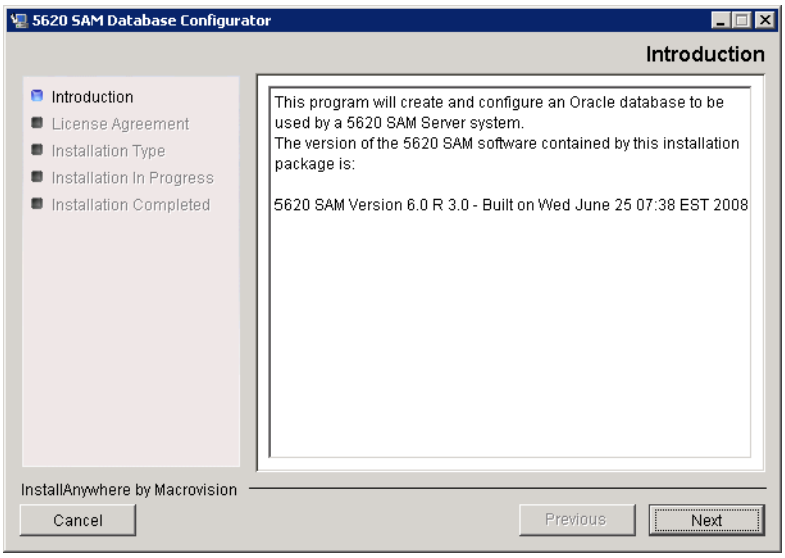
When the counter reaches 100%, a splash screen appears, as shown in Figure 2-2, and the installation process begins.

Figure 2-2 5620 SAM Installer



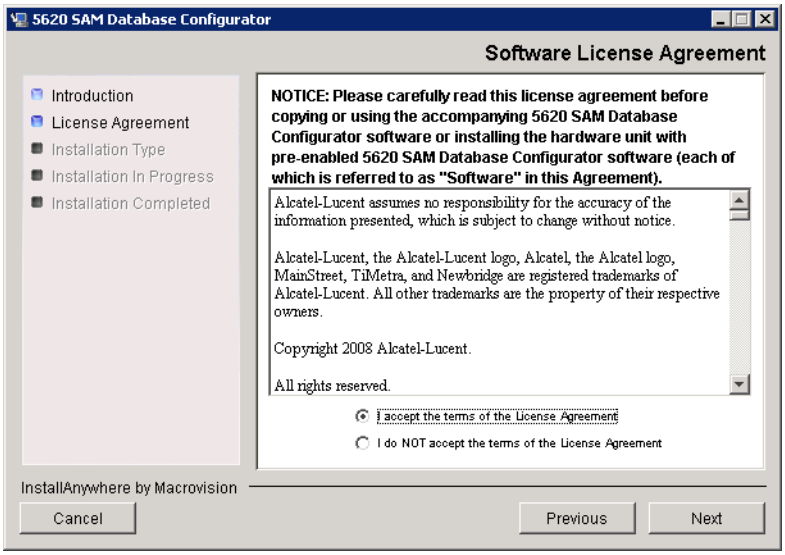
3 The 5620 SAM Database Configurator opens, as shown in Figure 2-3. The left pane indicates installation progress. The right pane displays version information about the database software being installed. Click on the Next button to continue.

Figure 2-3 Introduction



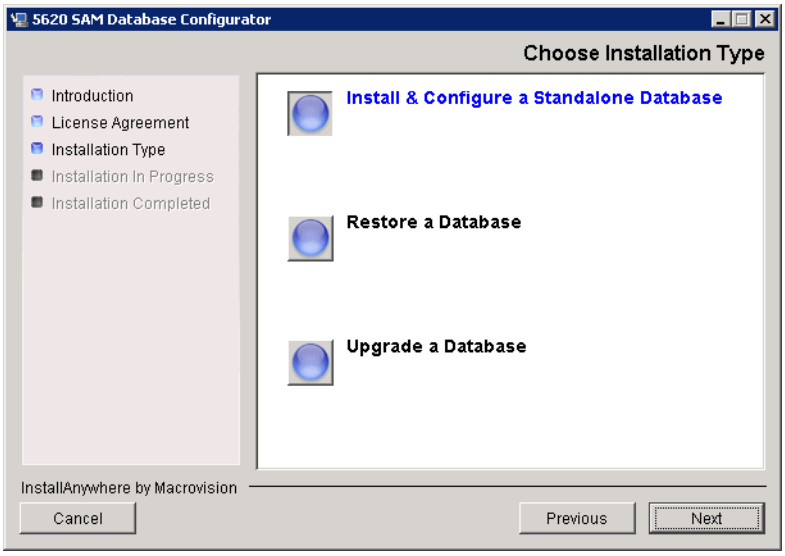
4 Review and accept the terms of the license agreement shown in Figure 2-4, then click on the Next button.

Figure 2-4 Software License Agreement



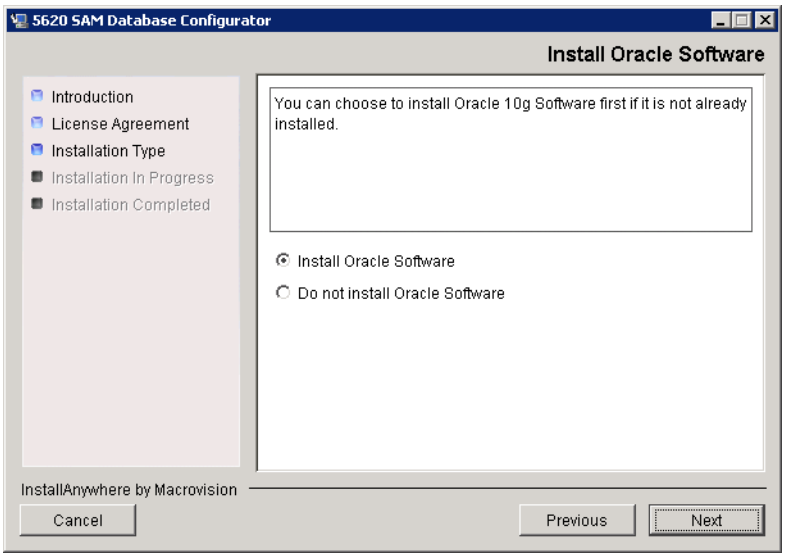
5 Select Install and Configure a Standalone Database, as shown in Figure 2-5, then click on the Next button.

Figure 2-5 Choose Installation Type



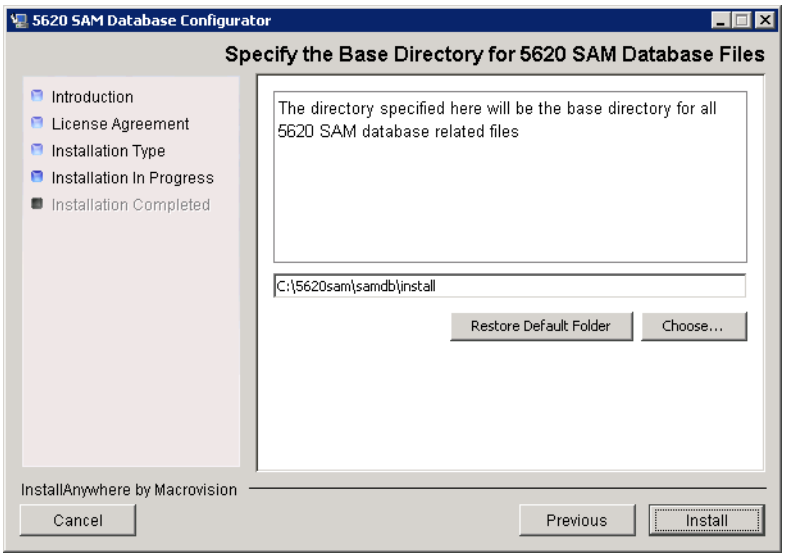
6 Select Install Oracle Software, as shown in Figure 2-6, then click on the Next button to continue.

Figure 2-6 Install Oracle Software



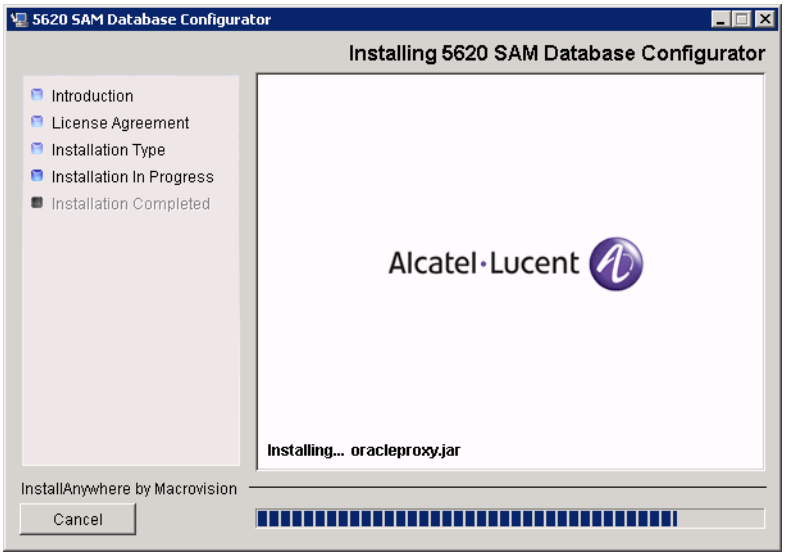
7 Specify a base folder in which to install the 5620 SAM database software (typically C:\5620sam\samdb\install), as shown in Figure 2-7. You are prompted to create the folder if it does not exist. Click on the Install button to proceed.

Figure 2-7 Specify the Base Directory for 5620 SAM Database Files



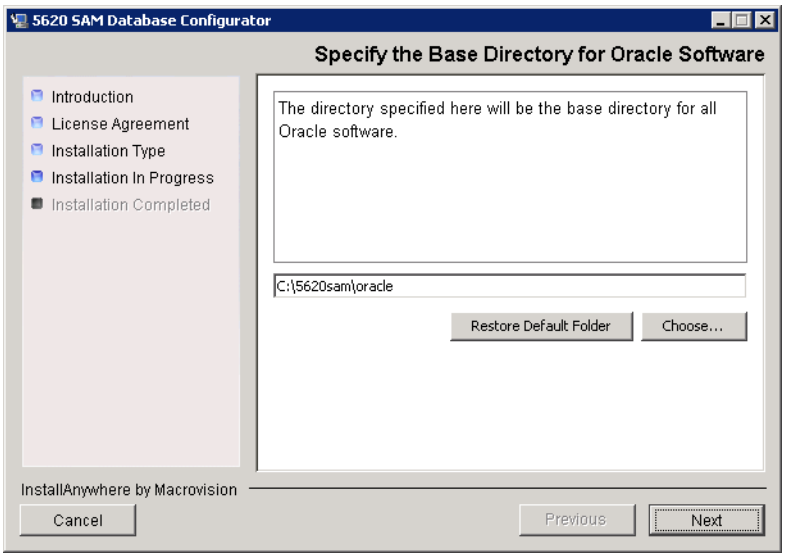
The next panel displays database software installation progress, as shown in Figure 2-8.

Figure 2-8 Installing 5620 SAM Database Configurator



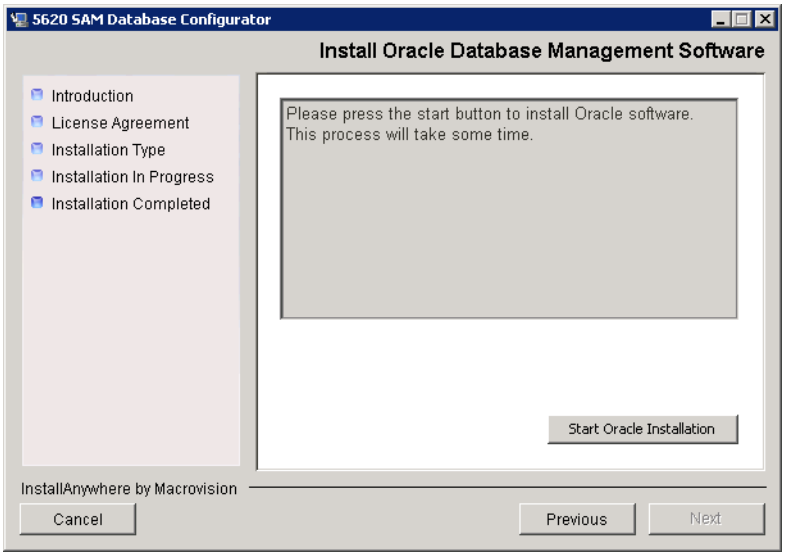
8 Specify a base folder in which to install the Oracle software (typically C:\5620sam\oracle), as shown in Figure 2-9. You are prompted to create the folder if it does not exist. Click on the Next button to continue.

Figure 2-9 Specify the Base Directory for Oracle Software



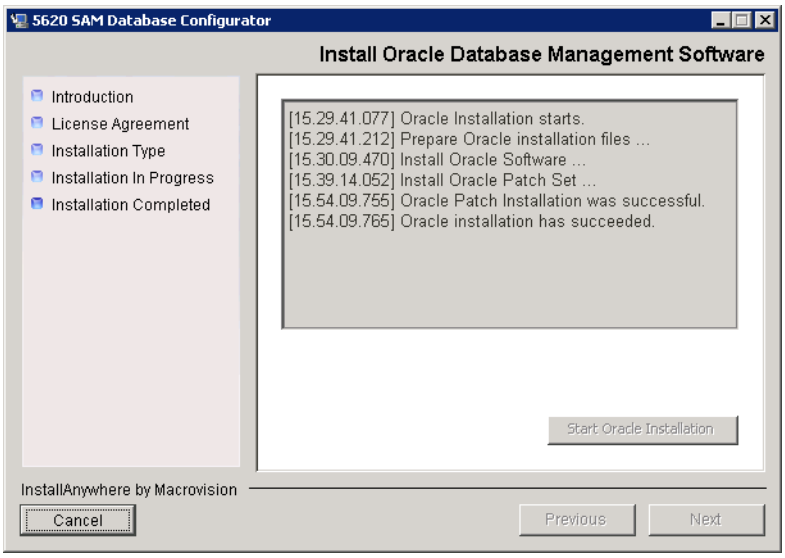
9 You are prompted to begin Oracle installation, as shown in Figure 2-10. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 2-10 Install Oracle Database Management Software



10 As shown in Figure 2-11, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button to continue.

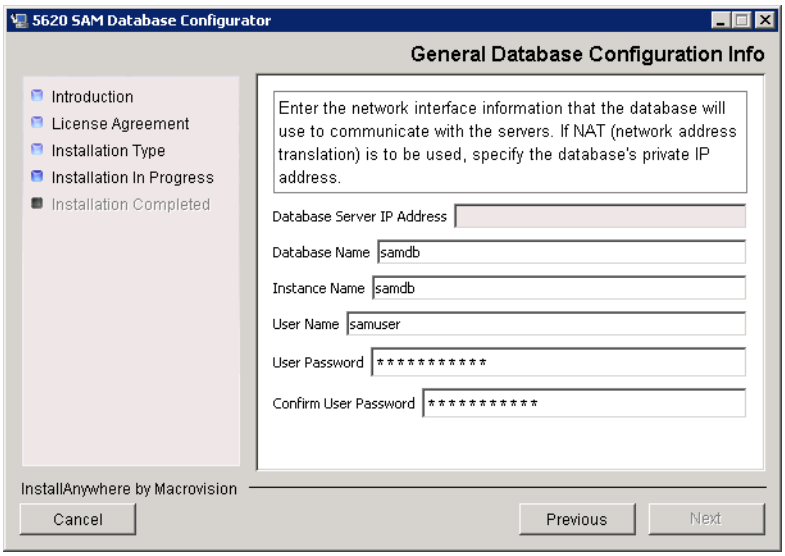
Figure 2-11 Install Oracle Database Management Software



11 Configure the following parameters shown in Figure 2-12, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password

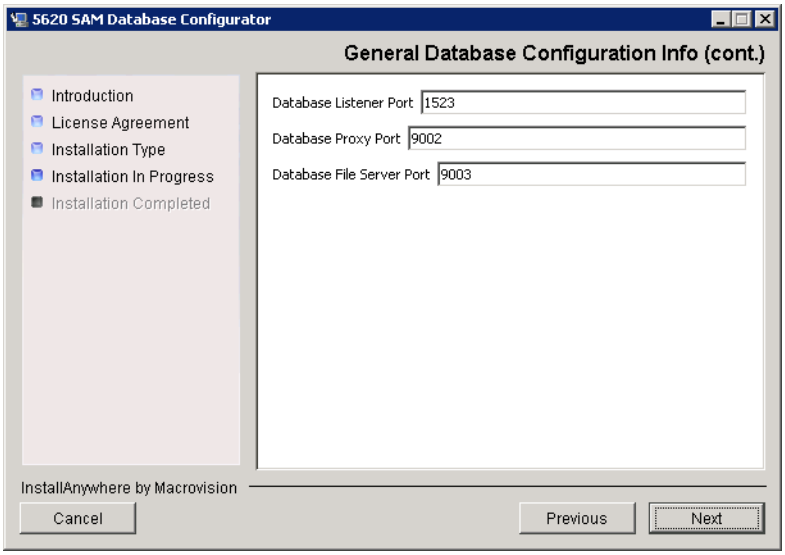
Figure 2-12 General Database Configuration Info



12 Configure the following parameters in Figure 2-13, then click on the Next button:

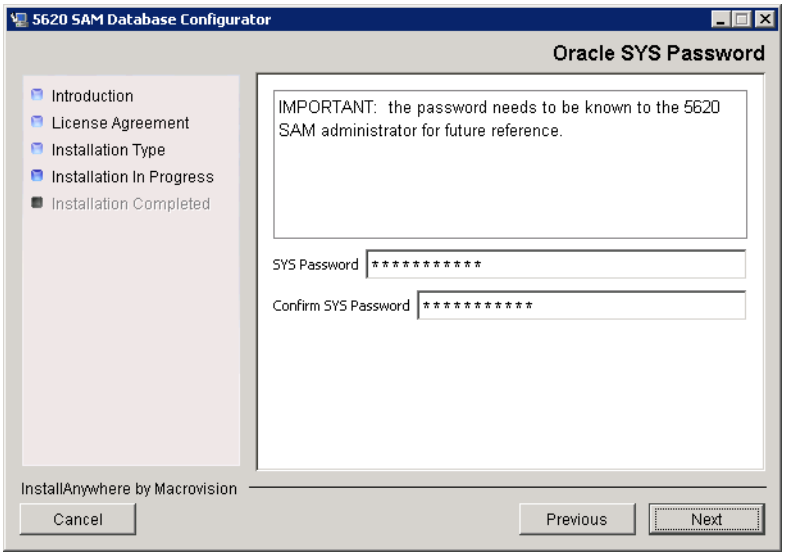
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 2-13 General Database Configuration Info (continued)



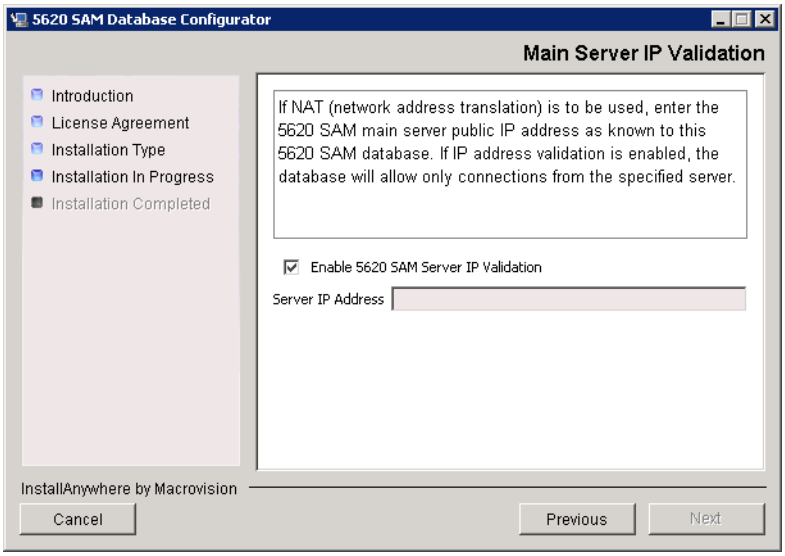
13 Enter and confirm the Oracle SYS password, as shown in Figure 2-14, then click on the Next button.

Figure 2-14 Oracle SYS Password



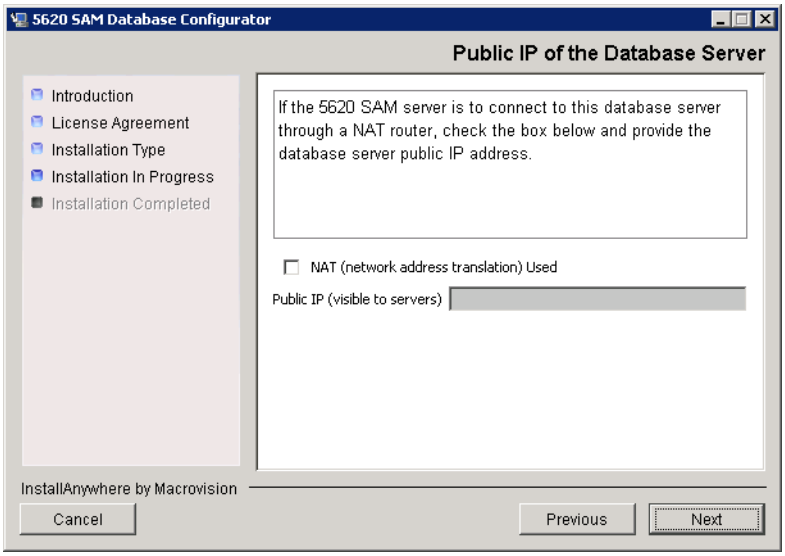
14 If the “Enable 5620 SAM Server IP Validation” parameter is enabled, as shown in Figure 2-15, only the specified IP address can connect to the database. If required, enable this parameter and enter the IP address of the 5620 SAM server. Click on the Next button to continue.

Figure 2-15 Main Server IP Validation



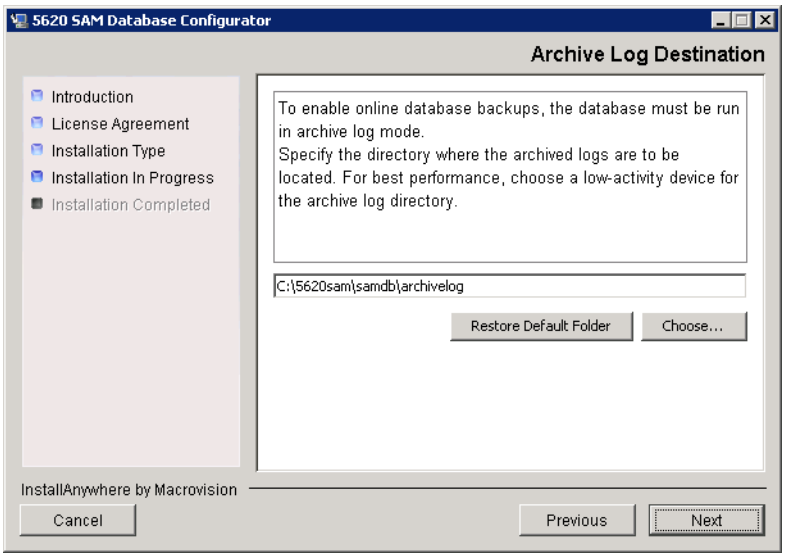
15 If NAT is used between the 5620 SAM server and database, enable the “NAT (network address translation) Used” parameter shown in Figure 2-16 and enter the public IP address of the database. Click on the Next button to continue.

Figure 2-16 Public IP of the Database Server



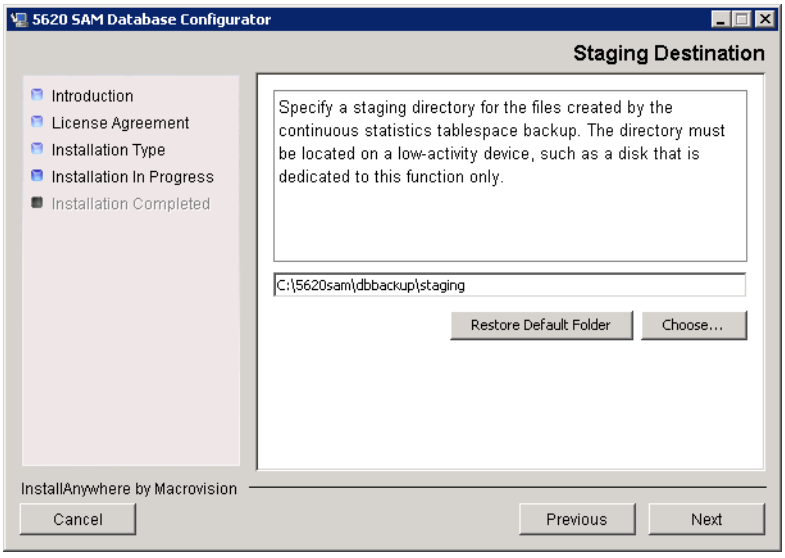
16 Specify a folder as the archive log destination (typically C:\5620sam\samdb\archivelog), as shown in Figure 2-17. You are prompted to create the folder if it does not exist. Click on the Next button to continue.

Figure 2-17 Archive Log Destination



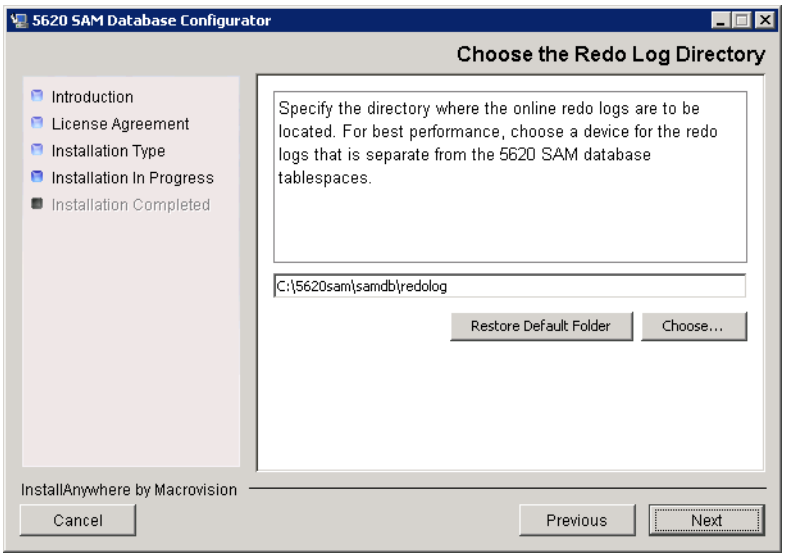
17 Specify a directory for the continuous statistics tablespace backup (typically C:\5620sam\dbbackup\staging), as shown in Figure 2-18. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 2-18 Staging Destination



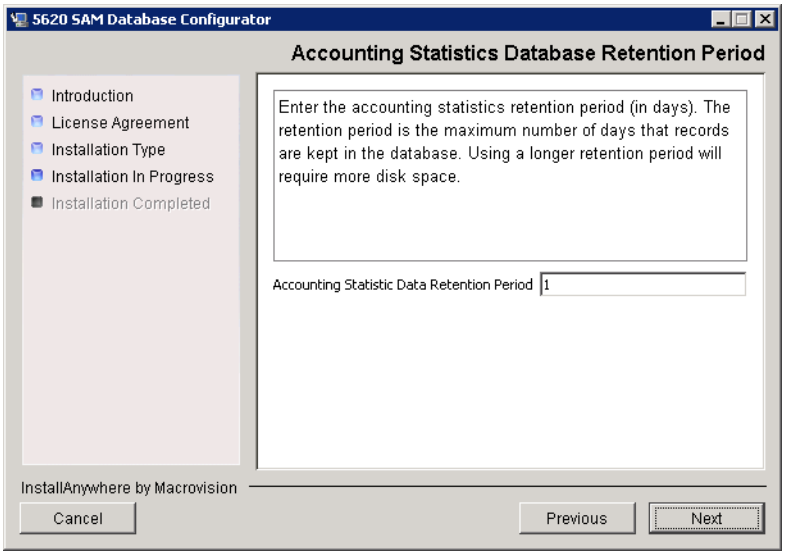
18 Specify a folder for the Redo logs (typically C:\5620sam\samdb\redolog), as shown in Figure 2-19. You are prompted to create the folder if it does not exist. Click on the Next button to continue.

Figure 2-19 Choose the Redo Log Directory



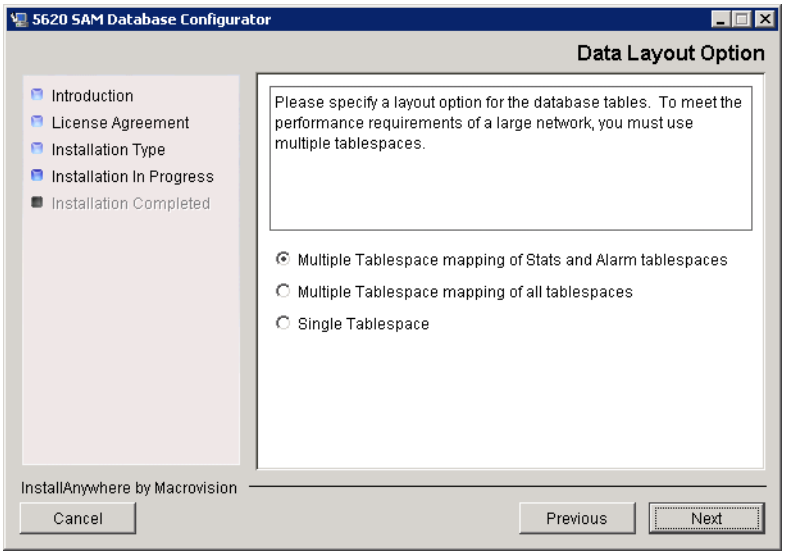
19 Configure the "Accounting Statistic Database Retention Period" parameter shown in Figure 2-20. Click on the Next button to continue.

Figure 2-20 Accounting Statistics Database Retention Period



20 Select one of the data layout options shown in Figure 2-21, then click on the Next button. Contact your Alcatel-Lucent support representative for information about data layout options.

Figure 2-21 Data Layout Option



21 Choose the tablespace directories.

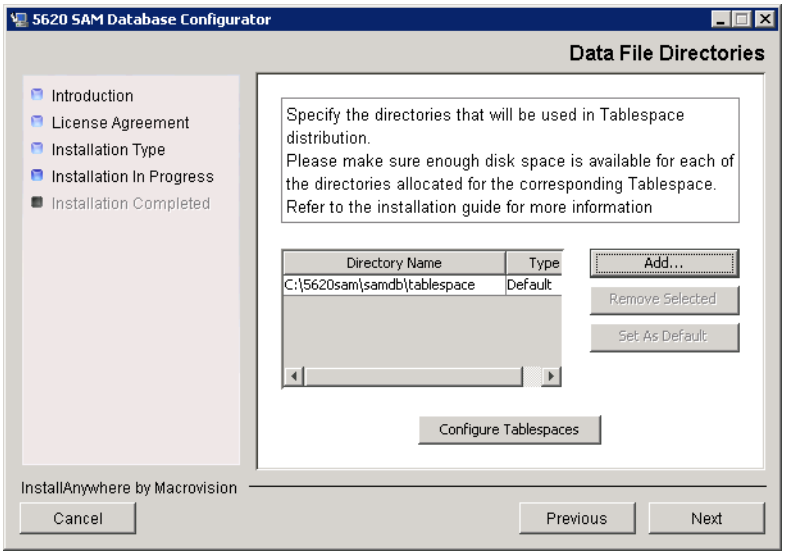
i Click on the Add button shown in Figure 2-22. A file browser form opens.

ii Use the browser form to choose a tablespace folder.

iii If the option selected in step 20 is Single Tablespace, go to step 24.

iv Repeat steps i and ii as required to specify additional tablespace directories.

Figure 2-22 Data File Directories



22 Associate tablespaces with the directories specified in step 21.

i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 2-23.

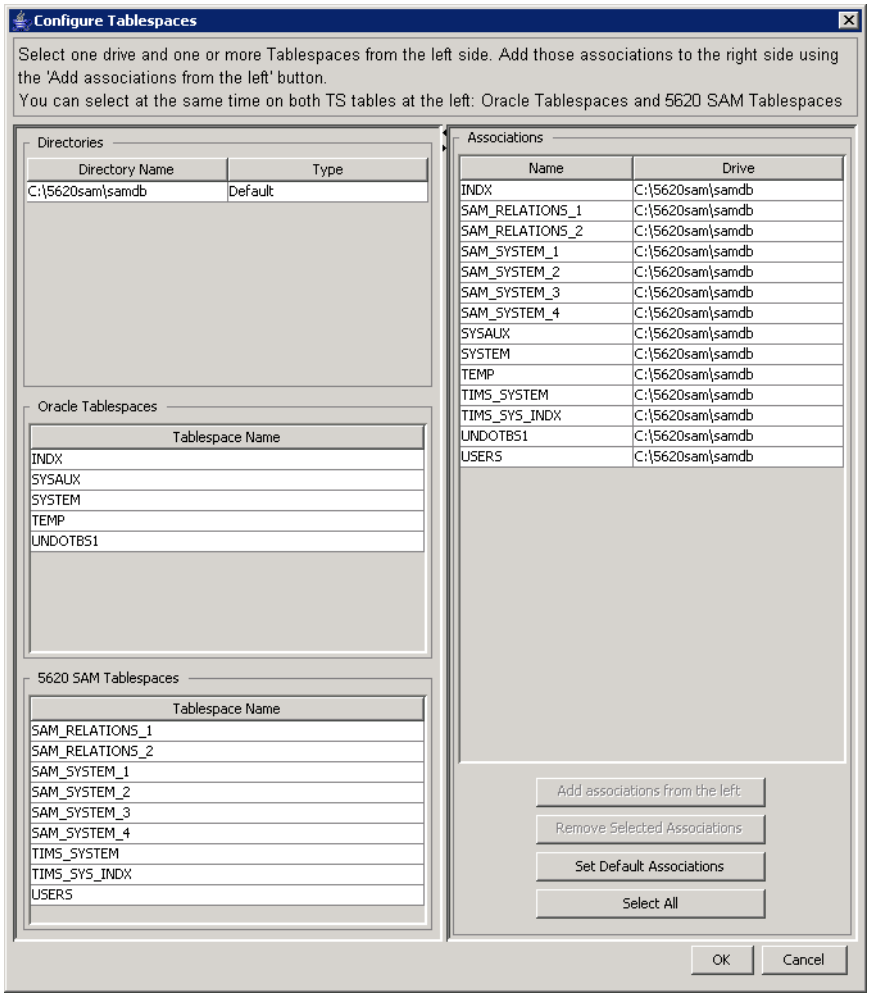
Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 2-22 is again displayed.

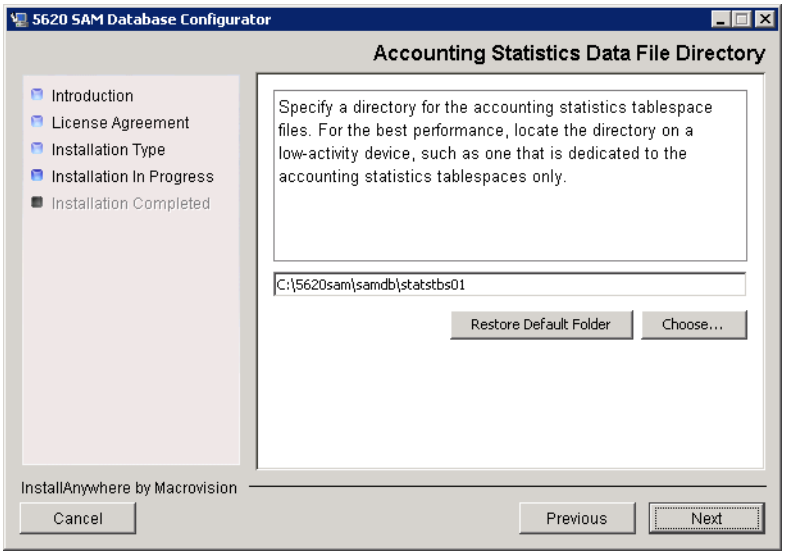
iv Click on the Next button to continue.

Figure 2-23 Configure Tablespaces



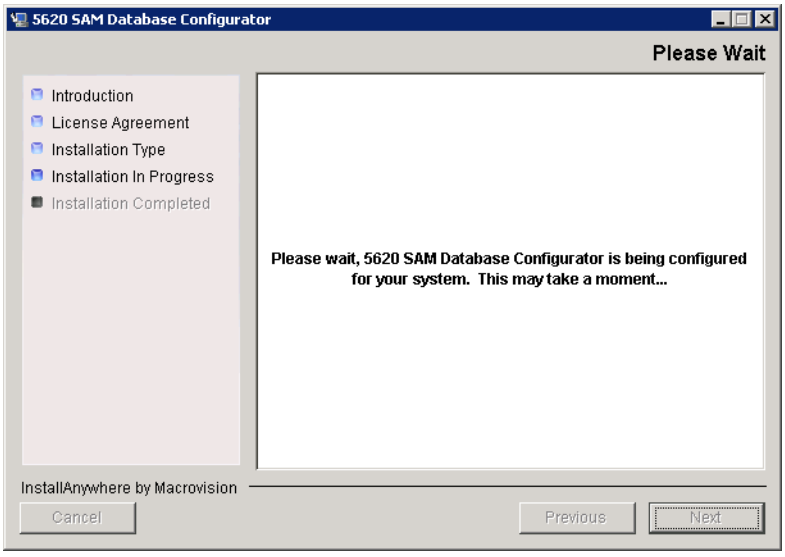
23 Specify a directory for the accounting statistics tablespace files (typically C:\5620sam\samdb\statstbs01), as shown in Figure 2-24. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 2-24 Accounting Statistics Data File Directory



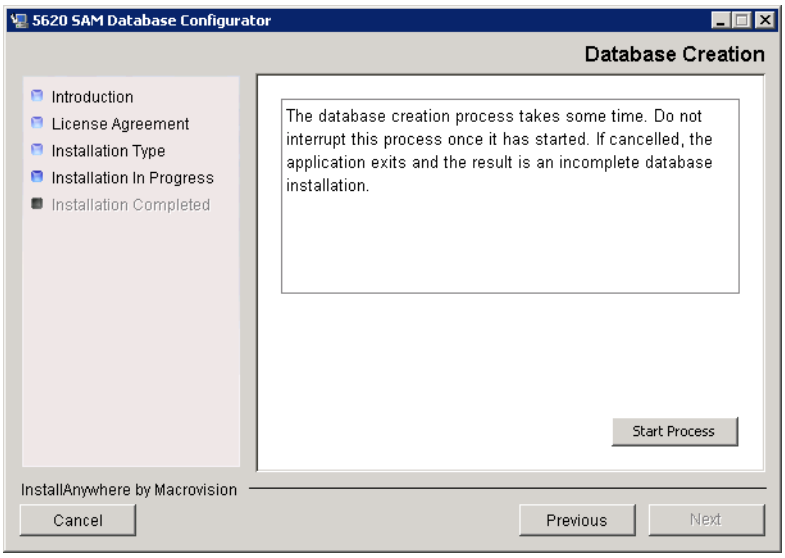
As shown in Figure 2-25, the installer prepares to install the database software.

Figure 2-25 Please Wait



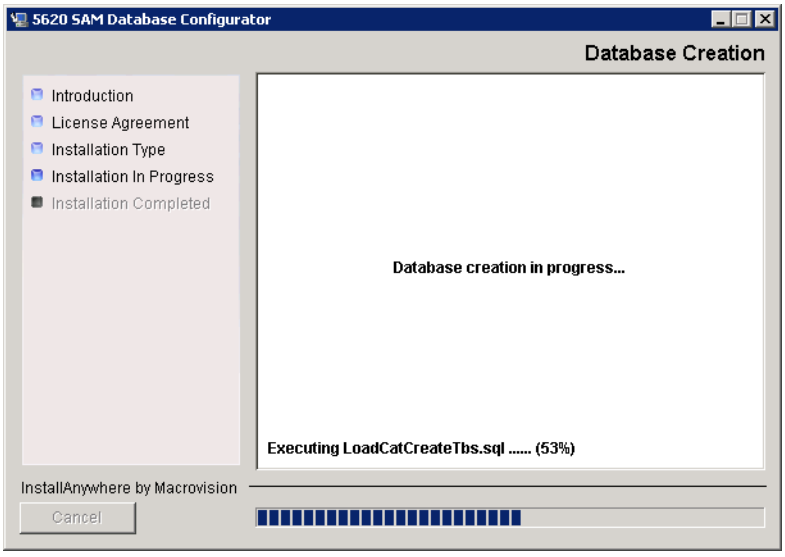
24 You are prompted to begin database creation, as shown in Figure 2-26. Database creation can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 2-26 Database Creation



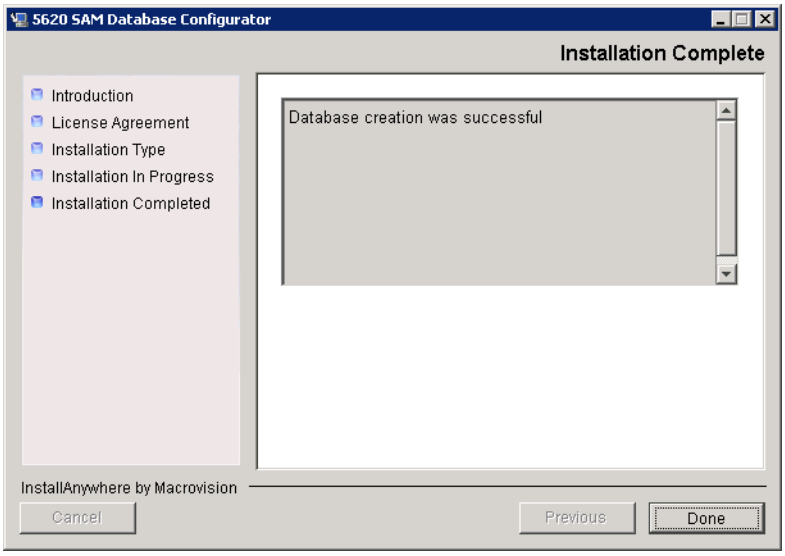
The next panel displays database installation progress, as shown in Figure 2-27.

Figure 2-27 Database Creation



25 When database creation is complete, as shown in Figure 2-28, click on the Done button to close the installer.

Figure 2-28 Installation Complete



26 Reboot the 5620 SAM database station.

The 5620 SAM database starts automatically during Windows initialization.

Procedure 2-2 To install a 5620 SAM server on Windows

The following procedure describes the installation of the 5620 SAM server software on a Windows station. The 5620 SAM server software must be installed on a station other than the one on which the 5620 SAM database software is installed. Only one 5620 SAM server can be installed on one station. You require local administrative user-account privileges to perform server installation.

Ensure that you record all information that you specify during this procedure, for example, folder names, passwords, and IP addresses.

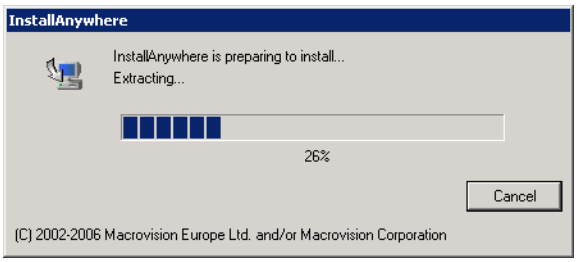
1 Navigate to the Windows folder on the new 5620 SAM software DVD-ROM.

2 Begin the installation by double-clicking on ServerInstall_SAM_6_0_*revision_ID*.exe

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

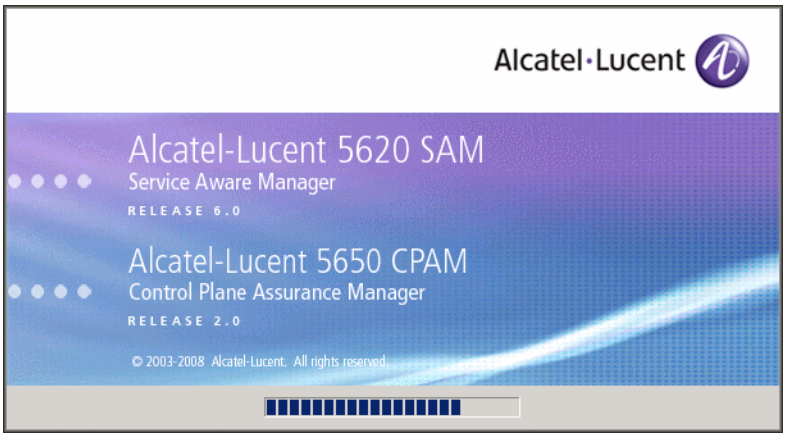
The installer prepares by extracting files, as shown in Figure 2-29.

Figure 2-29 Installer preparation



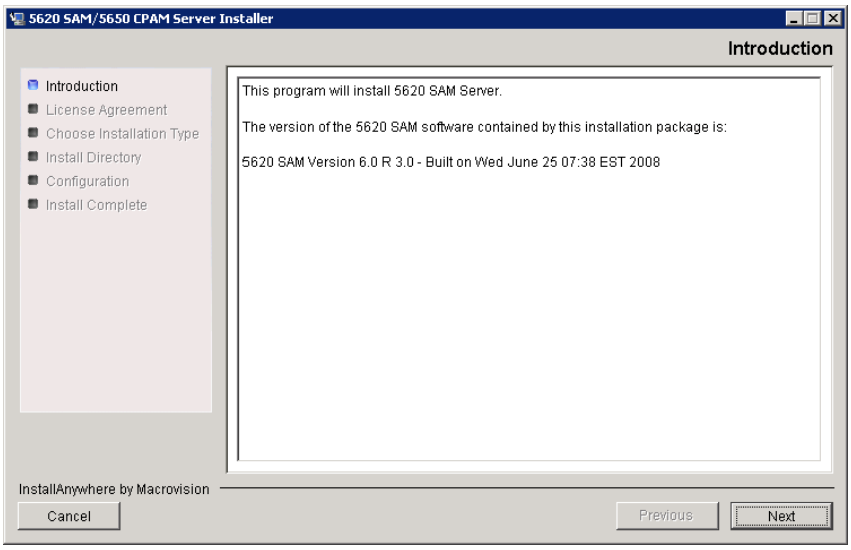
When the counter reaches 100%, a splash screen appears, as shown in Figure 2-30, and the installation process begins.

Figure 2-30 5620 SAM Installer



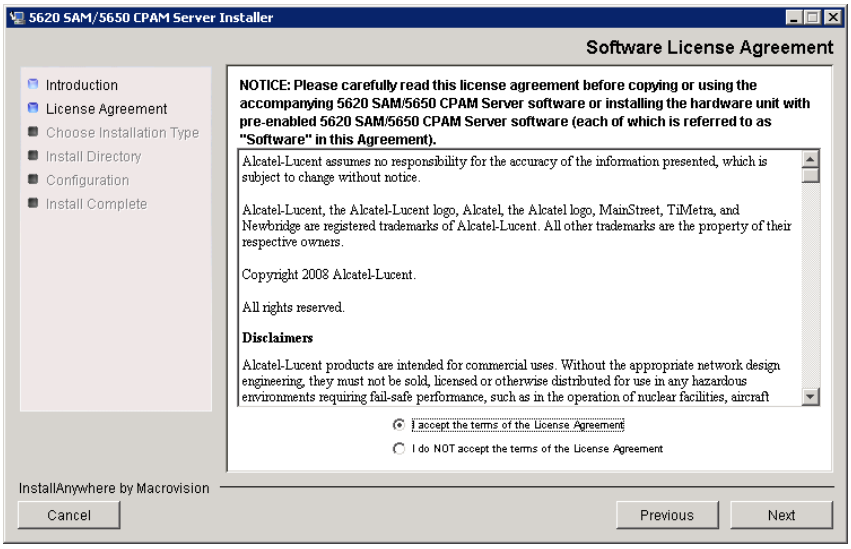
3 The Introduction panel appears, as shown in Figure 2-31. The left pane indicates installation progress. The right pane displays version information about the server software being installed. Click on the Next button to continue.

Figure 2-31 Introduction



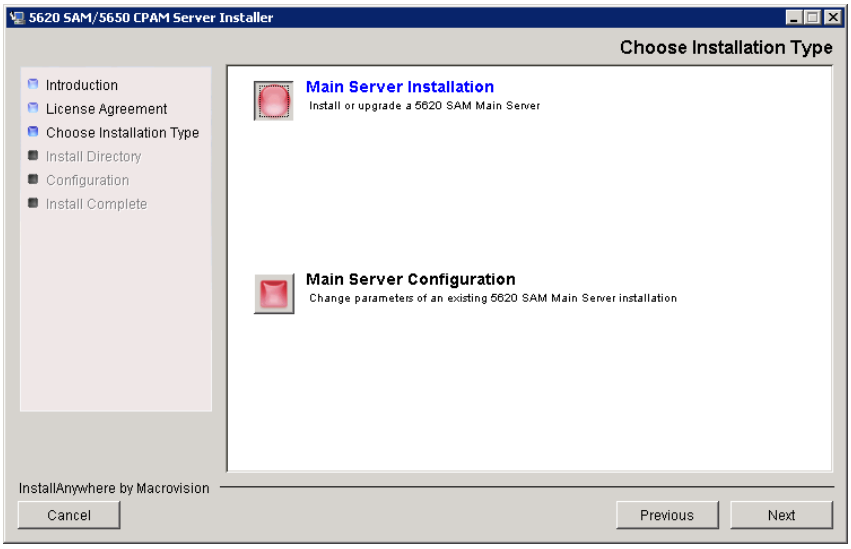
4 Review and accept the terms of the license agreement shown in Figure 2-32, then click on the Next button to continue.

Figure 2-32 Software License Agreement



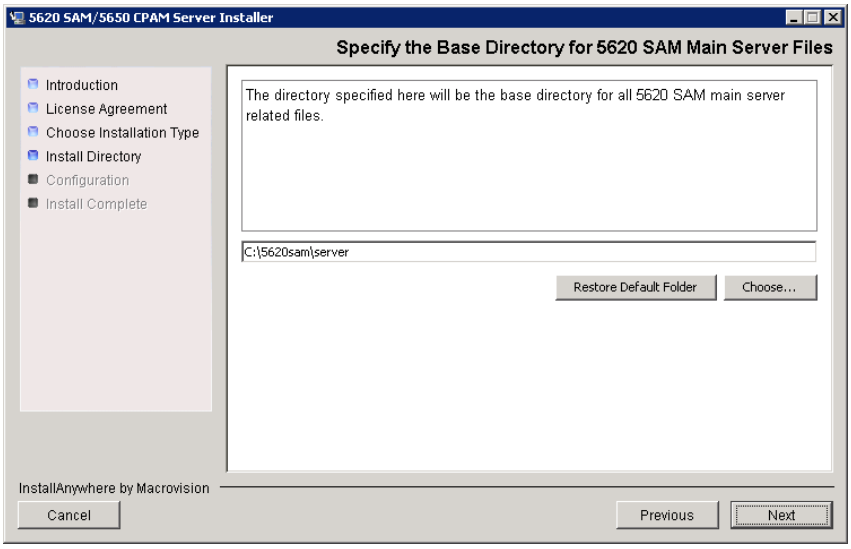
5 Select Main Server Installation, as shown in Figure 2-33, then click on the Next button to continue.

Figure 2-33 Choose Installation Type



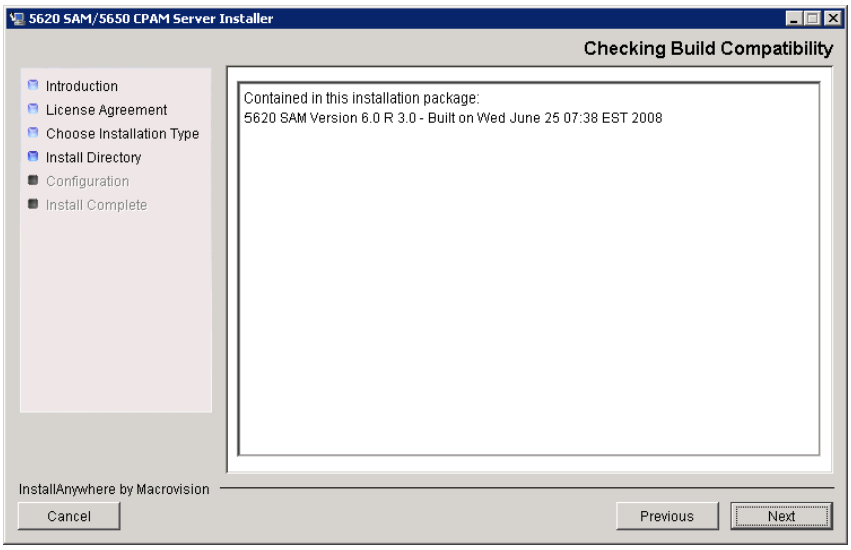
6 Specify a base folder in which to install the 5620 SAM server software (typically C:\5620sam\server), as shown in Figure 2-34. You are prompted to create the folder if it does not exist. Click on the Next button to continue.

Figure 2-34 Specify the Base Directory for 5620 SAM Main Server Files



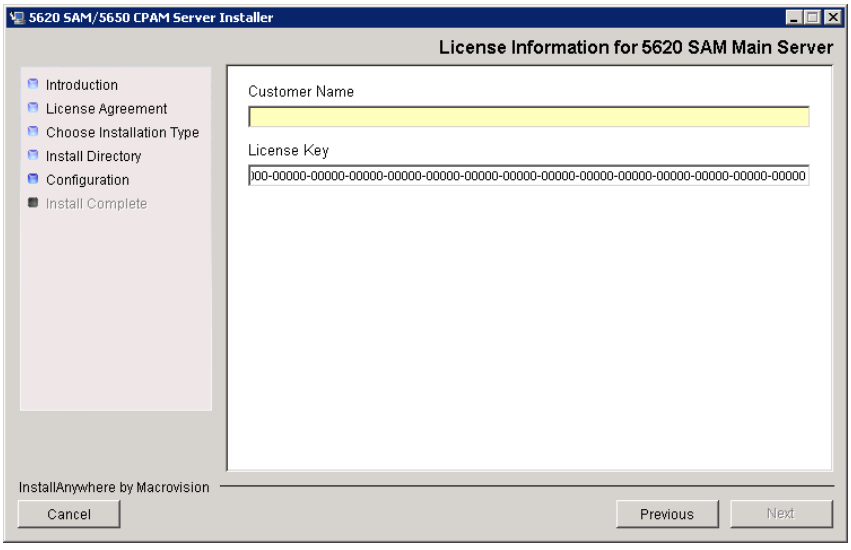
7 As shown in Figure 2-35, the installer displays the version of the 5620 SAM server software that is to be installed. Verify the information, then click on the Next button to continue.

Figure 2-35 Checking Build Compatibility



8 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 2-36. Click on the Next button to continue.

Figure 2-36 License Information for 5620 SAM Main Server

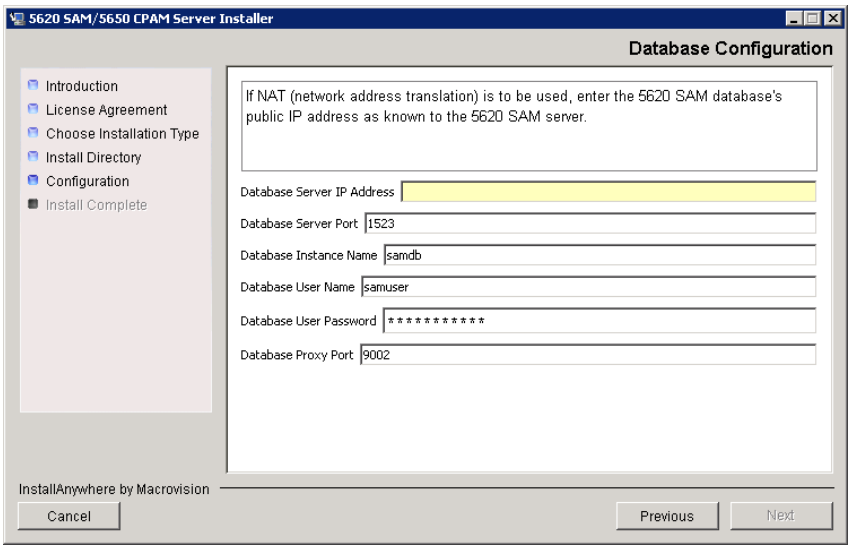


9 Configure the following parameters, shown in Figure 2-37, using the recorded values from the database installation. Click on the Next button to continue.

- Database Server IP Address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

Note — The Database Server Port value is the Database Listener Port value specified during database installation, in step 12 of Procedure 2-1.

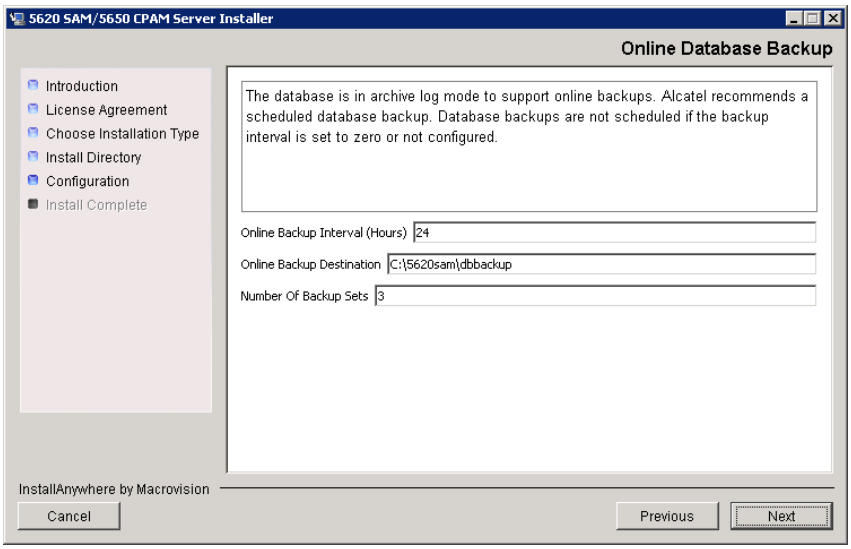
Figure 2-37 Database Configuration



10 Configure the following parameters in Figure 2-38, then click on the Next button:

- Online Database Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically C:\5620sam\dbbackup)
- Number of Backup Sets (typically 3)

Figure 2-38 Online Database Backup

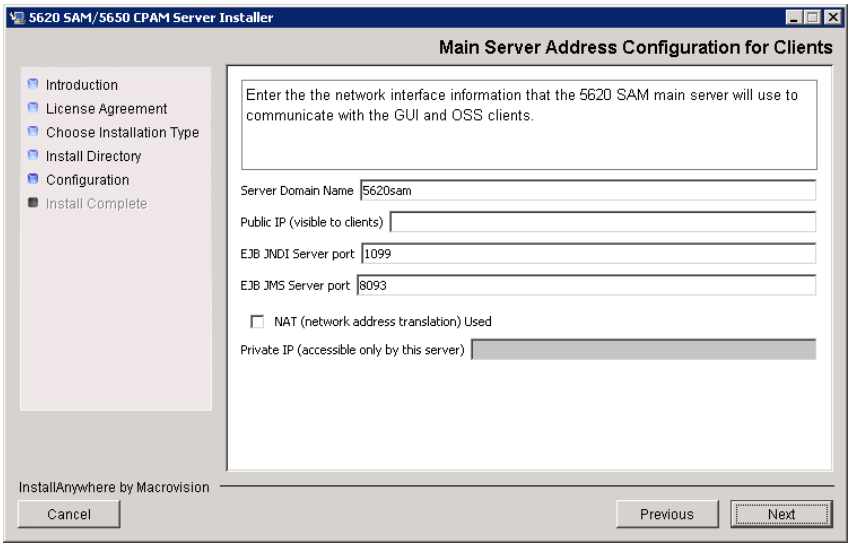


11 Configure the following parameters shown in Figure 2-39:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the "NAT (network address translation) Used" parameter and configure the "Private IP" parameter. Click on the Next button to continue.

Figure 2-39 Main Server Address Configuration for Clients



12 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the "Install User Documentation at Central Location Below" parameter, as shown in Figure 2-40.

ii If you want to accept the default user documentation location that is displayed, go to step 13.

Note — If NAT is to be used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

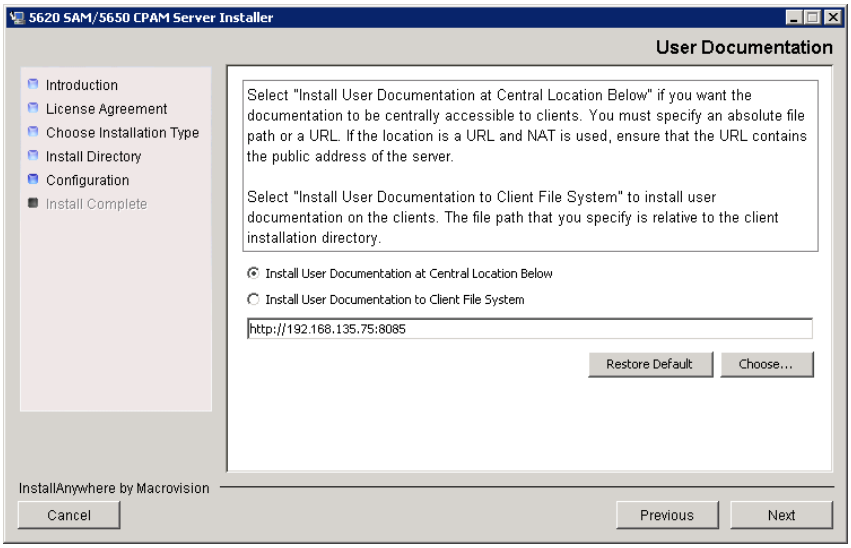
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 2-40.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading backslash. For example, if the installation folder is C:\5620sam\client and you specify Documents as the location, the documentation is installed in the C:\5620sam\client\Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, C:\5620sam\client\nms\Documents.

Figure 2-40 User Documentation

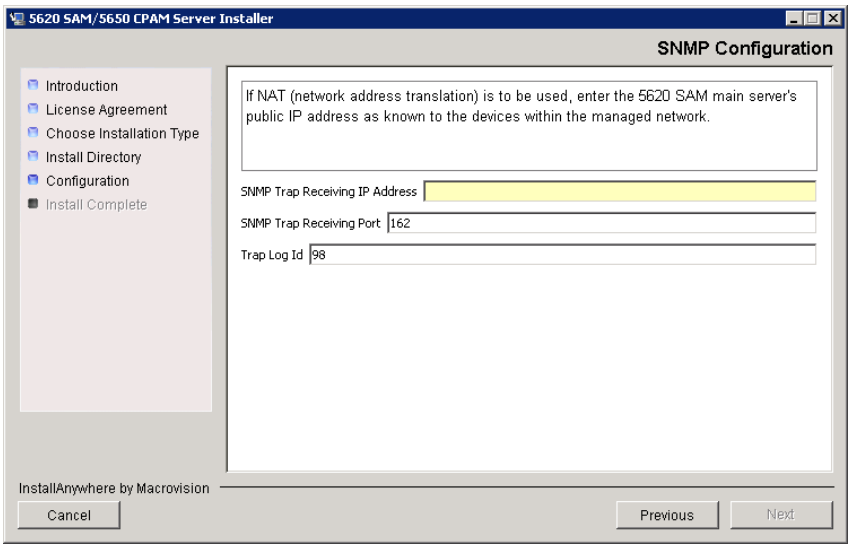


13 Click on the Next button to continue.

14 Configure the following parameters shown in Figure 2-41, then click on the Next button:

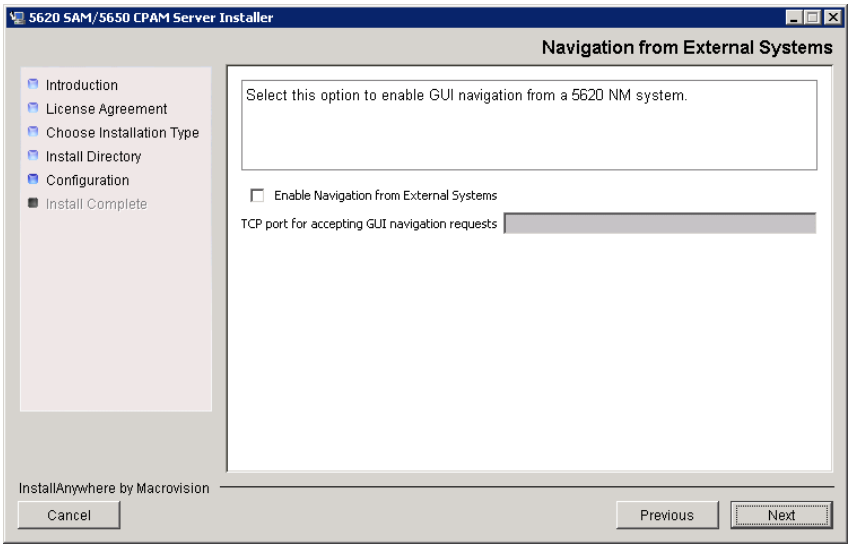
- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

Figure 2-41 SNMP Configuration



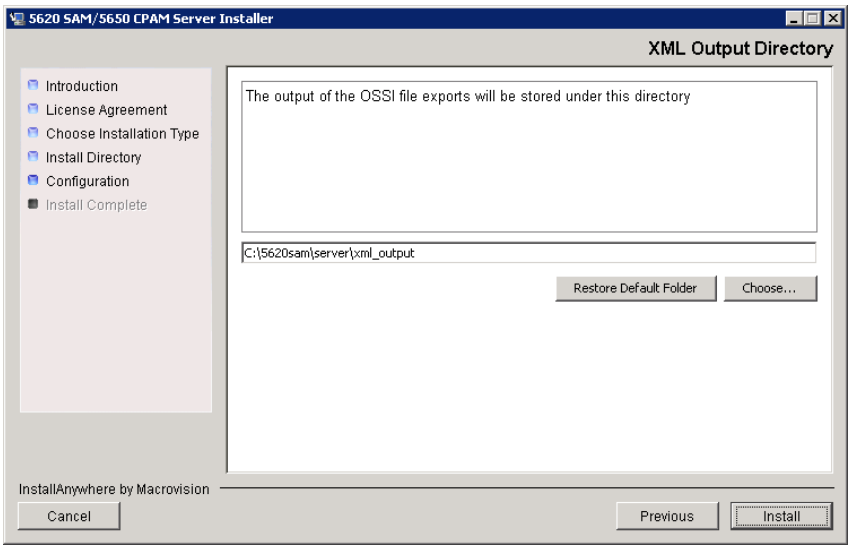
15 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 2-42 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 2-42 Navigation from External Systems



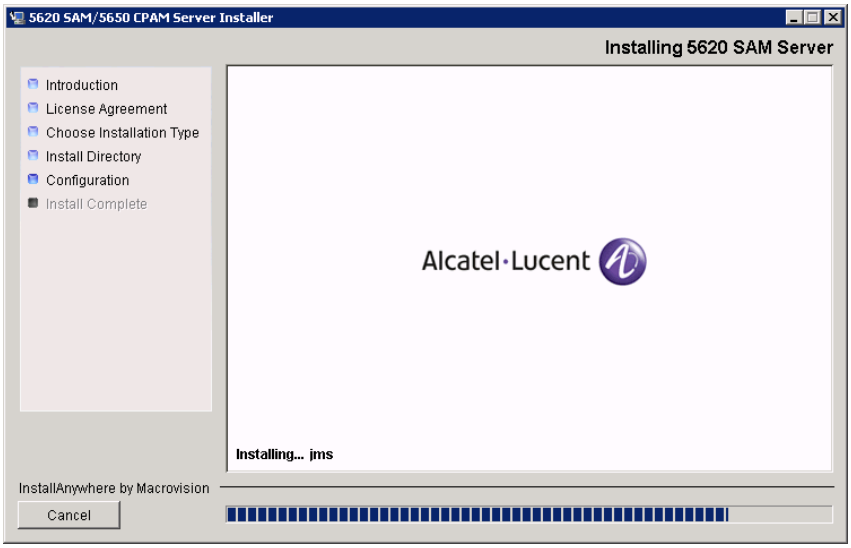
16 Specify a folder for OSS XML output (typicallyC:\5620sam\server\xml_output), as shown in Figure 2-43. You are prompted to create the folder if it does not exist. Click on the Install button to continue.

Figure 2-43 XML Output Directory



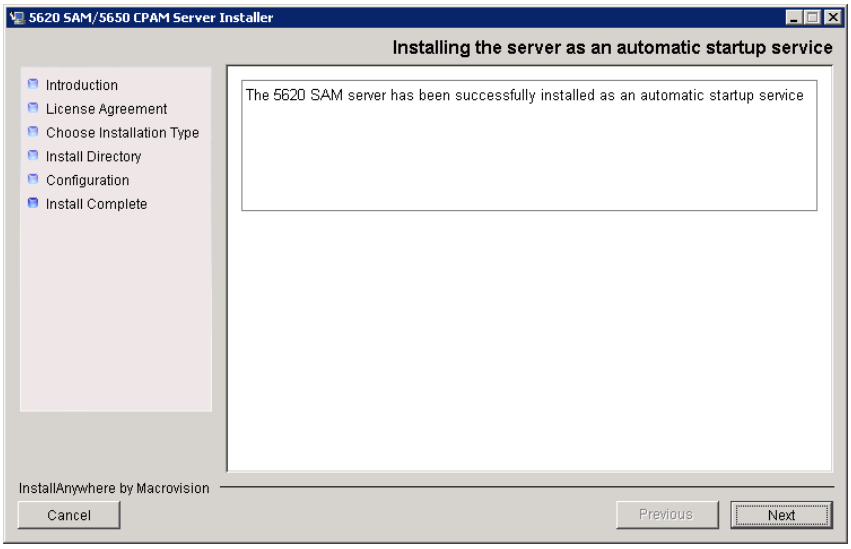
The next panel indicates the installation progress, as shown in Figure 2-44.

Figure 2-44 Installing 5620 SAM Server



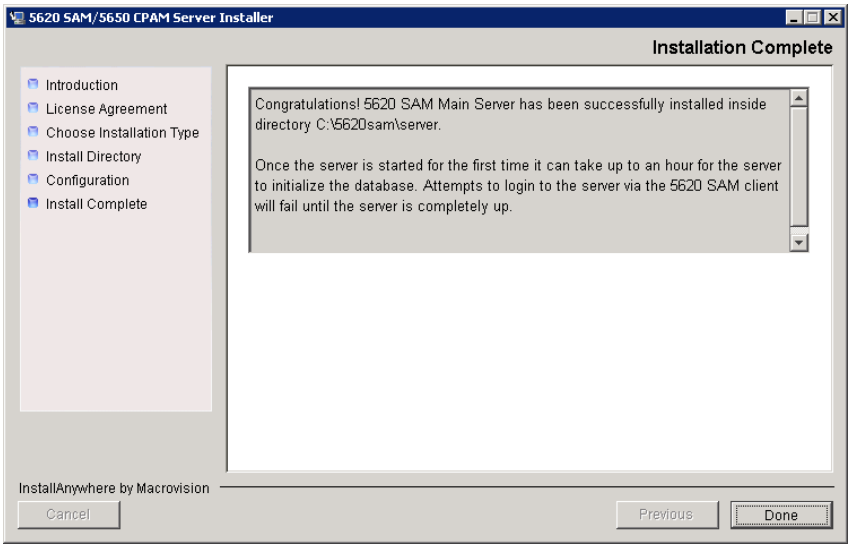
17 As shown in Figure 2-45, the 5620 SAM server is installed as a Windows service. Click on the Next button to continue.

Figure 2-45 Installing the server as an automatic startup service



18 When the server installation is complete, as shown in Figure 2-46, click on the Done button to close the installer.

Figure 2-46 Installation Complete



19 Reboot the 5620 SAM server station. The 5620 SAM server starts automatically during Windows initialization. Initial server startup may take twenty minutes or more to complete.

Procedure 2-3 To install a 5620 SAM client on Windows

This procedure describes how to install the 5620 SAM client software on a Windows station. You require local user-account privileges to install the 5620 SAM client software.

Install auto-client update utility

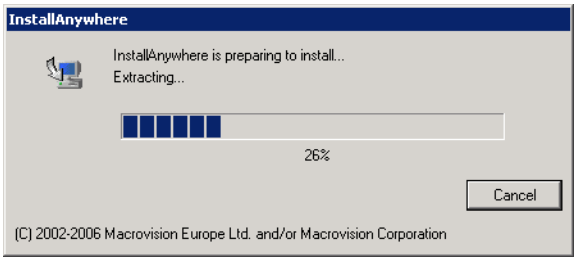
1 Navigate to the Windows folder on the new 5620 SAM software DVD-ROM.

2 Double-click on ClientInstall_SAM_6_0_*revision_ID*.exe

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

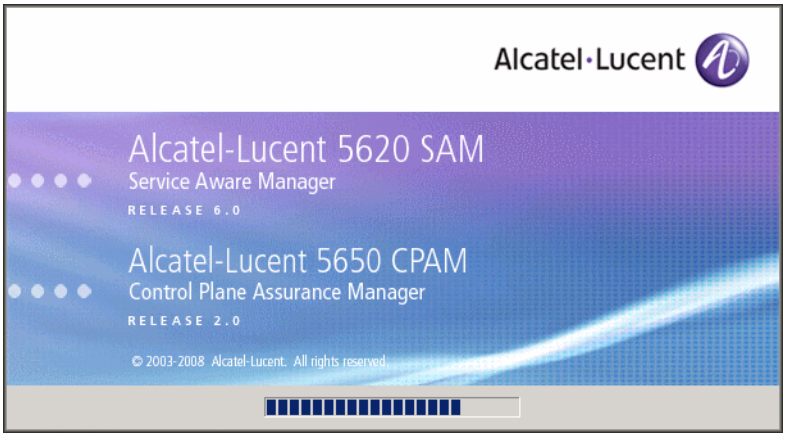
The installer prepares by extracting files, as shown in Figure 2-47.

Figure 2-47 Installer preparation



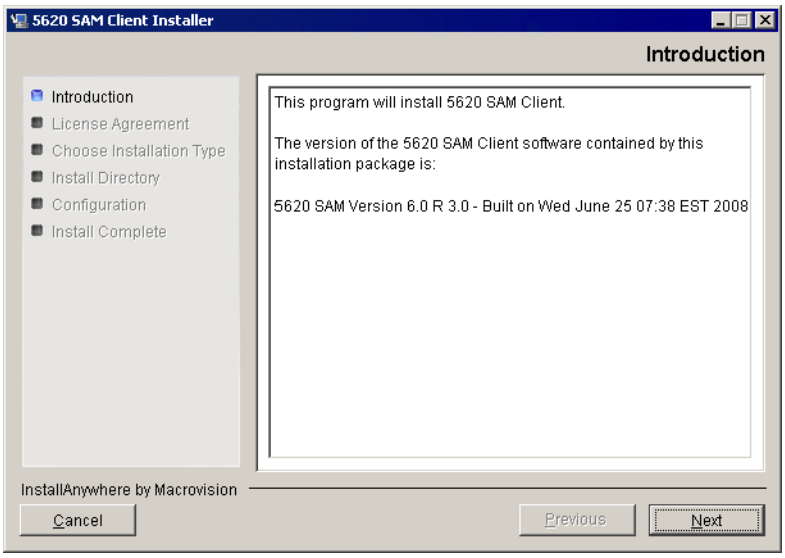
When the counter reaches 100%, a splash screen appears, as shown in Figure 2-48, and the installation process begins.

Figure 2-48 5620 SAM Installer



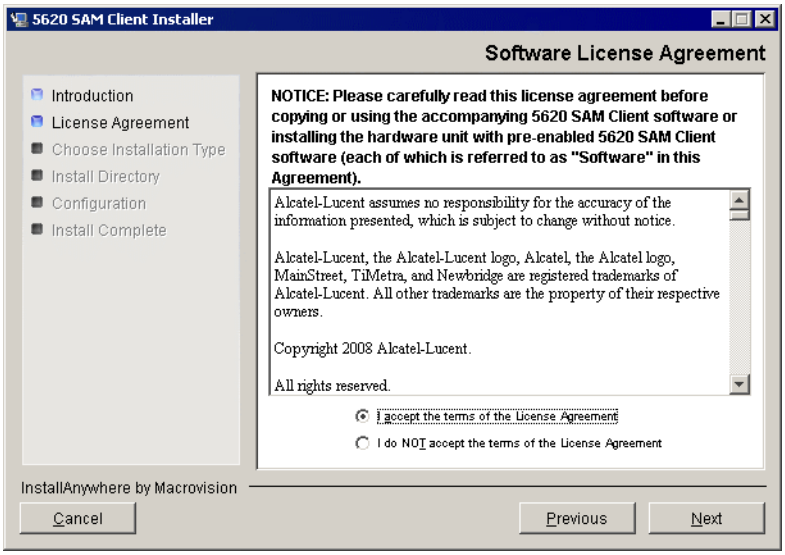
3 The 5620 SAM installer opens, as shown in Figure 2-49. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 2-49 Introduction



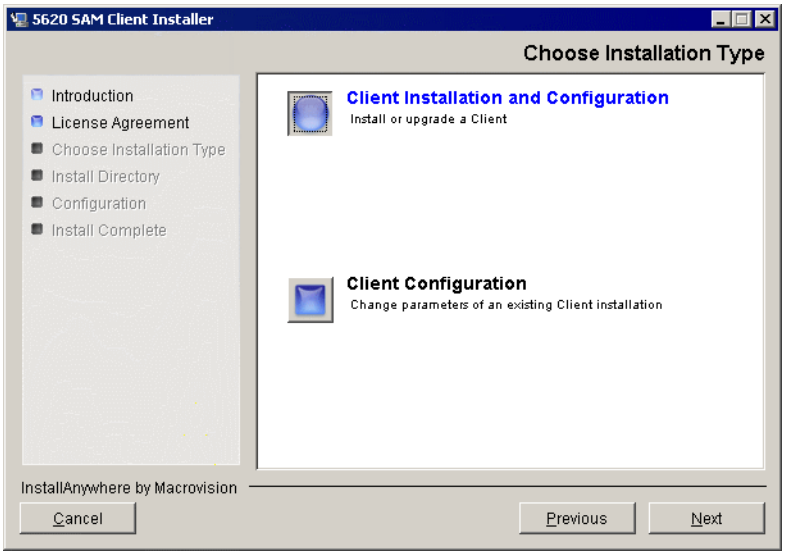
4 Review and accept the terms of the license agreement shown in Figure 2-50, then click on the Next button.

Figure 2-50 Software License Agreement



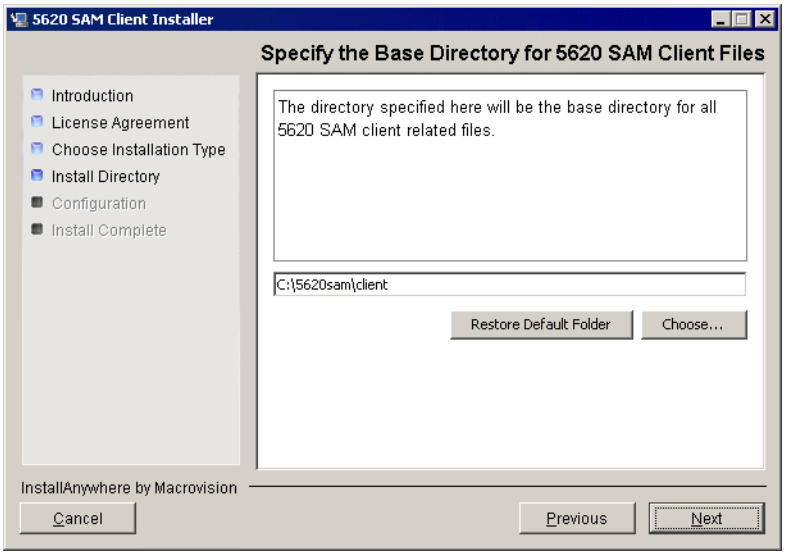
5 Select Client Installation and Configuration, as shown in Figure 2-51, then click on the Next button.

Figure 2-51 Choose Installation Type



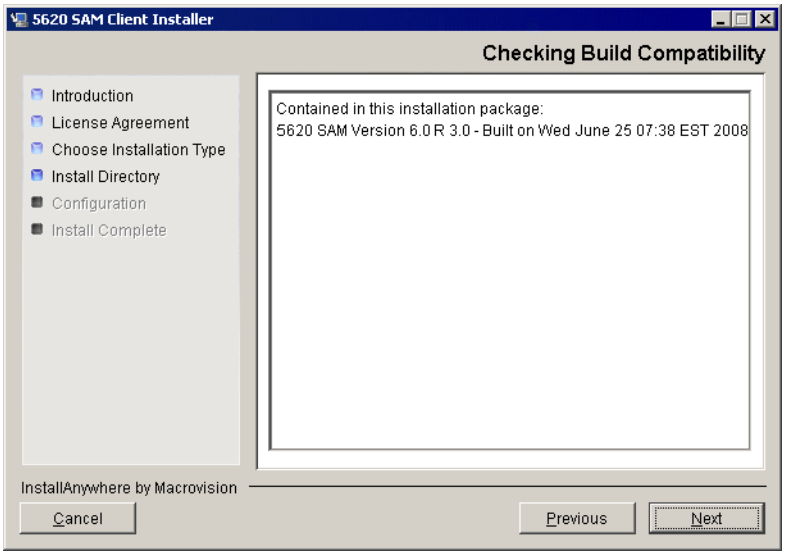
6 Specify a base folder in which to install the 5620 SAM client software (typically C:\5620sam\client) as shown in Figure 2-52. You are prompted to create the folder if it does not exist. Click on the Next button to continue.

Figure 2-52 Specify the Base Directory for 5620 SAM Client Files



7 As shown in Figure 2-53, the installer displays the version of the client software that is to be installed. Verify the information, then click on the Next button.

Figure 2-53 Checking Build Compatibility



8 Perform one of the following actions:

a Configure the 5620 SAM client for use with a standalone 5620 SAM server and database.

i Ensure that the “Redundancy Support” parameter is disabled, as shown in Figure 2-54.

ii Configure the “Server IP Address” parameter using the IP address that the client uses to address the 5620 SAM server.

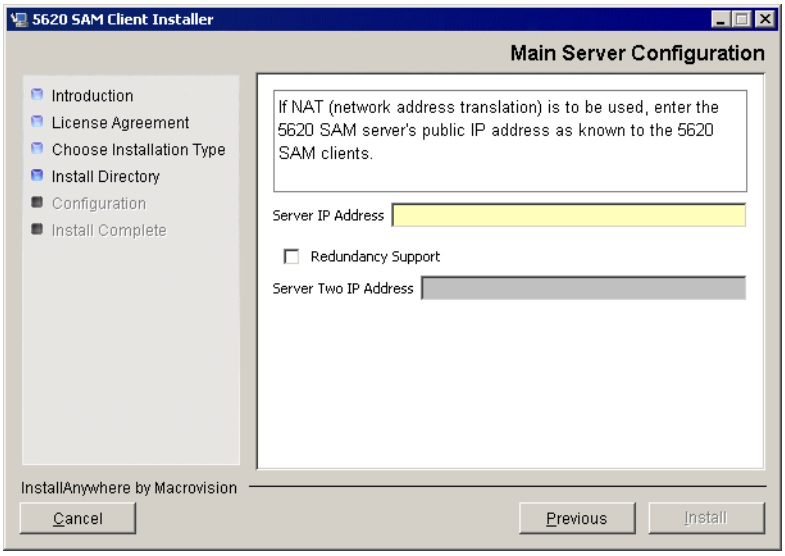
b Configure the 5620 SAM client for use with a redundant 5620 SAM server and database pair.

i Enable the “Redundancy Support” parameter shown in Figure 2-54.

ii Configure the “Server IP Address” parameter using the IP address that the client uses to reach the primary 5620 SAM server.

iii Configure the “Server Two IP Address” parameter using the IP address that the client uses to reach the standby 5620 SAM server.

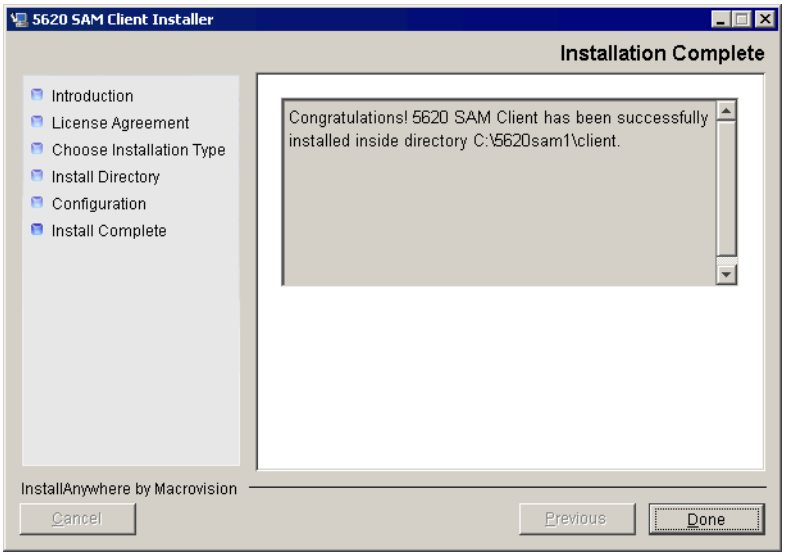
Figure 2-54 Main Server Configuration



9 Click on the Install button to proceed with the installation of the auto-client update utility.

10 When the installation is complete, as shown in Figure 2-55, click on the Done button to close the installer.

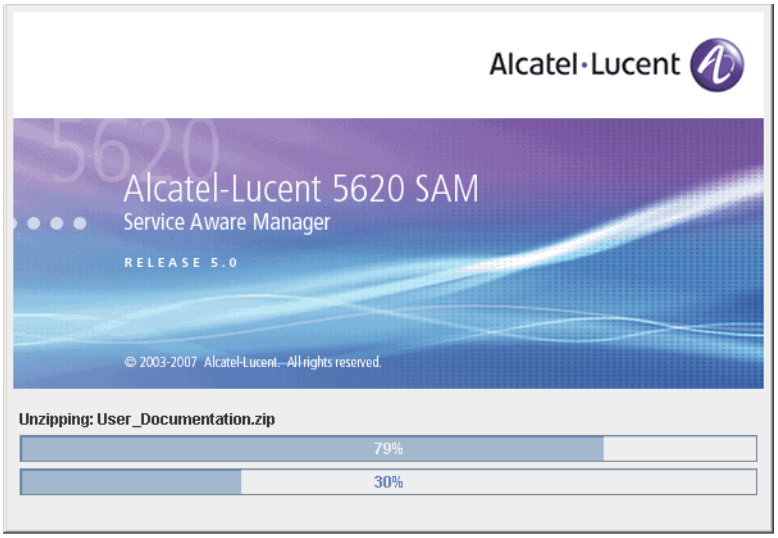
Figure 2-55 Installation Complete



Install 5620 SAM client software using auto-client update utility

11 Start the 5620 SAM auto-client update utility by double-clicking on the 5620 SAM Client App desktop icon. The utility detects the available client software on the 5620 SAM server, begins downloading files, and presents the panel shown in Figure 2-56. The panel displays the installation progress using separate indicators for the overall and current task progress.

Figure 2-56 Installation progress



When the installation is complete, the auto-client update utility closes and the newly installed 5620 SAM client opens.

12 Log in to the 5620 SAM client GUI to ensure that the client and server are communicating properly.

2.5 Workflow for 5620 SAM upgrade on Windows

The following is an overview of the steps required to upgrade a 5620 SAM server and database system on Windows, and a 5620 SAM client on Windows, Solaris, or Linux.

1 Perform the pre-upgrade tasks. See Procedure 2-4 for more information.

2 Upgrade the 5620 SAM database. See Procedure 2-5 for more information.

3 Upgrade the 5620 SAM server. See Procedure 2-6 for more information.

4 Upgrade or install a 5620 SAM client.

a See Procedure 2-3 for information about installing a client on a Windows station.

b See Procedure 2-7 for information about upgrading a client on a Windows station.

c See Procedure 3-2 for information about installing a client on a Solaris or Linux station.

d See Procedure 4-3 or 4-4 for information about upgrading a client on a Solaris or Linux station.

5 Upgrade or install a client delegate, if required. See Procedure 3-4 for more information.

2.6 5620 SAM upgrade on Windows procedures

Before you begin a 5620 SAM system upgrade, you must collect the required information and ensure that the proper upgrade conditions are in place.

Procedure 2-5 describes how to upgrade the 5620 SAM database software on Windows. The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 2-4 To perform pre-upgrade tasks

Perform this procedure to prepare for a 5620 SAM system software upgrade.

Back up database

1 Alcatel-Lucent strongly recommends that you perform a database backup before you upgrade a 5620 SAM database. Perform one of the following actions.

a Use the 5620 SAM client GUI. See the *5620 SAM User Guide* for information about how to perform a database backup.

b Optionally, you can back up the database using a CLI script. Perform the following actions.

i Log in to the database station as a user with local administrator privileges.

ii Open a console window.

iii Enter the following at the CLI prompt to begin the database backup:

```
path\SAMbackup.bat backup_folder ↵
```

where
path is the location of the 5620 SAM database backup script file, typically C:\5620sam\samdb\install\config\samdb
backup_folder is the folder that is to contain the database backup

iv Close the console window.

Verify managed-device compatibility

2 Ensure that the new 5620 SAM software version supports the software version of each 5620 SAM-managed device. Perform one of the following actions for each unsupported device before you attempt the upgrade, or a service disruption may occur. See the *5620 SAM NE Compatibility Guide* for information about managed-device release and 5620 SAM release compatibility.

a Upgrade the device to a software version that the new 5620 SAM software supports. See the appropriate device documentation for information about device software upgrades.

b Remove the device from the 5620 SAM managed network. See the *5620 SAM User Guide* for information about performing the following steps.

i Use a 5620 SAM client to unmanage the device.

ii When the device is unmanaged, use the 5620 SAM client to remove the device from the 5620 SAM network.

Note 1 — If you have a Release 5.0 R4 or earlier 5620 SAM system that manages one or more 7250 SAS-ES, Release 2.0 devices, you must unmanage the 7250 SAS-ES, Release 2.0 devices in your network before you attempt to upgrade the 5620 SAM software.

You can resume management of the devices when the 5620 SAM upgrade is complete.

You do not need to unmanage a 7250 SAS-STD device before you upgrade the 5620 SAM software.

Note 2 — If you have a 5620 SAM system that manages one or more OS 6850 devices as generic NEs, you must unmanage and delete the OS 6850 generic NEs before you upgrade the 5620 SAM software.

You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

Close client sessions

3 Close the 5620 SAM client session on each station that connects to the 5620 SAM server.

i Open a 5620 SAM client session using an account with security management privileges, such as admin.

ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.

iii Click on the Sessions tab button.

iv Click on the Search button. The form displays a list of the active 5620 SAM client sessions.

v Using the IP addresses in the Client IP column, identify the GUI or OSS clients that are currently logged in.

Note — One of the listed sessions is the session that you are using to list the client sessions.

vi Close each listed 5620 SAM client application session, except for the one you are using, by choosing File→Exit from the 5620 SAM main menu.

vii Click on the Search button again to refresh the list of open client sessions.

viii Confirm that only one client session remains open.

4 Close the 5620 SAM client by choosing File→Exit from the 5620 SAM main menu.

Open port for client/server communication

5 Ensure that the firewalls between the 5620 SAM main server and client allow traffic to the HTTP or HTTPS port used for performing automatic client updates. Otherwise, you cannot perform a client installation. By default, the auto-update utility uses HTTP. See the SSL configuration for secure messaging chapter of the *5620 SAM User Guide* for information about configuring HTTP and HTTPS for client/server communication.

Shut down server

6 Stop the 5620 SAM server application.

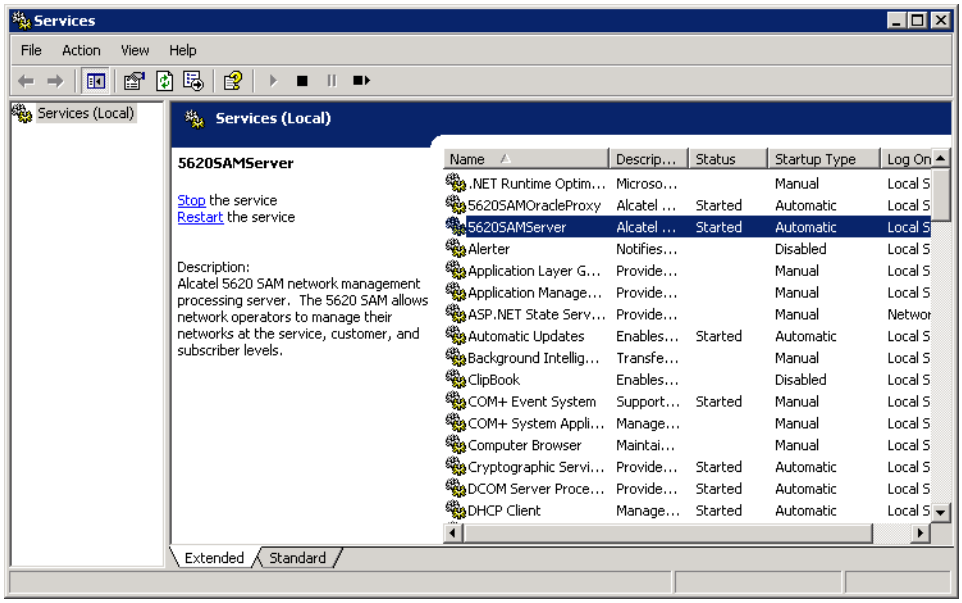
i Log in to the 5620 SAM server station using an account with local administrator user-account privileges.

ii Click on Start→Settings→Control Panel→Administrative Tools→Services. The Services window opens.

iii Select the 5620SAMServer entry, as shown in Figure 2-57, then click on the Stop the service link on the left.

iv Close the Services window.

Figure 2-57 Services - 5620 SAMServer service



7 Verify that the 5620 SAM server application is stopped.

i Open a console window.

ii Navigate to the 5620 SAM server installation folder. Enter the following at the CLI prompt:

`cd path\nms\bin` ↵

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

iii Enter the following at the CLI prompt:

`nmsserver.bat appserver_status` ↵

iv The 5620 SAM server application is stopped when the command in step 7 iii returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 7 iii. Do not proceed unless the console displays the above text.

v Close the console window.

Back up configuration files

8 Make a backup copy of the *path*\nms\config\nms-server.xml configuration file on the server.

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

Ensure that you store the file in a location that is unaffected by 5620 SAM upgrade activity, for example, on a non-5620 SAM station.

9 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device backup files collected by the 5620 SAM in the *path*\nms\sr-backup folder on the server station.

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

Ensure that you store the files in a location that is unaffected by 5620 SAM upgrade activity, such as on a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device backup files to the 5620 SAM database.

10 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device software image files stored by the 5620 SAM in the *path*\nms\sr-images folder on the server station.

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

Ensure that you store the files in a location that is unaffected by 5620 SAM upgrade activity, such as on a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device software image files to the 5620 SAM database.

11 Make a copy of any custom XML configuration files in the *path*\nms\jboss folder on the server station

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

Ensure that you store the files in a secure location, such as on a non-5620 SAM station.

Note — The upgrade process re-installs and potentially modifies the format of the XML files in the jboss folder. You can use the copy of the pre-upgrade XML files as a reference for restoring your custom configuration, but you cannot use the files as part of the upgraded server installation. Copying the files into the new jboss folder after the upgrade is ineffective.

Procedure 2-5 To upgrade a 5620 SAM database on Windows

1 Log in to the database station as a user with local administrator privileges.

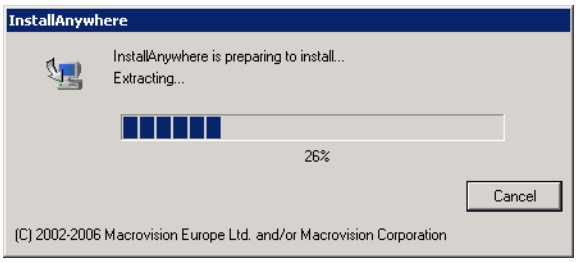
2 Navigate to the Windows folder on the new 5620 SAM software DVD-ROM.

3 Double-click on DBConfig_SAM_6_0_*revision_ID*.exe to open the 5620 SAM installer

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

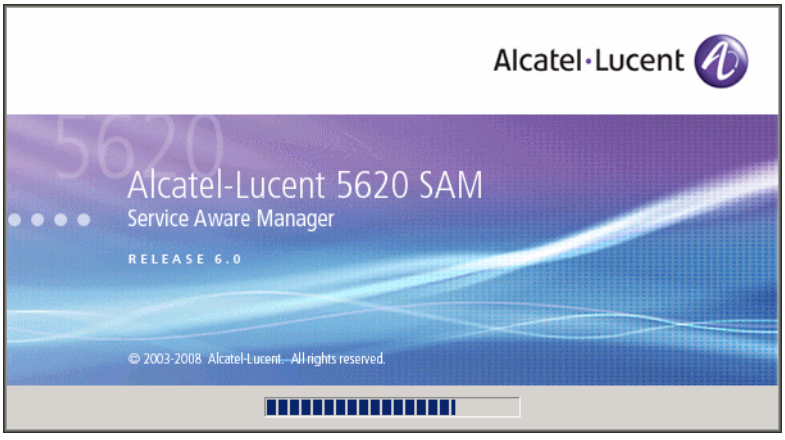
The installer prepares by extracting files, as shown in Figure 2-58.

Figure 2-58 Installer preparation



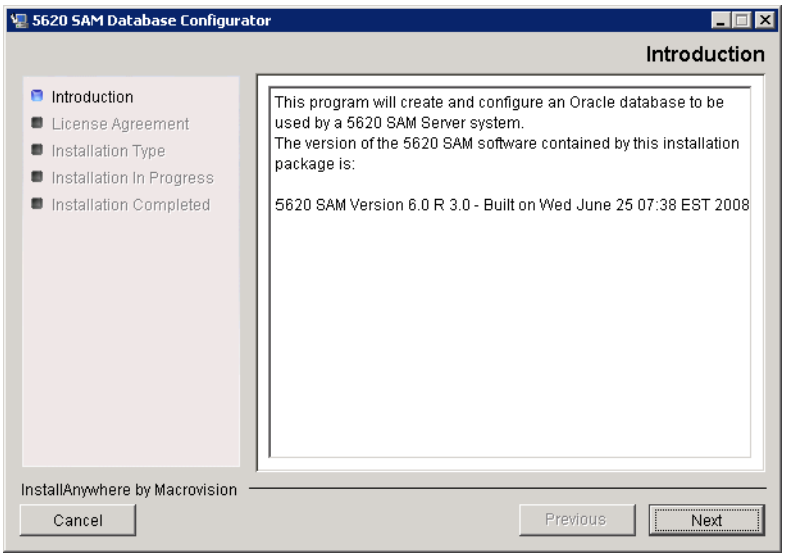
When the counter reaches 100%, the splash screen shown in Figure 2-59 appears and the installation process begins.

Figure 2-59 5620 SAM Installer



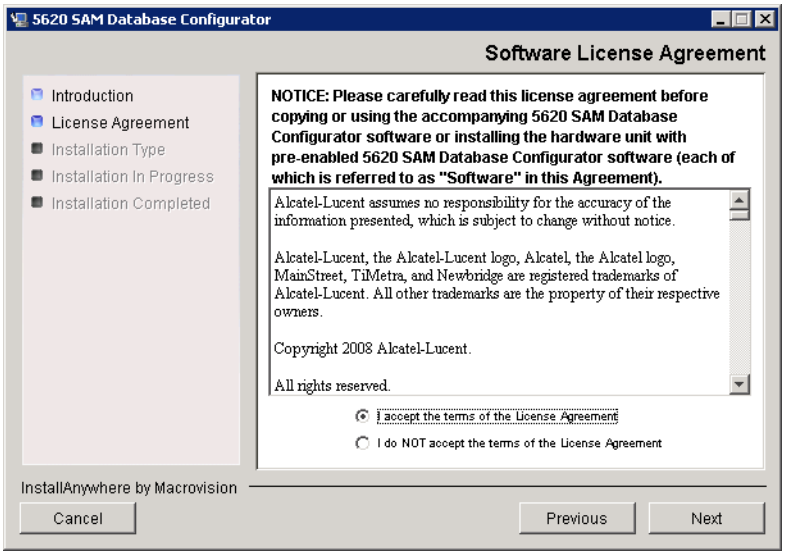
4 The 5620 SAM installer opens, as shown in Figure 2-60. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 2-60 Introduction



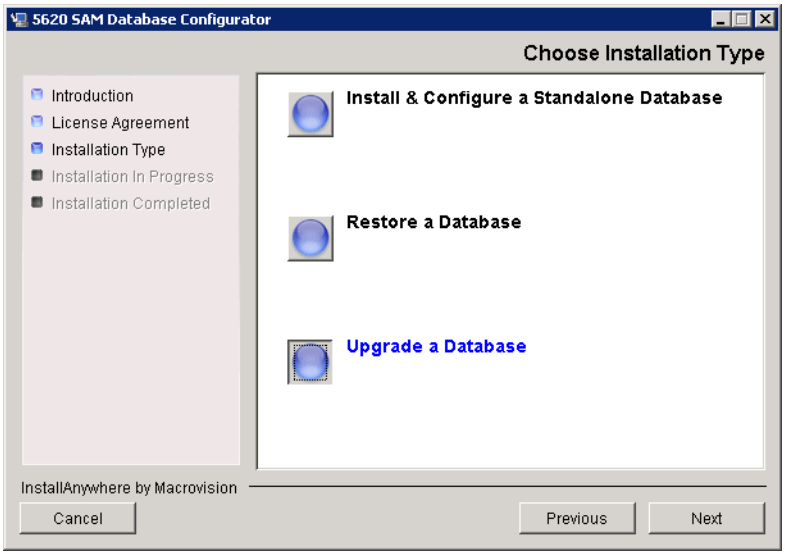
5 Review and accept the terms of the license agreement shown in Figure 2-61, then click on the Next button to continue.

Figure 2-61 Software License Agreement



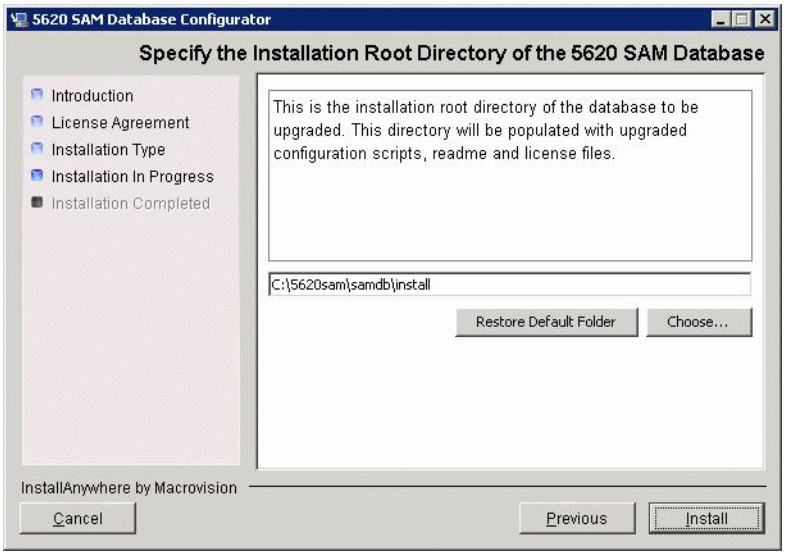
6 Select Upgrade a Database, as shown in Figure 2-62, then click on the Next button to continue.

Figure 2-62 Choose Installation Type



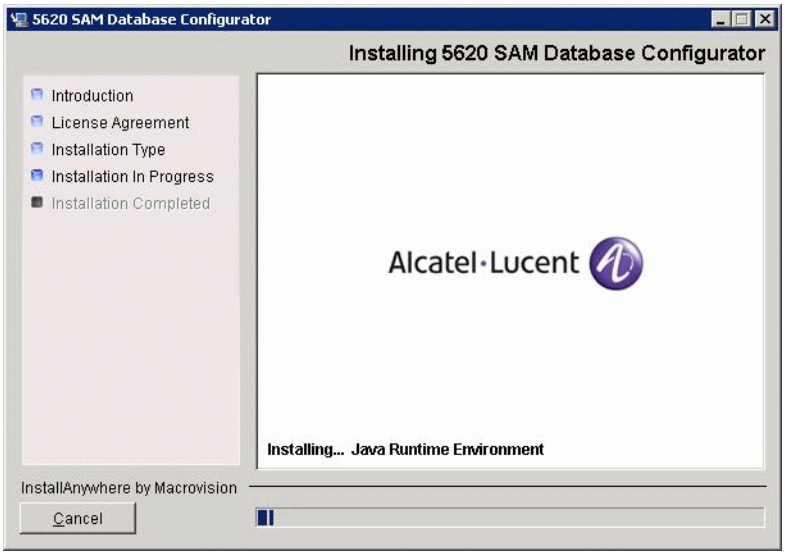
7 Specify the location of the existing 5620 SAM database installation (typically C:\5620sam\samdb\install), as shown in Figure 2-63. Click on the Install button to continue.

Figure 2-63 Specify the Installation Root Directory of the 5620 SAM Database



As shown in Figure 2-64, the 5620 SAM Database Configurator begins to install components.

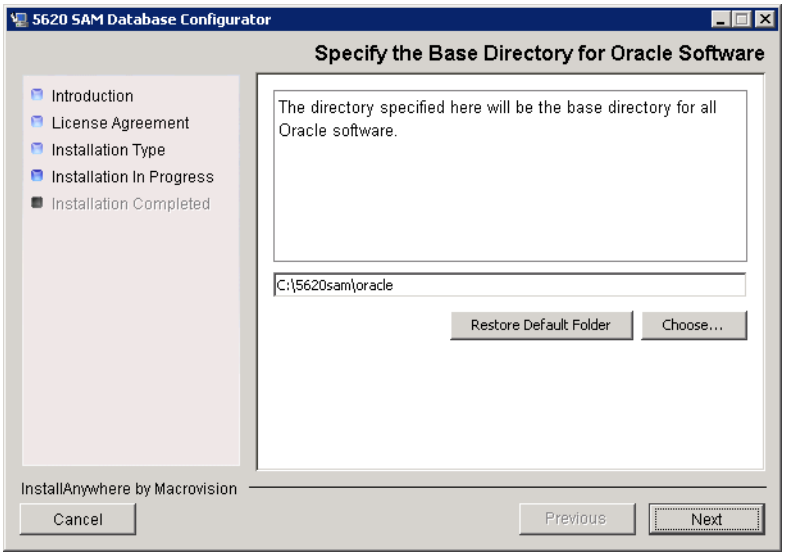
Figure 2-64 Installing 5620 SAM Database Configurator



8 Specify the base folder of the Oracle software after the upgrade, as shown in Figure 2-65. Click on the Next button to continue.

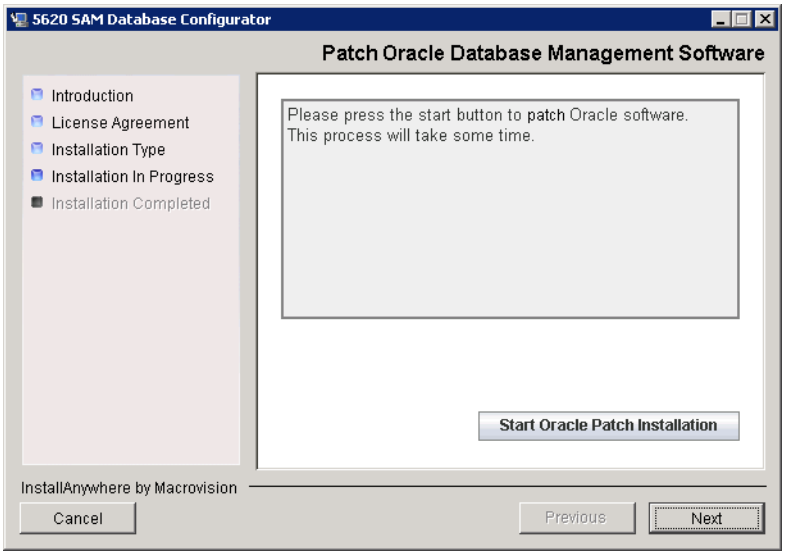
Note — The folder specified in this step must be the same folder specified in step 7. The installer requires this information although the Oracle software is not being upgraded.

Figure 2-65 Specify the Base Directory for Oracle Software



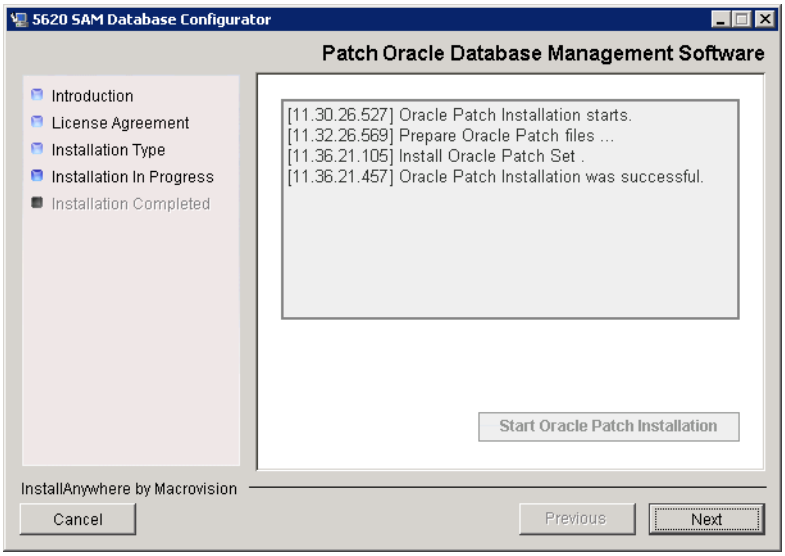
9 Depending on the 5620 SAM version that you are upgrading from, the panel in Figure 2-66 is displayed. Click on the "Start Oracle Patch Installation" button to begin installing the Oracle patch.

Figure 2-66 Patch Oracle Database Management Software



10 Oracle patch installation details are displayed as the patch installation progresses. When the patch installation is complete, as shown in Figure 2-67, click on the Next button to continue.

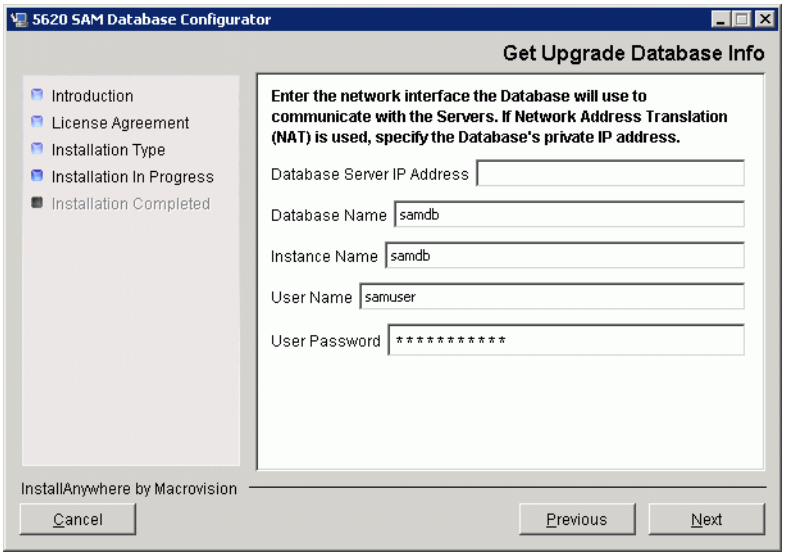
Figure 2-67 Patch Oracle Database Management Software



11 Configure the following parameters shown in Figure 2-68 using information from the existing 5620 SAM installation, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password

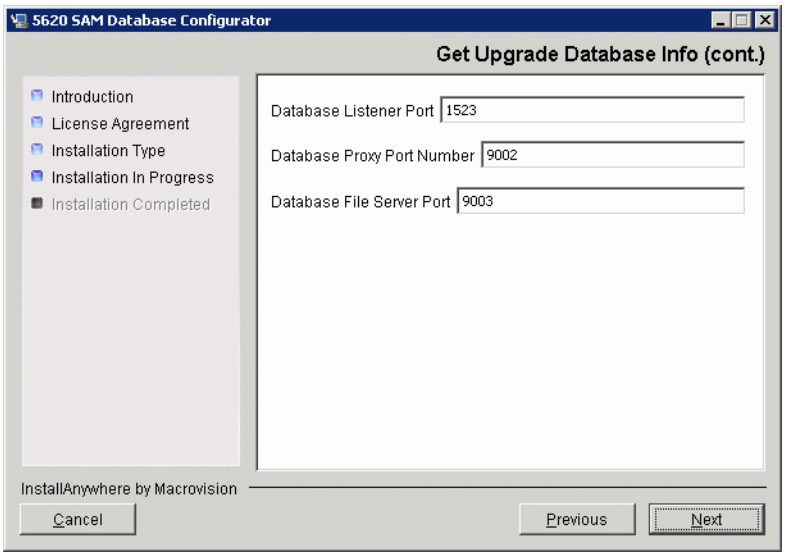
Figure 2-68 Get Upgrade Database Info



12 Configure the following parameters shown in Figure 2-69 using information from the existing 5620 SAM installation, then click on the Next button:

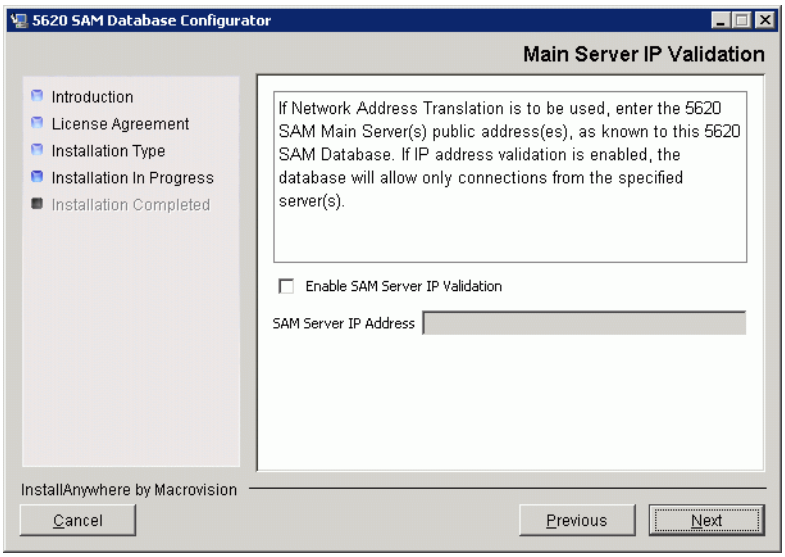
- Database Listener Port (typically 1523)
- Database Proxy Port Number (typically 9002)
- Database File Server Port (typically 9003)

Figure 2-69 Get Upgrade Database Info (continued)



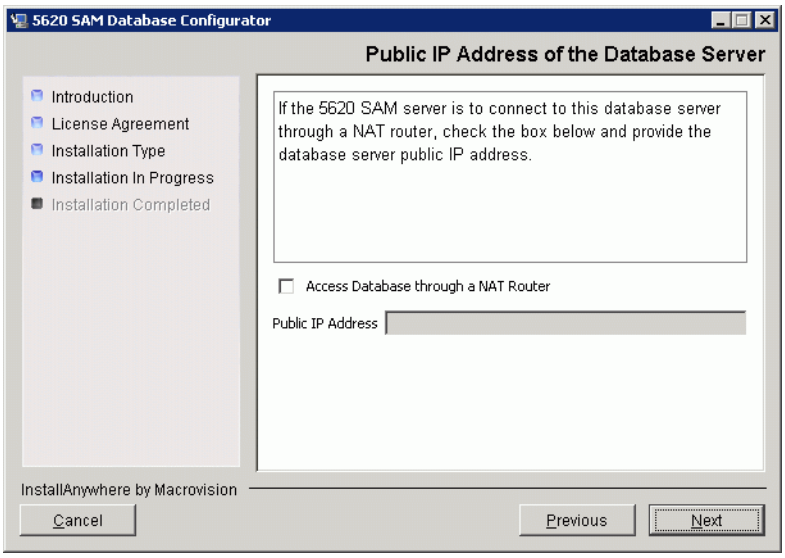
13 If the "Enable SAM Server IP Validation" parameter shown in Figure 2-70 is enabled, only the specified server can connect to the database. If required, enable this parameter and enter the IP address of the 5620 SAM server. Click on the Next button to continue.

Figure 2-70 Main Server IP Validation



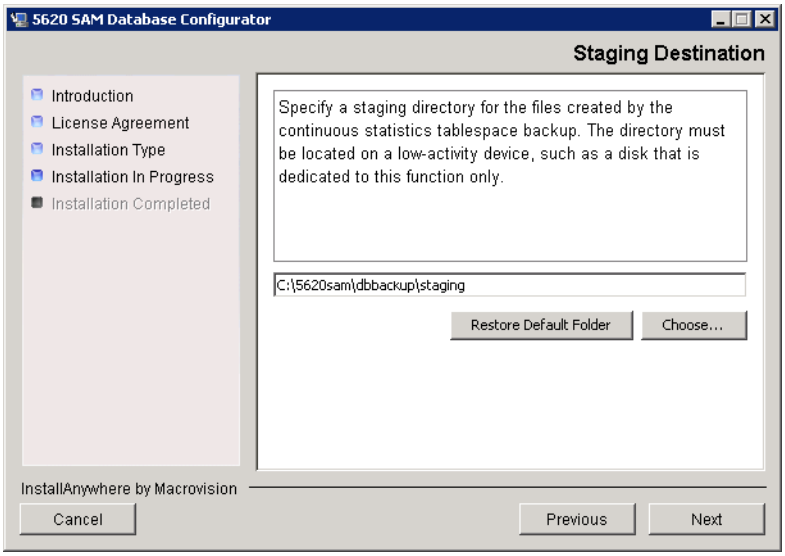
14 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 2-71 and enter the public IP address of the database. Click on the Next button to continue.

Figure 2-71 Public IP Address of the Database Server



15 If the panel in Figure 2-72 is displayed, specify a directory for the continuous statistics tablespace backup (typically C:\5620sam\dbbackup\staging). You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 2-72 Staging Destination

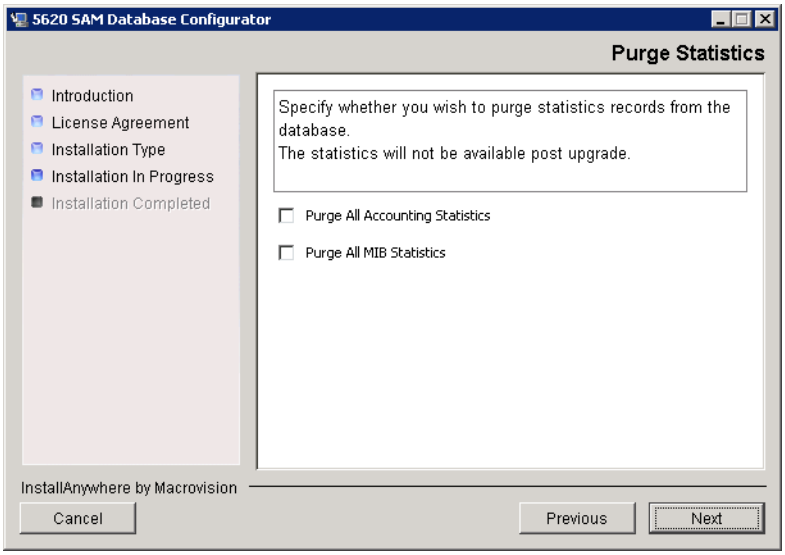


16 To speed the database upgrade, you can purge the statistics data that the 5620 SAM currently stores. Configure the following parameters shown in Figure 2-73, then click on the Next button to continue.

- Purge All Accounting Statistics
- Purge All MIB Statistics

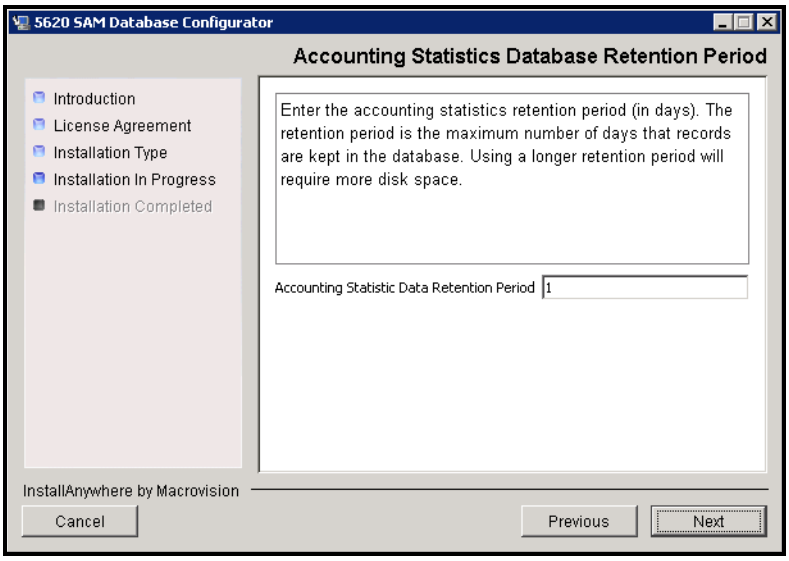
Note — The statistics data for the selected statistics types are permanently deleted from the 5620 SAM.

Figure 2-73 Purge Statistics



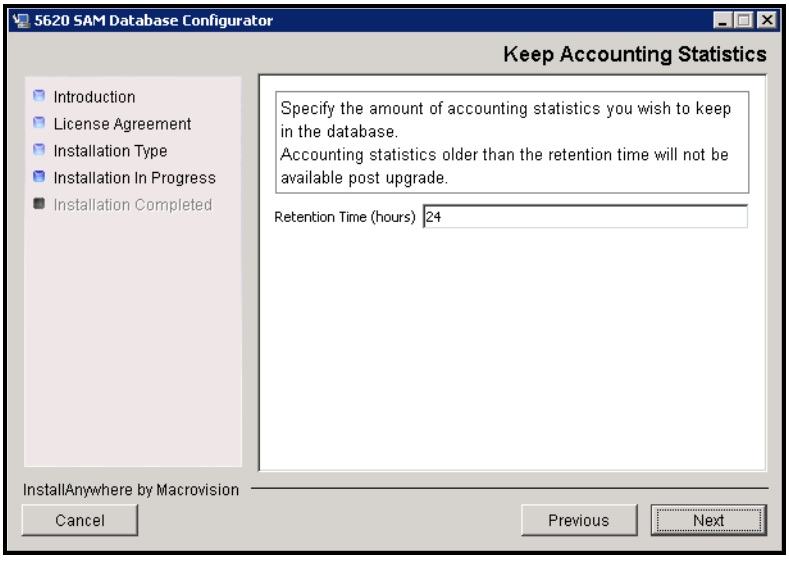
17 Configure the “Accounting Statistic Database Retention Period” parameter shown in Figure 2-74. Click on the Next button to continue.

Figure 2-74 Accounting Statistics Database Retention Period



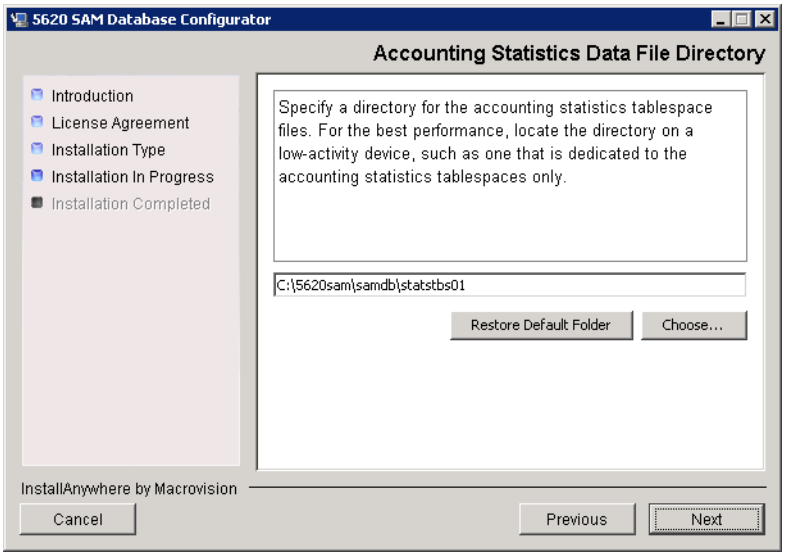
18 Depending on the 5620 SAM version that you are upgrading from, the panel shown in Figure 2-75 appears. Configure the “Retention Time (hours) parameter to specify how long the 5620 SAM retains accounting statistics after server startup. Click on the Next button to continue.

Figure 2-75 Keep Accounting Statistics



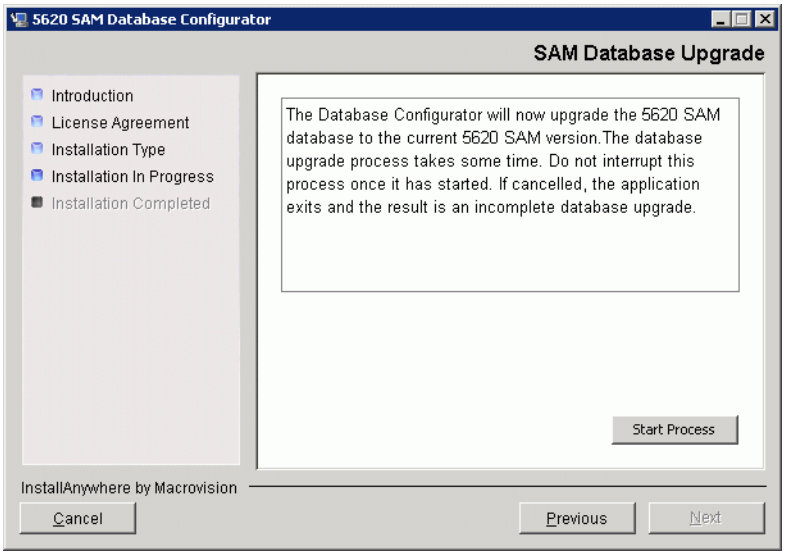
19 If the panel in Figure 2-76 is displayed, specify a directory for the accounting statistics tablespace files (typically C:\5620sam\samdb\statstbs01). You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 2-76 Accounting Statistics Data File Directory



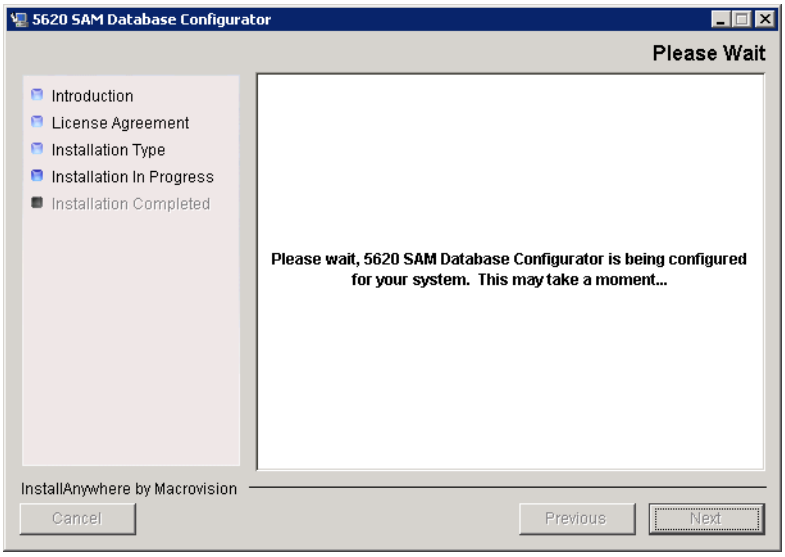
20 You are prompted to begin the database upgrade, as shown in Figure 2-77. A database upgrade can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 2-77 SAM Database Upgrade



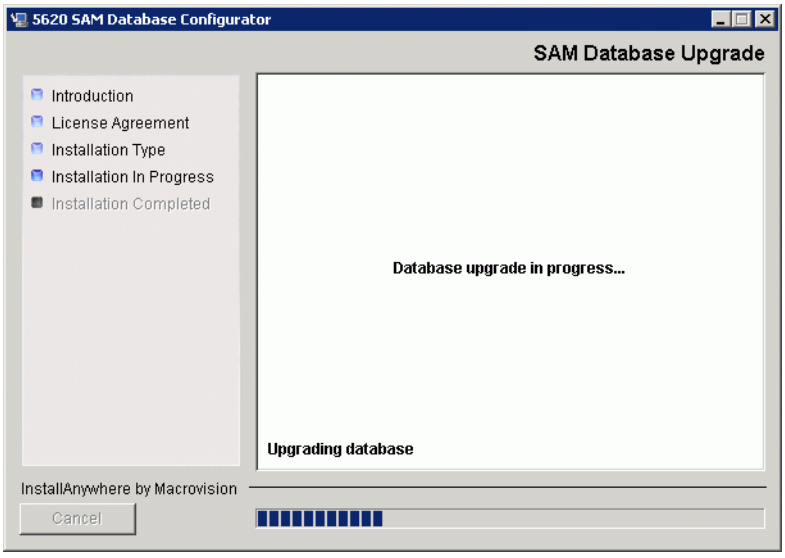
As shown in Figure 2-78, the installer prepares to upgrade the database software.

Figure 2-78 Please Wait



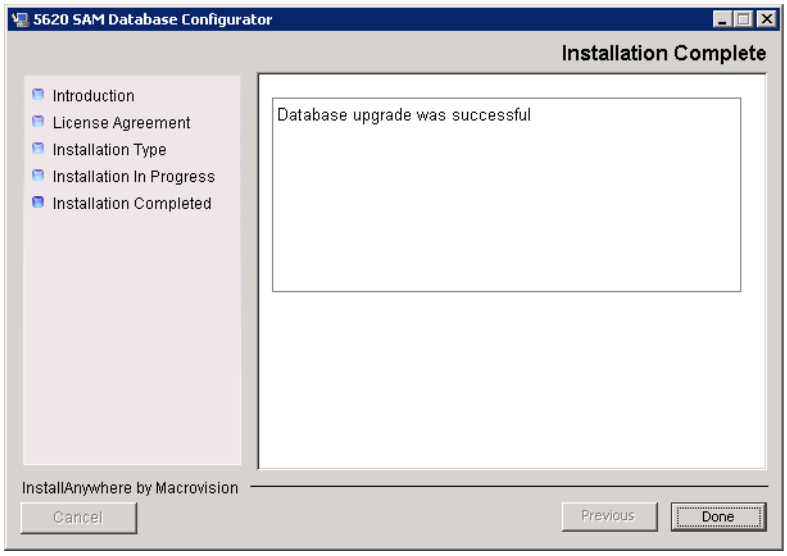
The next panel displays database upgrade progress, as shown in Figure 2-79.

Figure 2-79 SAM Database Upgrade



21 When the database upgrade is complete, as shown in Figure 2-80, click on the Done button to close the installer.

Figure 2-80 Installation Complete



22 Reboot the 5620 SAM database station.

The 5620 SAM database starts automatically during Windows initialization.

Procedure 2-6 To upgrade the 5620 SAM server software on Windows

Procedure 2-6 describes how to upgrade the 5620 SAM server software on Windows. The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Note — You require local administrative user-account privileges to upgrade a 5620 SAM server.

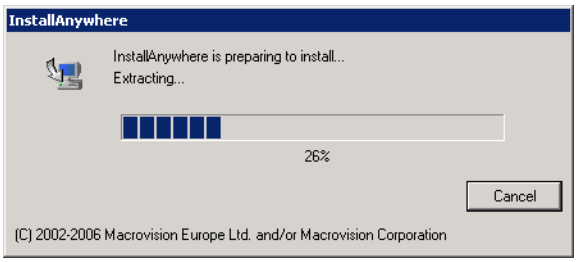
1 Navigate to the Windows folder on the new 5620 SAM software DVD-ROM.

2 Begin the upgrade by double-clicking on ServerInstall_SAM_6_0_*revision_ID*.exe

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

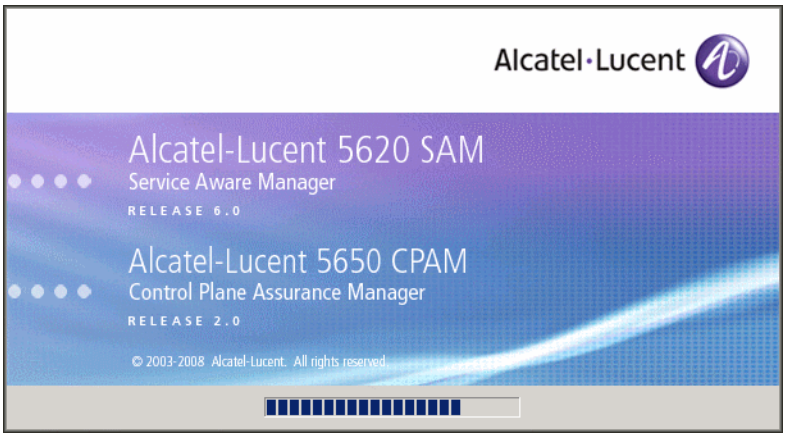
The installer prepares by extracting files, as shown in Figure 2-81.

Figure 2-81 Installer preparation



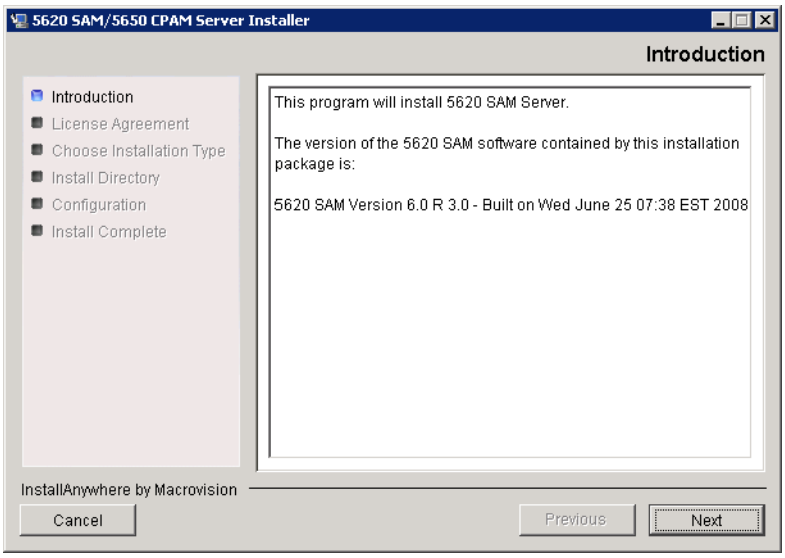
When the counter reaches 100%, a splash screen appears, as shown in Figure 2-82, and the installation process begins.

Figure 2-82 5620 SAM Installer



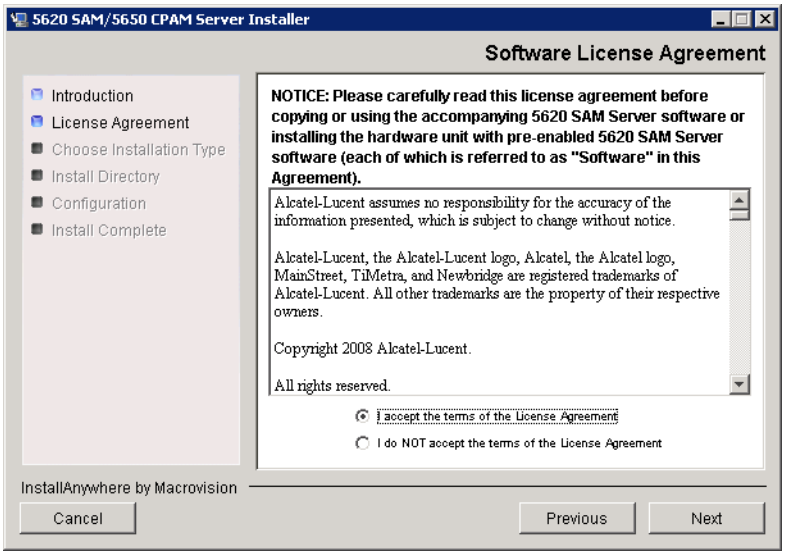
3 The 5620 SAM installer opens, as shown in Figure 2-83. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 2-83 Introduction



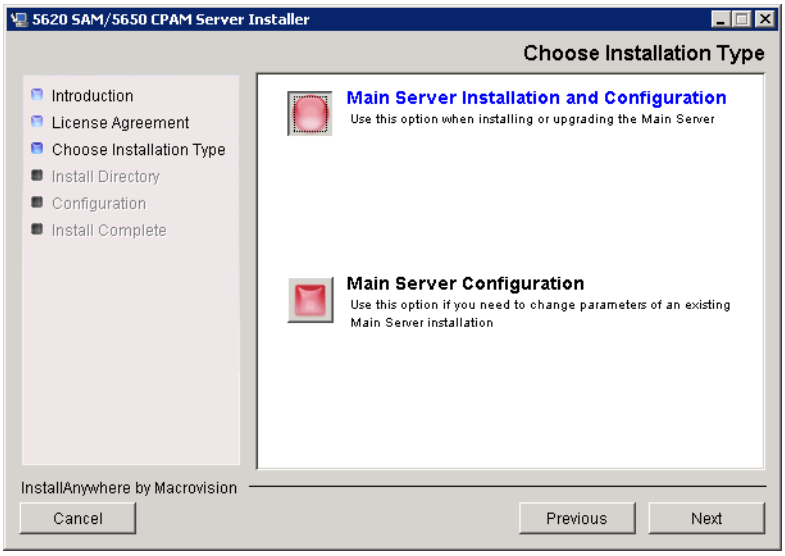
4 Review and accept the terms of the license agreement shown in Figure 2-84. Click on the Next button to continue.

Figure 2-84 Software License Agreement



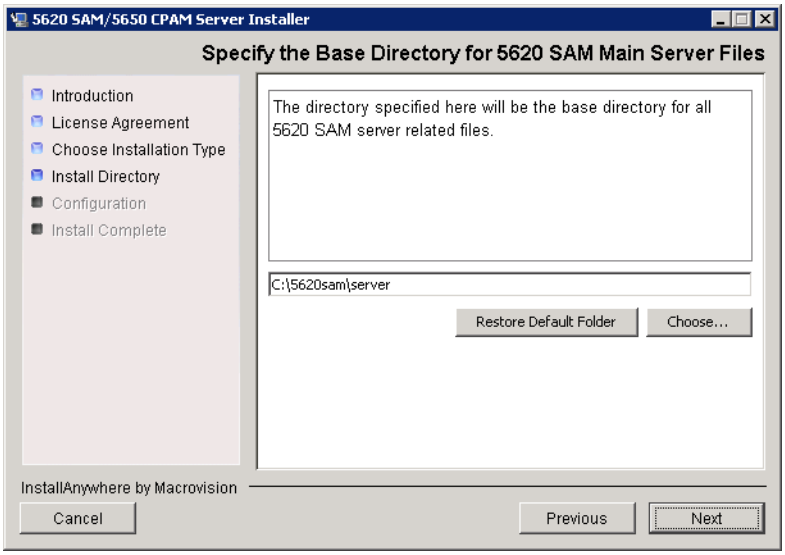
5 Select Main Server Installation and Configuration, as shown in Figure 2-85, then click on the Next button to continue.

Figure 2-85 Choose Installation Type



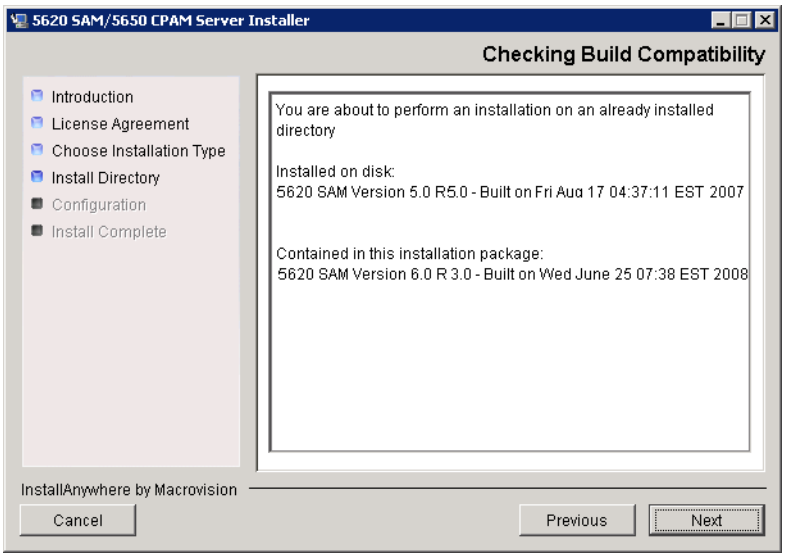
6 Specify the base folder in which the existing 5620 SAM main server software is installed (typically C:\5620sam\server), as shown in Figure 2-86. Click on the Next button to continue.

Figure 2-86 Specify the Base Directory for 5620 SAM Main Server Files



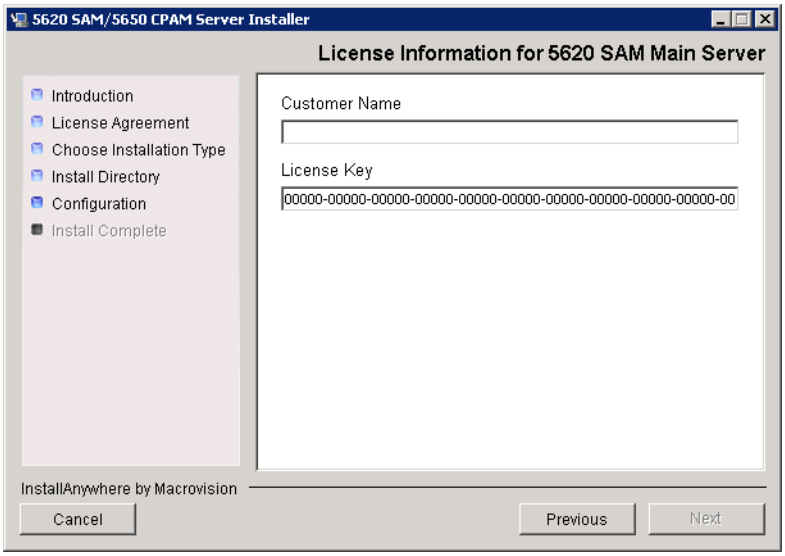
7 As shown in Figure 2-87, the installer displays the version of the 5620 SAM server software that is currently installed and the version to which it is being upgraded. Verify the information, then click on the Next button to continue.

Figure 2-87 Checking Build Compatibility



8 The 5620 SAM Installer displays the License Key specified during the existing installation. Enter the License Key information for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 2-88. Click on the Next button to continue.

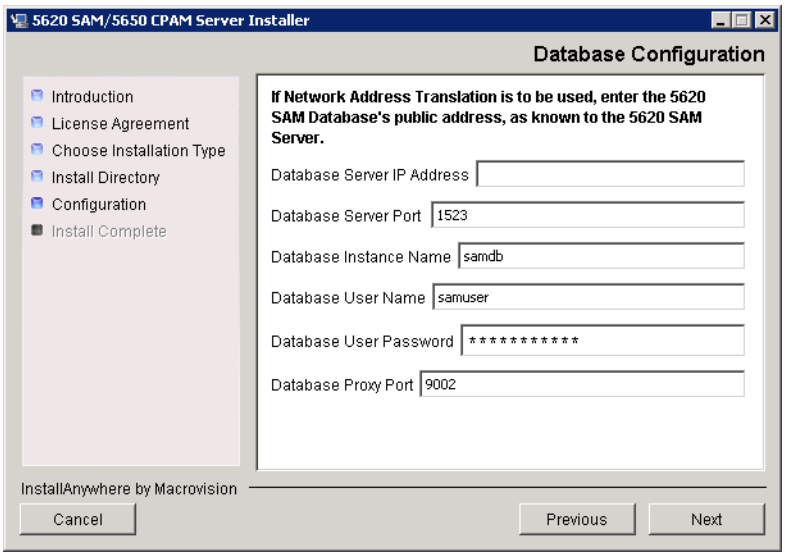
Figure 2-88 License Information for 5620 SAM Main Server



9 Configure the following parameters, shown in Figure 2-89, using the recorded values from the database installation. Click on the Next button to continue.

- Database Server IP address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

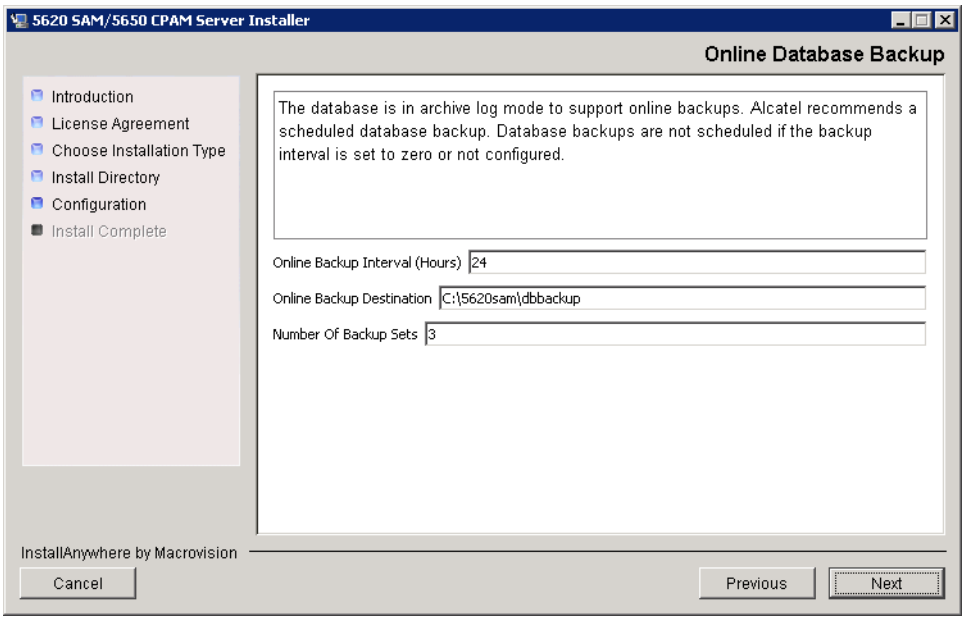
Figure 2-89 Database Configuration



10 Depending on the existing configuration. the panel shown in Figure 2-90 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (Hours) (typically 24)
- Online Backup Destination (typically C:\5620sam\dbbackup)
- Number of Backup Sets (typically 3)

Figure 2-90 Online Database Backup

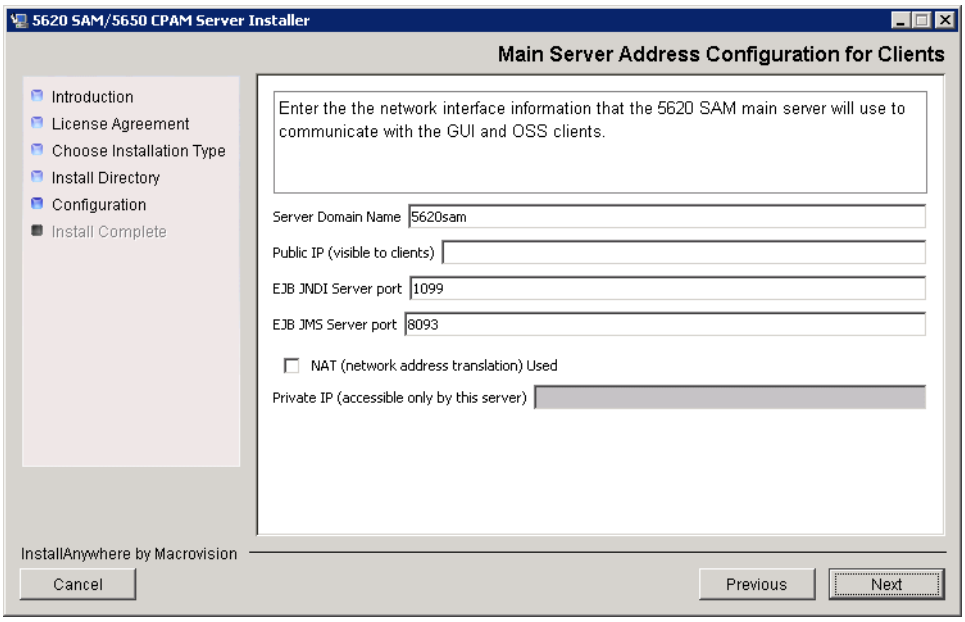


11 Configure the following parameters shown in Figure 2-91, then click on the Next button:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

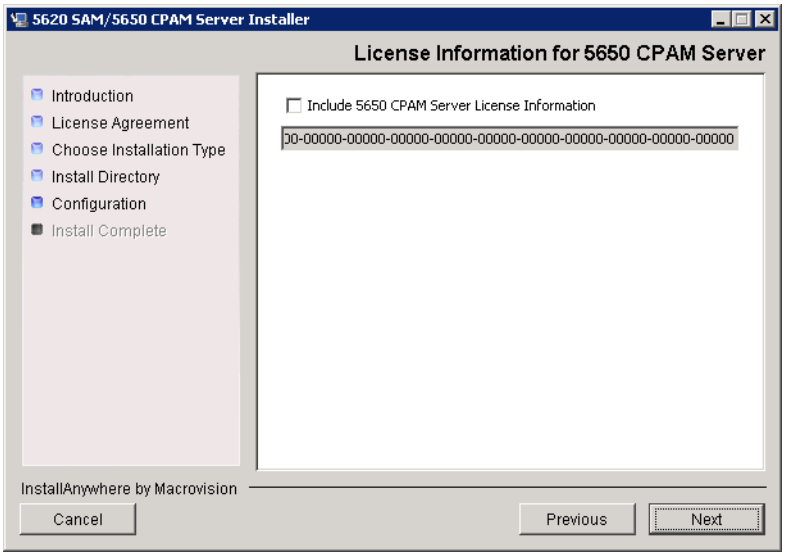
If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 2-91 Main Server Address Configuration for Clients



12 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 2-92. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

Figure 2-92 License Information for 5650 CPAM Server



13 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the "Install User Documentation at Central Location Below" parameter, as shown in Figure 2-93.

ii If you want to accept the default user documentation location that is displayed, go to step 9.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

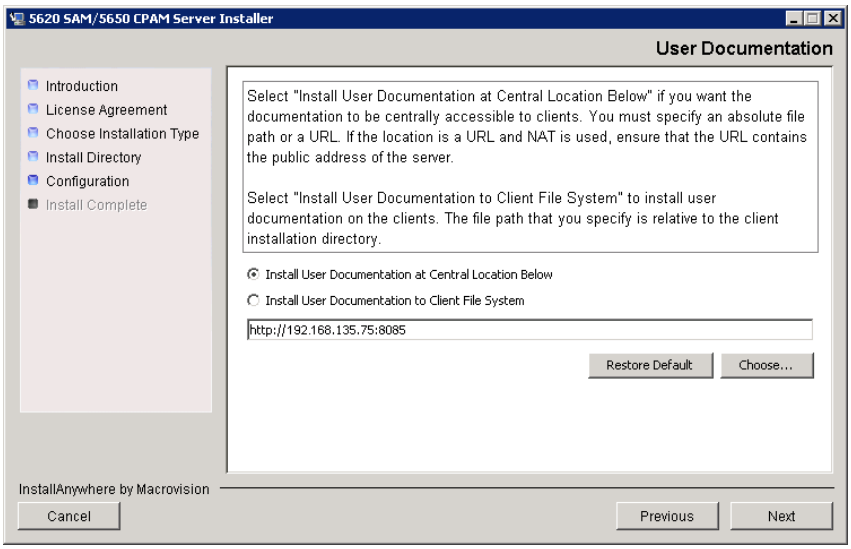
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 2-93.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading backslash. For example, if the installation folder is C:\5620sam\client and you specify Documents as the location, the documentation is installed in the C:\5620sam\client\Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, C:\5620sam\client\nms\Documents.

Figure 2-93 User Documentation

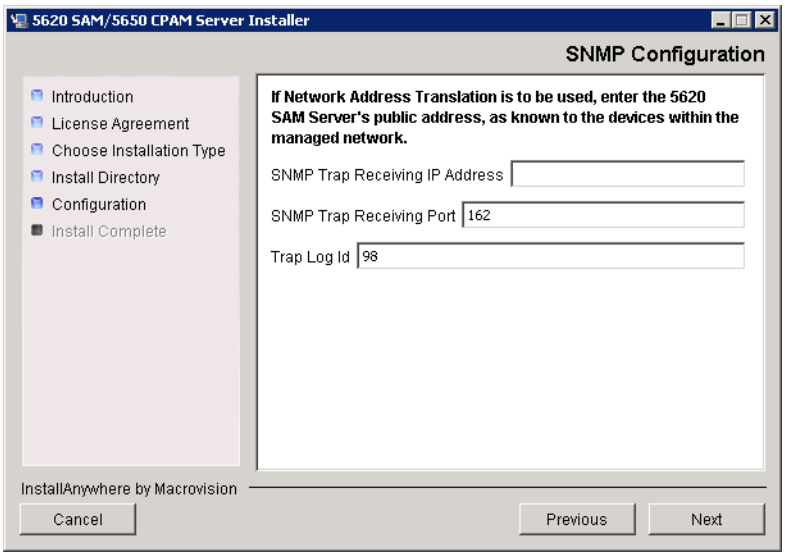


14 Click on the Next button to continue.

15 Configure the following parameters shown in Figure 2-94, then click on the Next button:

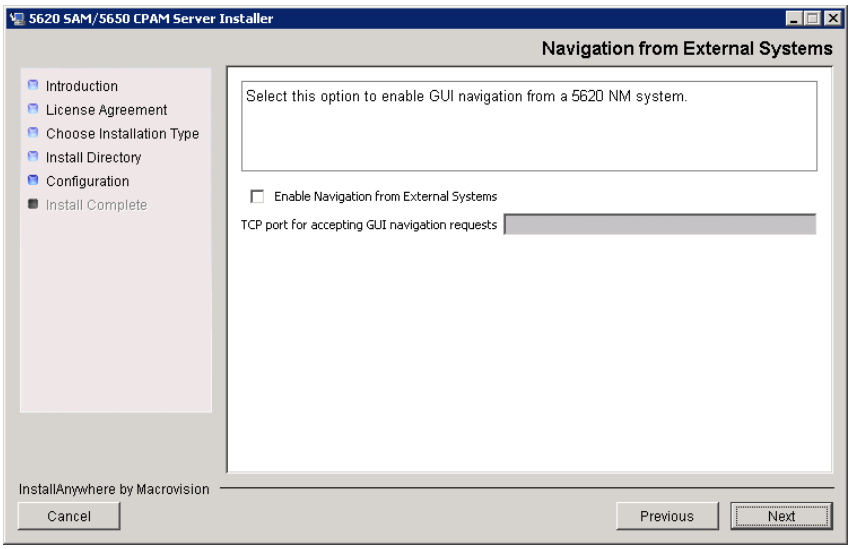
- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

Figure 2-94 SNMP Configuration



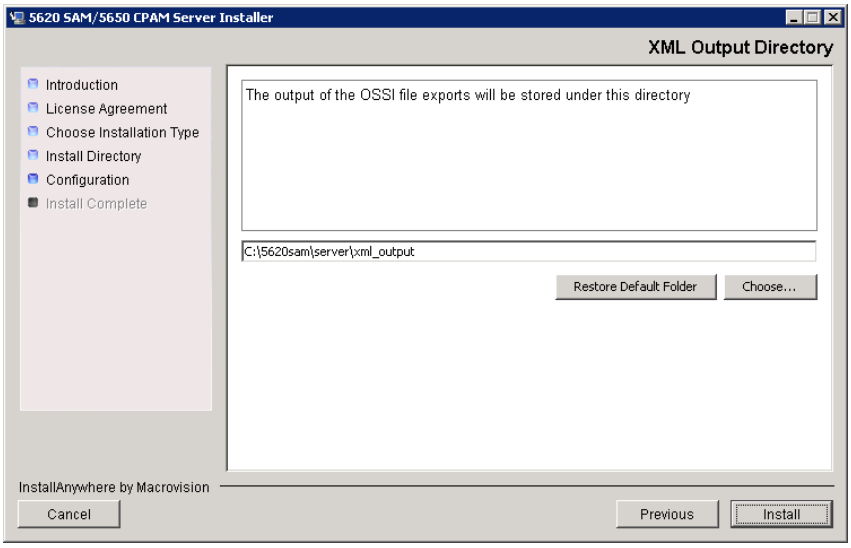
16 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 2-95 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 2-95 Navigation from External Systems



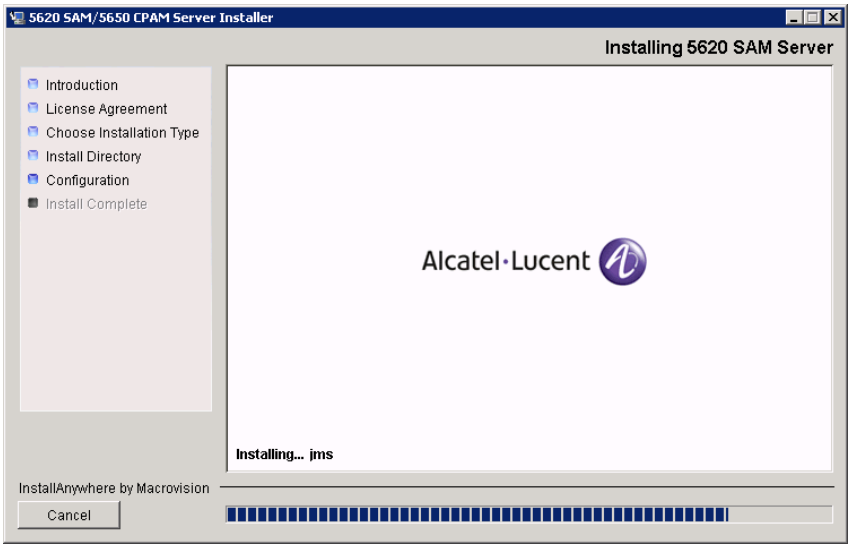
17 Specify a folder for OSS XML output (typically C:\5620sam\server\xml_output), as shown in Figure 2-96. You are prompted to create the folder if it does not exist. Click on the Install button to continue.

Figure 2-96 XML Output Directory



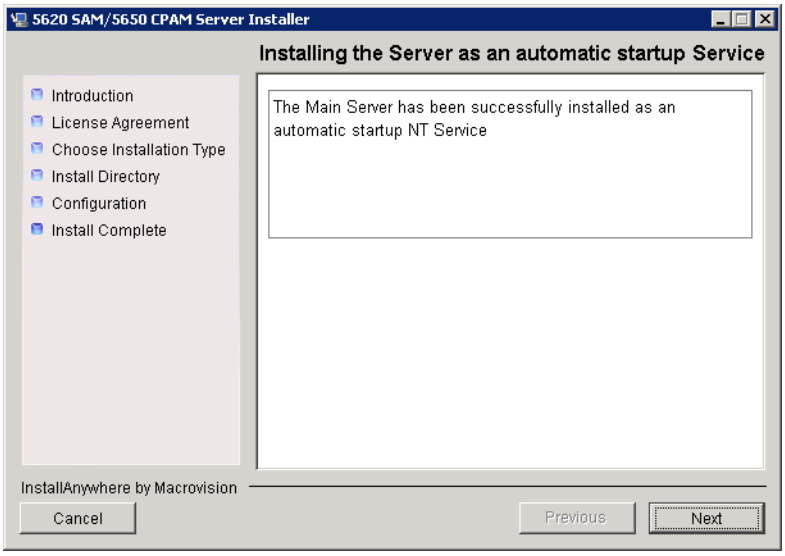
The next panel indicates the installation progress, as shown in Figure 2-97.

Figure 2-97 Installing 5620 SAM Server



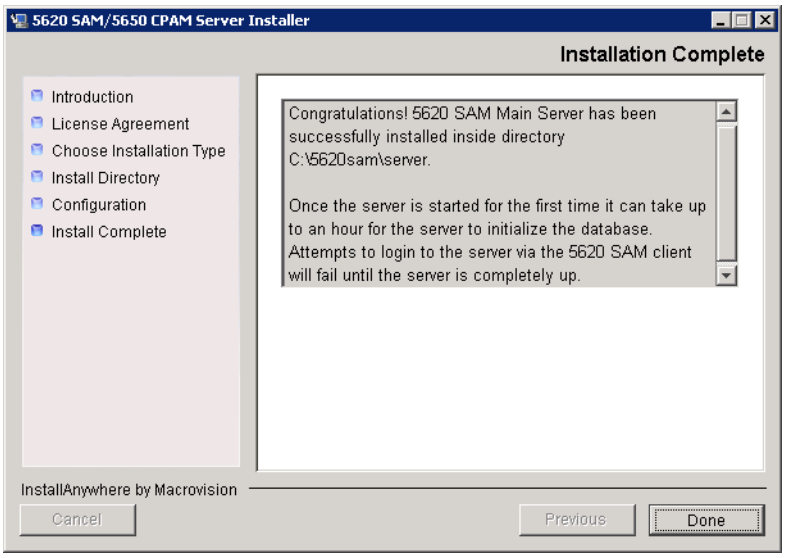
18 As shown in Figure 2-98, the 5620 SAM server is installed as a Windows service. Click on the Next button to continue.

Figure 2-98 Installing the Server as an automatic startup Service



19 Click on the Done button to exit when the server upgrade is complete, as shown in Figure 2-99.

Figure 2-99 Installation Complete



20 Reboot the 5620 SAM server station. The 5620 SAM server starts automatically during Windows initialization. Initial server startup may take twenty minutes or more to complete.

Procedure 2-7 To upgrade a 5620 SAM Release 5.0 R3 or earlier client on Windows

Procedure 2-7 describes how to upgrade the 5620 SAM client software on a Windows station when the currently installed client software version is Release 5.0 R3 or earlier.

A 5620 SAM client software upgrade from Release 5.0 R3 or earlier to Release 5.0 R5 or later consists of a client uninstallation and subsequent client installation because of the introduction of the auto-client update functionality in Release 5.0 R5.

Note — The 5620 SAM server to which the 5620 SAM client connects must be upgraded before you can upgrade the client.

1 Close the 5620 SAM client if it is running.

   i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.

   ii Click on the Yes button. The 5620 SAM client closes.

2 Perform Procedure 2-9 to uninstall the existing 5620 SAM client software.

3 Perform Procedure 2-3 to install the new 5620 SAM client software.

Procedure 2-8 To upgrade a 5620 SAM Release 5.0 R5 or later client on Windows

This procedure describes how to upgrade the 5620 SAM client software on a Windows station when the currently installed client software version is Release 5.0 R5 or later. You cannot use this procedure to upgrade an older version of the client software.

A 5620 SAM client software upgrade happens automatically when the client and the server to which it connects are running different versions of the 5620 SAM software.

Note — The 5620 SAM server to which the 5620 SAM client connects must be upgraded before you can upgrade the client.

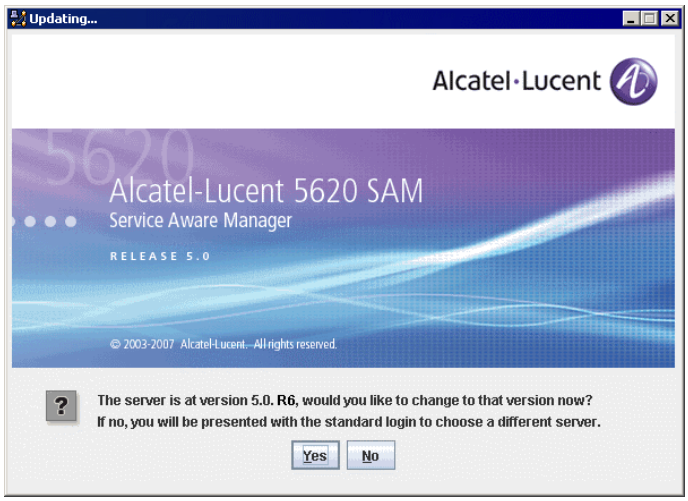
1 Close the 5620 SAM client if it is running.

   i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.

   ii Click on the Yes button. The 5620 SAM client closes.

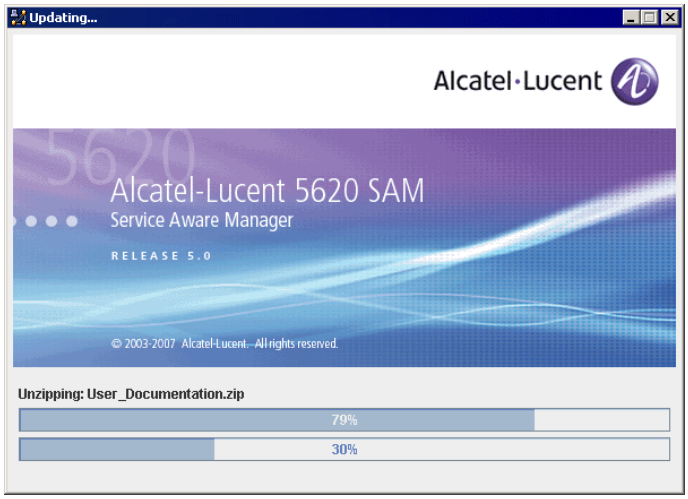
2 Start the 5620 SAM auto-client update utility by double-clicking on the 5620 SAM Client App desktop icon. The utility detects the available client software on the 5620 SAM server and presents the panel shown in Figure 2-100.

Figure 2-100 Upgrade prompt



3 Click on the Yes button to proceed with the 5620 SAM client software upgrade. As shown in Figure 2-101, the next panel displays the installation progress using separate indicators for overall progress and current task progress.

Figure 2-101 Installation progress

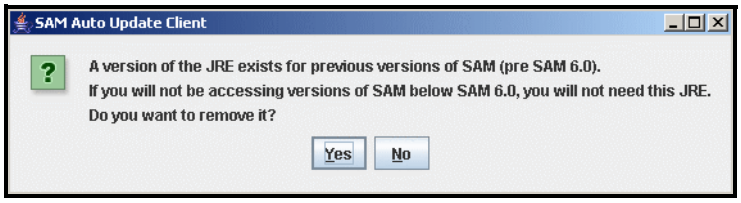


When the upgrade is complete, the auto-client update utility closes and the 5620 SAM client login form is displayed.

4 Log in to the 5620 SAM client GUI.

5 If the 5620 SAM server is at Release 6.0 R1 or later, and the 5620 SAM client is being upgraded from a Release 5.0 maintenance release of R5 or greater, the auto-update functionality prompts you to keep or remove the older JRE version, as shown in Figure 2-102. Perform one of the following.

Figure 2-102 SAM Auto Update Client



a If there is no longer a need for the client to connect to a 5620 SAM Release 5.0 server, click on the Yes button. The older JRE version is removed.

b If the client is to be used later to connect to a Release 5.0 server, click on the No button. The older JRE version is retained.

If you have trouble opening the GUI, see the Troubleshooting 5620 SAM clients chapter of the *5620 SAM Troubleshooting Guide*.

2.7 Workflow for 5620 SAM uninstallation on Windows

The following is an overview of the steps required to remove the client, server, and database components of a 5620 SAM system on Windows.

1 Uninstall clients as required.

a If the client is installed on a Windows station, see Procedure 2-9 for more information.

b If the client is installed on a Solaris or Linux station, perform Procedure 7-1.

2 Uninstall the server. See Procedure 2-10 for more information.

3 Uninstall the database. See Procedure 2-11 for more information.

2.8 5620 SAM uninstallation on Windows procedures

The following procedures describe how to remove the software components of a 5620 SAM system on a Windows platform.

Procedure 2-9 describes how to uninstall the 5620 SAM client on a Windows station.

Procedure 2-10 describes how to uninstall the 5620 SAM server on a Windows station.

Procedure 2-11 describes how to uninstall the 5620 SAM database on a Windows station.

Procedure 2-9 To uninstall the 5620 SAM client software on Windows

Perform this procedure to remove the 5620 SAM client software from a Windows station.

Note — The Windows user that uninstalls the 5620 SAM client must be the same user that installed the 5620 SAM client.

1 Log in to the 5620 SAM client station as the user that installed the 5620 SAM client software.

2 Close the 5620 SAM client, if it is active, by choosing File→Exit from the 5620 SAM main menu.

3 Perform one of the following, based on the version of Windows that is running.

   a Perform the following substeps for Windows Vista.

      i Click on Start→Control Panel. The Control Panel window opens.

      ii Under the Programs category, click on Uninstall a Program. The Uninstall or change a program window opens.

      iii Right-click on 5620 SAM Client and select Uninstall/Change.

      iv If a security dialog box appears, click on the Continue button to continue with the uninstallation.

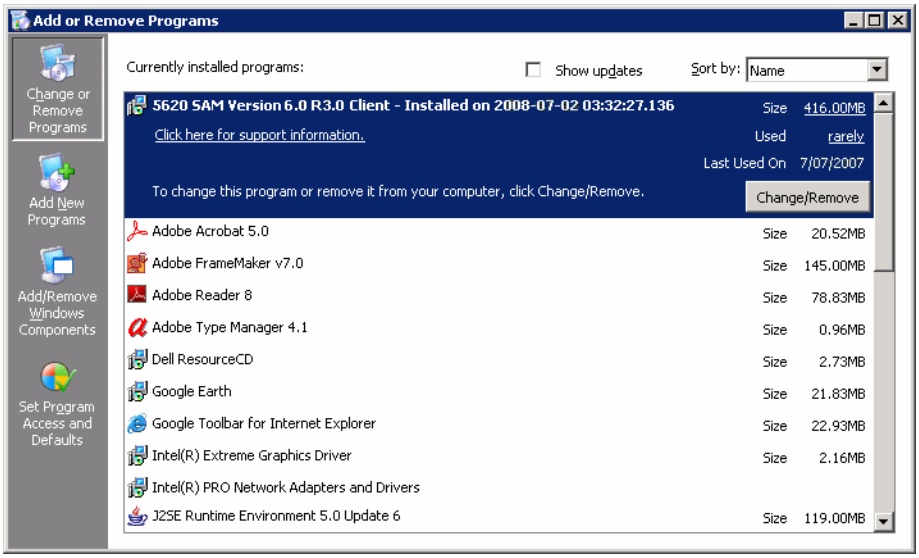
   b Perform the following substeps for a Windows version other than Vista.

      i Click on Start→Settings→Control Panel. The Control Panel window opens.

      ii Double-click on Add or Remove Programs. The Add or Remove Programs window opens.

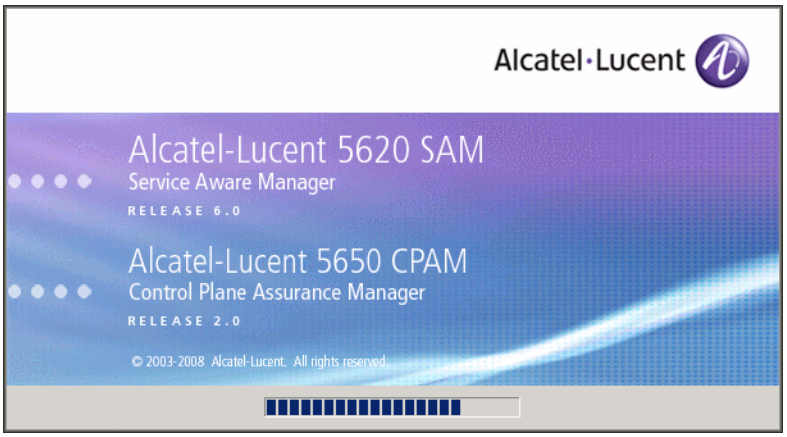
iii Select 5620 SAM Client, as shown in Figure 2-103, then click on the Change/Remove button to begin the uninstallation.

Figure 2-103 Add or Remove Programs - client



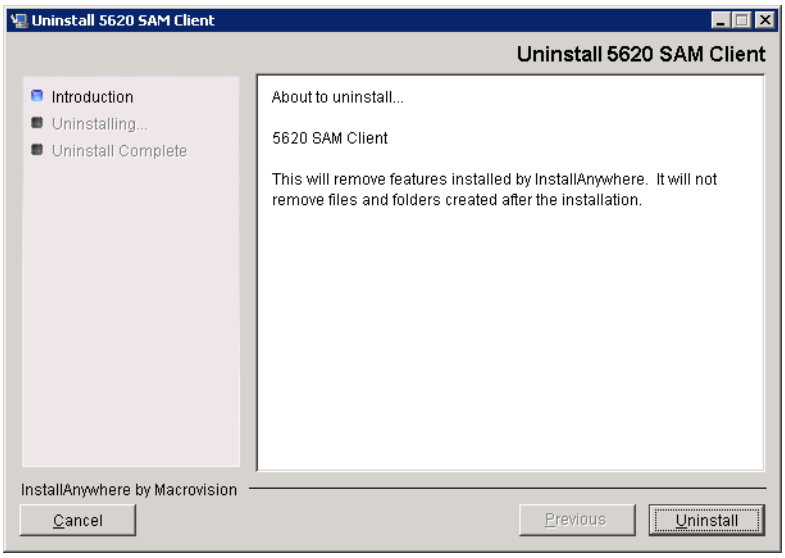
4 The splash screen in Figure 2-104 appears and the uninstallation process begins.

Figure 2-104 5620 SAM Uninstaller



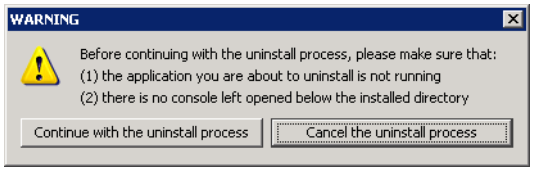
You are notified that the utility uninstalls the specified application but does not remove any files or directories added after the installation, as shown in Figure 2-105. Click on the Uninstall button to proceed.

Figure 2-105 Uninstall 5620 SAM Client



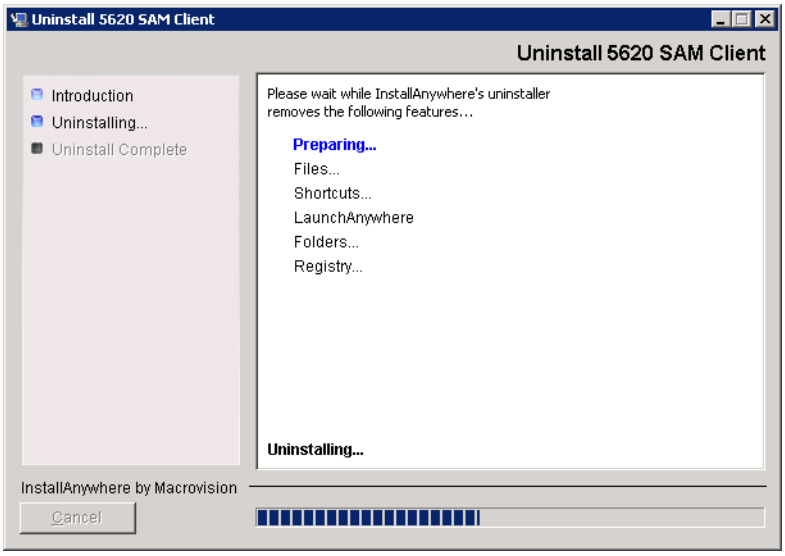
5 As shown in Figure 2-106, a warning appears. Ensure that the conditions are true, then click on the Continue with the uninstall process button.

Figure 2-106 Warning



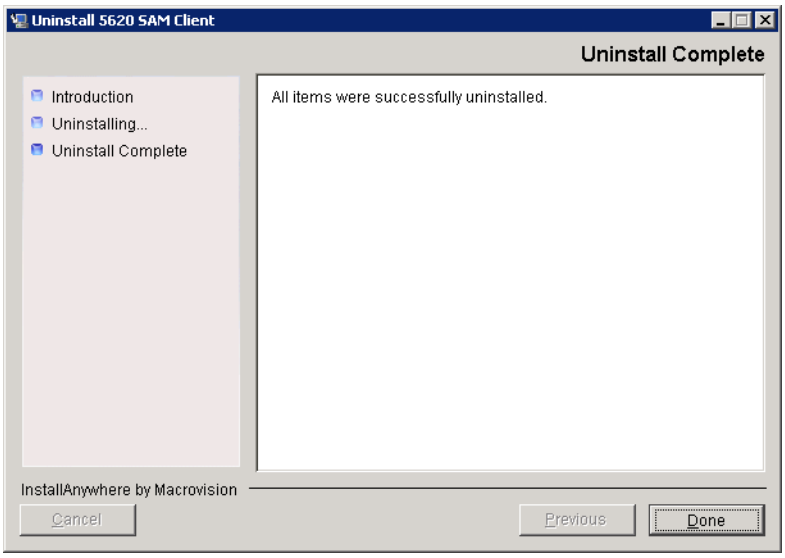
6 As shown in Figure 2-107, the uninstallation process removes the 5620 SAM client software.

Figure 2-107 Uninstall 5620 SAM Client



7 When the 5620 SAM client uninstallation is complete, as shown in Figure 2-108, click on the Done button to close the uninstaller.

Figure 2-108 Uninstall Complete



8 Close the Add/Remove Programs window or the Uninstall or change a program window, as appropriate.

9 Close the Control Panel window.

Procedure 2-10 To uninstall the 5620 SAM server software on Windows

Perform this procedure to remove the 5620 SAM server software from a Windows station.

Note — You require local administrator user-account privileges on the server station to uninstall the server software.

1 Perform the following substeps to close the active 5620 SAM client sessions.

- **i** Open a 5620 SAM client session to the server using an account with security management privileges, such as admin.
- **ii** Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.
- **iii** Click on the Sessions tab button.
- **iv** Click on the Search button. The form displays a list of the active 5620 SAM client sessions.
- **v** Using the IP addresses in the Client IP column, identify the GUI or OSS clients that are currently logged in.

Note — One of the listed sessions is the session that you are using to list the client sessions.

- **vi** Close each listed 5620 SAM client application session, except for the one you are using, by choosing File→Exit from the 5620 SAM main menu on each client station.
- **vii** Click on the Search button again to refresh the list of open client sessions.
- **viii** Confirm that only one client session remains open. This is the client session that you are using.
- **ix** Close the 5620 SAM client that you are using by choosing File→Exit from the 5620 SAM main menu.

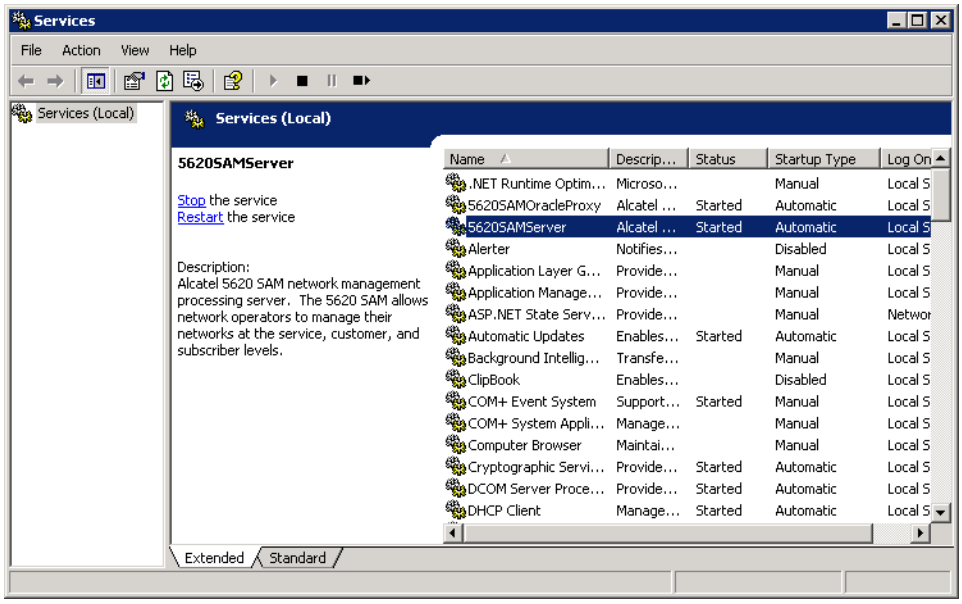
2 Log in to the 5620 SAM server station using an account with local administrator privileges.

3 Perform the following substeps on the 5620 SAM server station to stop the 5620 SAM server service.

- **i** Click on Start→Settings→Control Panel→Administrative Tools→Services. The Services window opens.

ii Select the 5620SAMServer entry, as shown in Figure 2-109, then click on the Stop the service link.

Figure 2-109 Services - 5620SAMServer service



4 Perform the following substeps to verify that the 5620 SAM server application is stopped.

i Open a console window.

ii Navigate to the 5620 SAM server installation folder. Enter the following at the CLI prompt:

cd *path*\nms\bin ↵

where *path* is the 5620 SAM server installation location, typically C:\5620sam\server

iii Enter the following at the CLI prompt:

nmsserver.bat appserver_status ↵

iv The 5620 SAM server application is stopped when the command in step 4iii returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 4iii. Do not proceed unless the console displays the appropriate text.

v Close the console window.

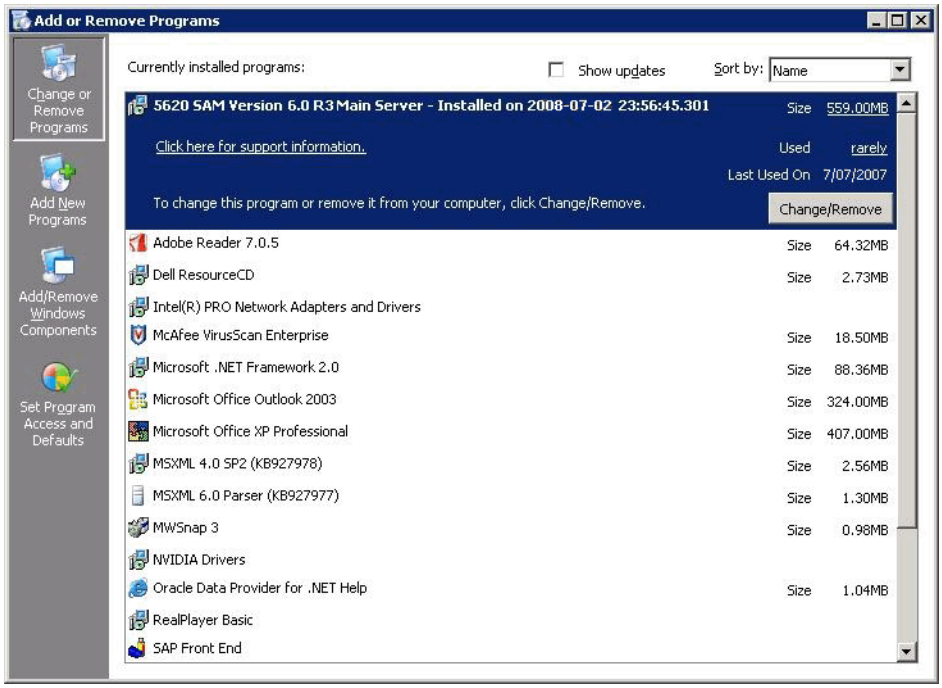
5 Close the Services window.

6 Click on Start→Settings→Control Panel. The Control Panel window opens.

7 Double-click on Add or Remove Programs. The Add or Remove Programs window opens.

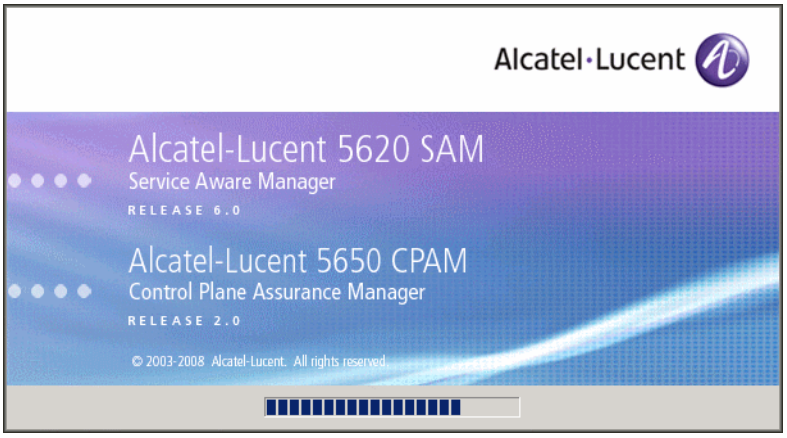
8 Select 5620 SAM Server, as shown in Figure 2-110, then click on the Change/Remove button to begin uninstallation.

Figure 2-110 Add or Remove Programs - server



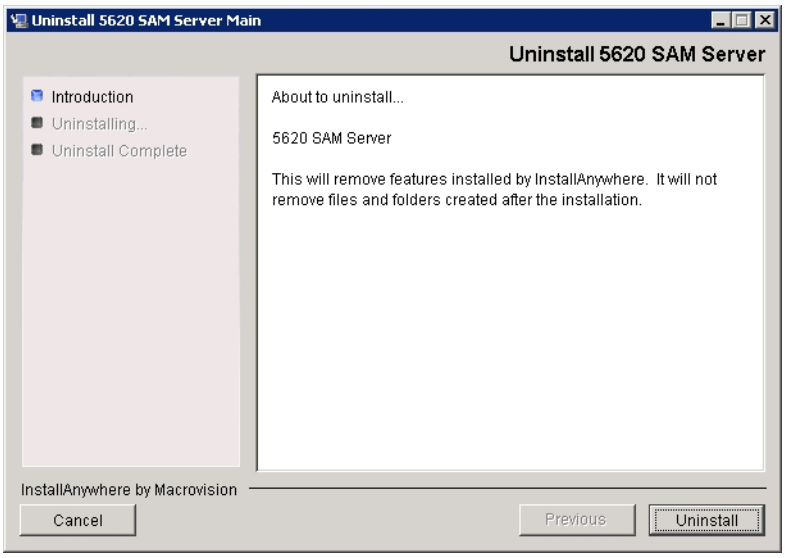
The splash screen in Figure 2-111 appears and the uninstallation process begins.

Figure 2-111 5620 SAM Uninstaller



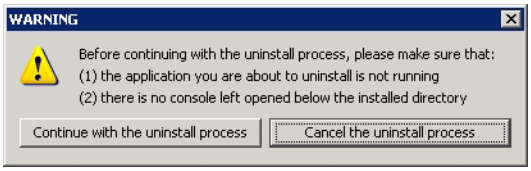
9 You are notified that the utility uninstalls the specified application but does not remove any files or directories added after the installation, as shown in Figure 2-112. Click on the Uninstall button to proceed.

Figure 2-112 Uninstall 5620 SAM Server



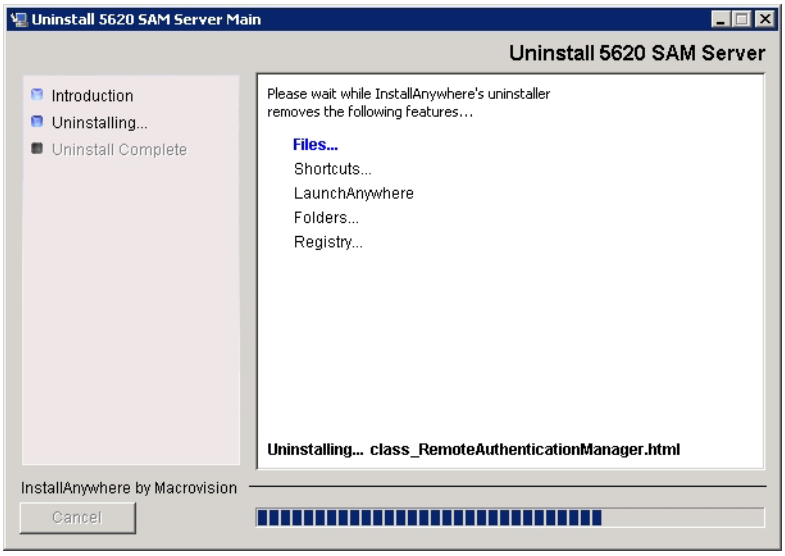
10 As shown in Figure 2-113, a warning appears. Ensure that the conditions are true, then click on the Continue with the uninstall process button.

Figure 2-113 Warning



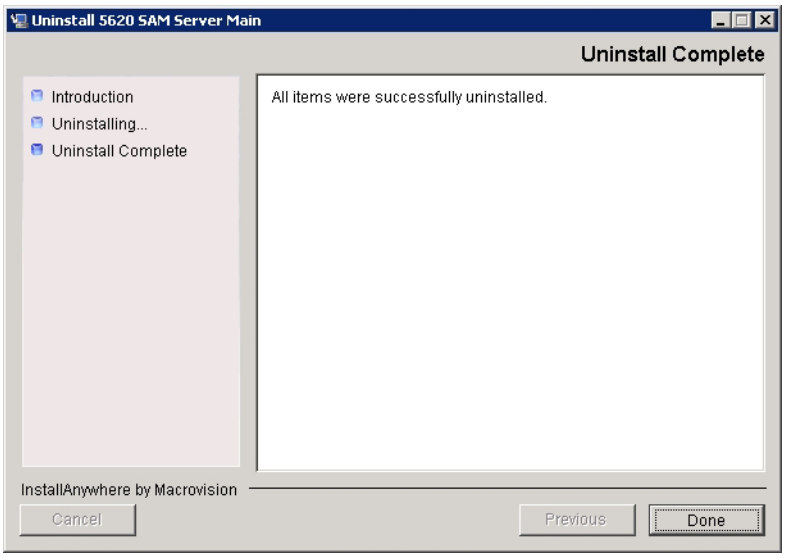
As shown in Figure 2-114, the uninstallation process removes the 5620 SAM server software.

Figure 2-114 Uninstall 5620 SAM Server



11 When uninstallation is complete, as shown in Figure 2-115, click on the Done button to close the uninstaller.

Figure 2-115 Uninstall Complete



12 Close the Add/Remove Programs window.

13 Close the Control Panel Window.

Procedure 2-11 To uninstall the 5620 SAM database software on Windows

Perform this procedure to remove the 5620 SAM database software from a Windows station.

Note 1 — Before you uninstall the 5620 SAM database software, you must ensure that the 5620 SAM server software is uninstalled. See Procedure 2-10 for more information.

Note 2 — You require local administrator user-account privileges on the database station to uninstall the database software.

1 Log in to the 5620 SAM database station using an account with local administrator privileges.

2 Perform the following substeps on the 5620 SAM database station to stop the database services.

- **i** Click on Start→Settings→Control Panel→Administrative Tools→Services. The Services window opens.
- **ii** Select the OracleService*dbname* entry

  where *dbname* is the name of the 5620 SAM database instance, typically samdb
- **iii** Click on the Stop the service link.
- **iv** Click on the OK button to acknowledge that stopping the OracleService*dbname* service also stops the 5620SAMOracleProxy service. The 5620 SAM database services are stopped.

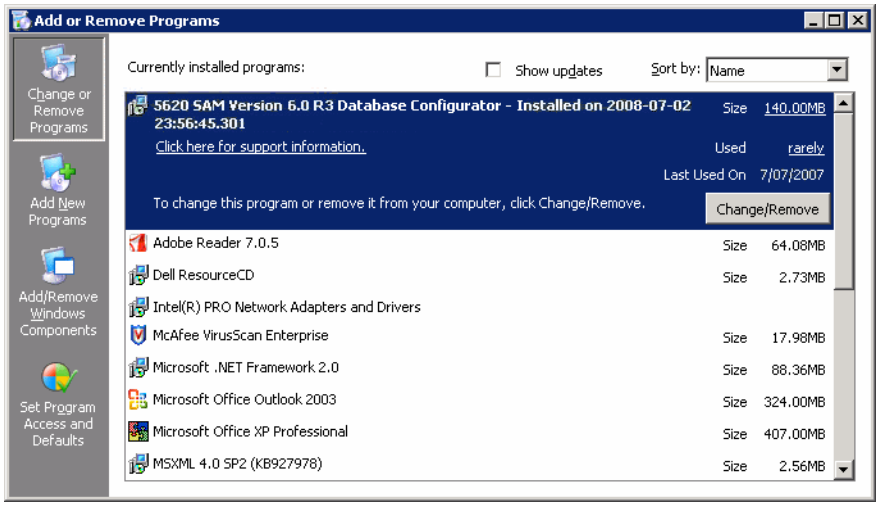
3 Close the Services window.

4 Click on Start→Settings→Control Panel. The Control Panel window opens.

5 Double-click on Add or Remove Programs. The Add or Remove Programs window opens.

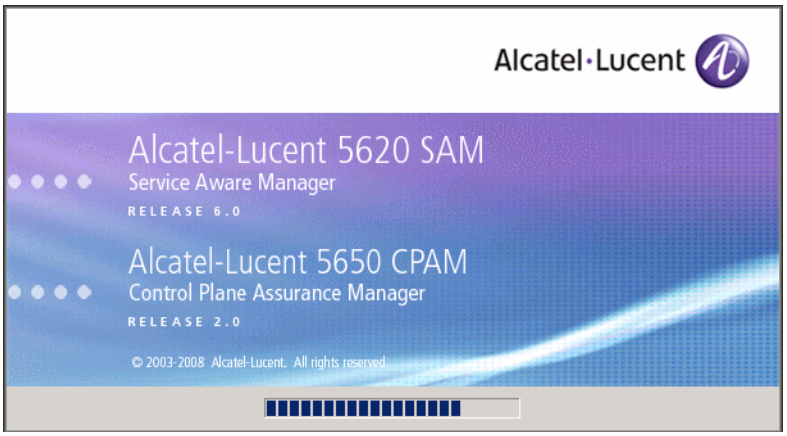
6 Select 5620 SAM Database Configurator, as shown in Figure 2-116, then click on the Change/Remove button to begin uninstallation.

Figure 2-116 Add or Remove Programs - database



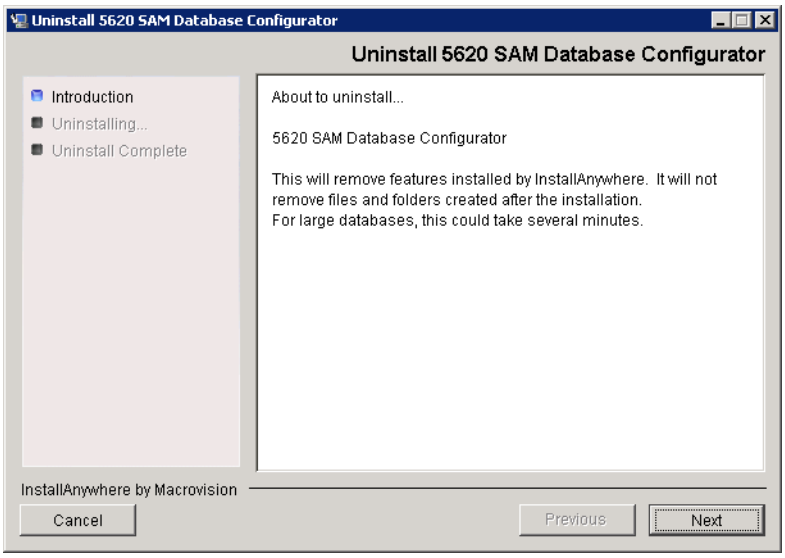
The splash screen in Figure 2-117 appears and the uninstallation process begins.

Figure 2-117 5620 SAM Uninstaller



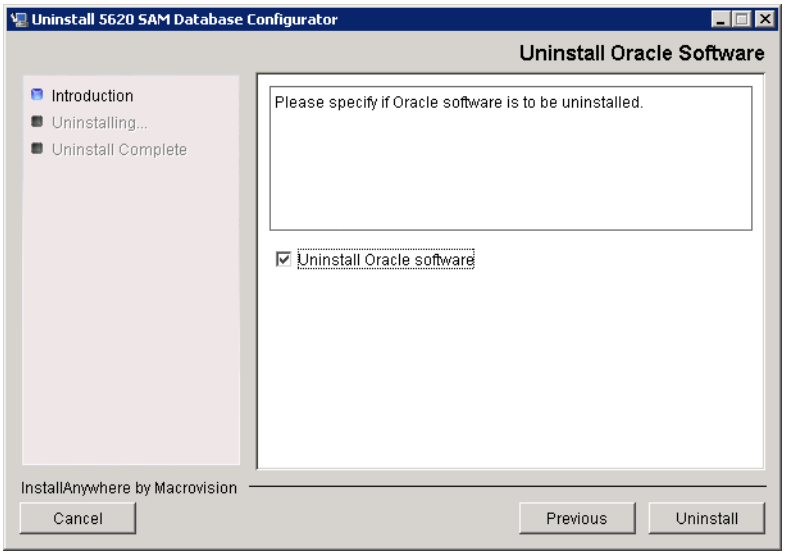
7 You are notified that the utility uninstalls the specified application but does not remove any files or directories added after the installation, as shown in Figure 2-118. Click on the Next button to continue.

Figure 2-118 Uninstall 5620 SAM Database Configurator



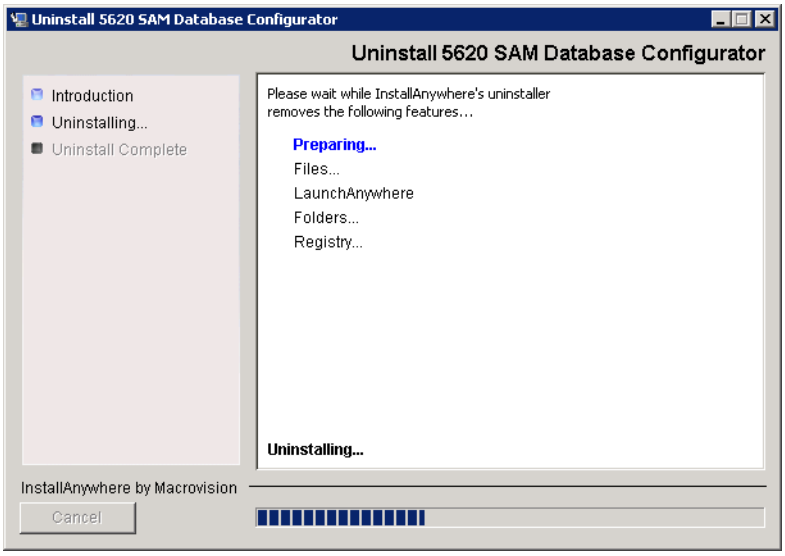
8 Select Uninstall Oracle software, as shown in Figure 2-119, then click on the Uninstall button to proceed with the database uninstallation.

Figure 2-119 Uninstall Oracle Software



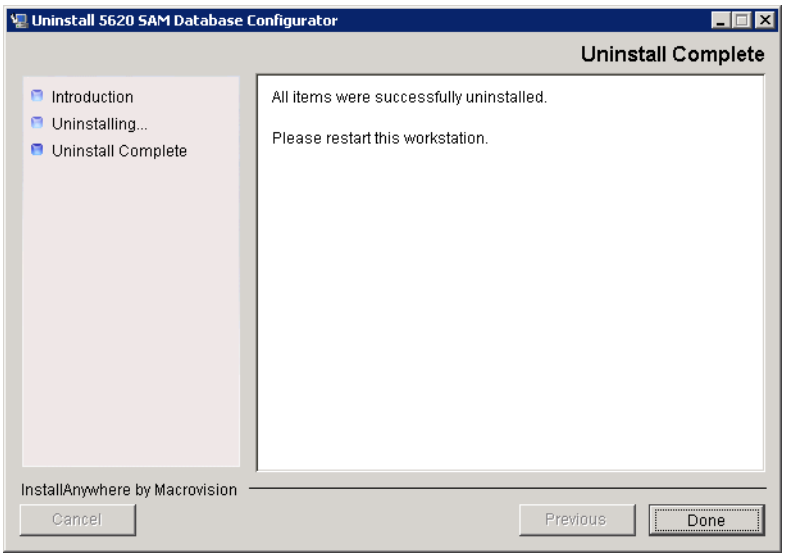
As shown in Figure 2-120, the uninstallation process removes the 5620 SAM database software.

Figure 2-120 Uninstall 5620 SAM Database Configurator



9 When the database uninstallation is complete, as shown in Figure 2-121, click on the Done button to close the uninstaller.

Figure 2-121 Uninstall Complete



10 Close the Add/Remove Programs window.

11 Close the Control Panel window.

5620 SAM for Solaris

3 — 5620 SAM installation on Solaris

4 — 5620 SAM upgrade on Solaris

5 — 5620 SAM system conversion to redundancy

6 — 5620 SAM system platform migration

7 — 5620 SAM uninstallation on Solaris

3 — 5620 SAM installation on Solaris

3.1 5620 SAM installation on Solaris overview *3-2*

3.2 5620 SAM installation on Solaris procedures list *3-2*

3.3 Workflow for standalone 5620 SAM system installation on Solaris *3-2*

3.4 Standalone 5620 SAM system installation on Solaris procedures *3-3*

3.5 Workflow for redundant 5620 SAM system installation on Solaris *3-46*

3.6 Redundant 5620 SAM system installation on Solaris procedures *3-47*

3.7 5620 SAM auxiliary server installation *3-124*

3.1 5620 SAM installation on Solaris overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.

Caution — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

3.2 5620 SAM installation on Solaris procedures list

Table 3-1 lists the procedures required to perform 5620 SAM software installation activities on a Solaris platform.

Table 3-1 5620 SAM installation on Solaris procedures list

Procedure	Purpose
To install a standalone 5620 SAM system on Solaris	Install the 5620 SAM database and server software in a collocated or distributed standalone configuration on a Solaris platform.
To install a 5620 SAM client on Solaris or Linux	Install the 5620 SAM client software on a Solaris or Linux station.
To install a redundant 5620 SAM system on Solaris	Install the 5620 SAM database and server software in a collocated or distributed redundant configuration on a Solaris platform.
To install a client delegate	Install an additional instance of the 5620 SAM client software on a Solaris station for a different user.
To install a 5620 SAM auxiliary server	Install the 5620 SAM auxiliary-server software on a Solaris station that is part of a standalone or redundant 5620 SAM system.

3.3 Workflow for standalone 5620 SAM system installation on Solaris

The following is an overview of the steps required to install a standalone 5620 SAM system on Solaris. A section heading in quotation marks refers to a section in Procedure 3-1.

1 Install the database. See "Install standalone database" for more information.

2 Install the main server. See "Install standalone server" for more information.

3 Start the main server. See "Start server" for more information.

4 Install one or more auxiliary servers, if required. See Procedure 3-5 for information about installing an auxiliary server.

5 Install 5620 SAM clients as required. See "Install client" for more information.

6 Install a client delegate, if required. See Procedure 3-4 for more information.

3.4 Standalone 5620 SAM system installation on Solaris procedures

Procedure 3-1 describes how to install the 5620 SAM server and database components in a standalone 5620 SAM system on Solaris. Procedure 3-2 describes how to install the 5620 SAM client component in a standalone 5620 SAM system on Solaris.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 3-1 To install a standalone 5620 SAM system on Solaris

Perform this procedure to install the 5620 SAM software on the main server and database components in a standalone 5620 SAM system on a Solaris platform.

The operator who performs this procedure requires the following user-account privileges:

On the main server station:

- root or root-equivalent

On the database station:

- root or root-equivalent
- Oracle management

Ensure that you record all information that you specify during this procedure, for example, directories, passwords, and IP addresses.

Note 1 — The Oracle management user account is created on the database station during this procedure.

Note 2 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Run Oracle pre-installation script

1 Before you perform a 5620 SAM database installation on Solaris, you must run the Oracle10g_PreInstall.sh script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in as a user with root-equivalent privileges on the station that is to be the database station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

4 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh install ↵
```

5 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — If you receive a "failed to create group" message, ensure that NIS is disabled and re-run the pre-installation script. For more information about NIS, contact your Alcatel-Lucent customer support representative.

6 After the script execution completes, enter the following at the CLI prompt to reboot the database station:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

Before database installation can occur, the Oracle management user and group created by the pre-installation script requires ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

7 After the database station reboots, log in to the database station as a user with root-equivalent privileges.

8 Open a console window.

9 Enter the following at the CLI prompt to change the current directory to /opt:

```
# cd /opt ↵
```

10 Enter the following at the CLI prompt to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where
user is the user name value specified in step 5, typically oracle
group_name is the group name value specified in step 5, typically dba

11 Navigate to the 5620sam directory below /opt. Enter the following at the CLI prompt:

```
# cd 5620sam ↵
```

12 Confirm that the Oracle management user home directory has the correct user and group ownerships. Enter the following at the CLI prompt:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 9 to 12. Do not proceed unless the output is as shown, or the installation fails.

```
drwxr-xr-x   2 user     group        512 Apr 11 11:15 directory
```

where
user is the user name value specified in step 5, typically oracle
group is the group name value specified in step 5, typically dba
directory is the Oracle management user home directory name value specified in step 5, typically /opt/5620sam/oracle10r2

Install standalone database

13 Log in as a user with root-equivalent privileges on the station that is to be the database station.

14 Open a console window.

15 Switch to the Oracle management user created by the pre-installation script. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

16 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

17 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

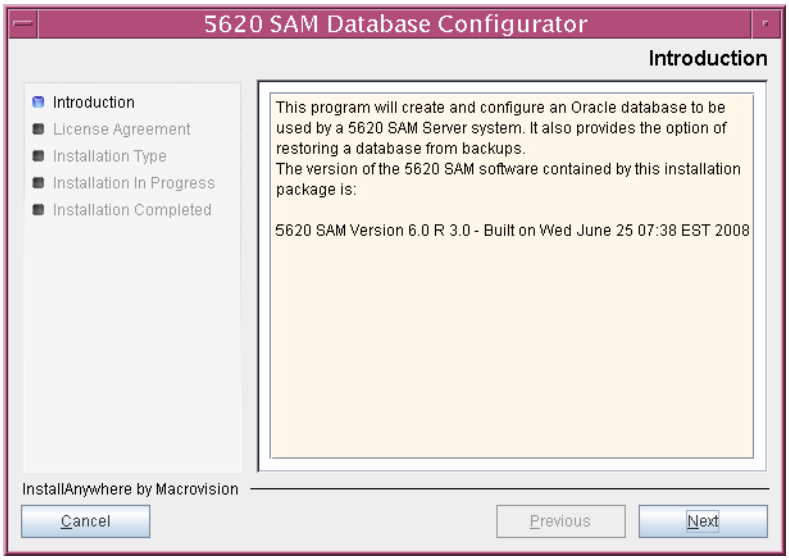
where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 3-1 appears and the installation process begins.

Figure 3-1 5620 SAM Installer

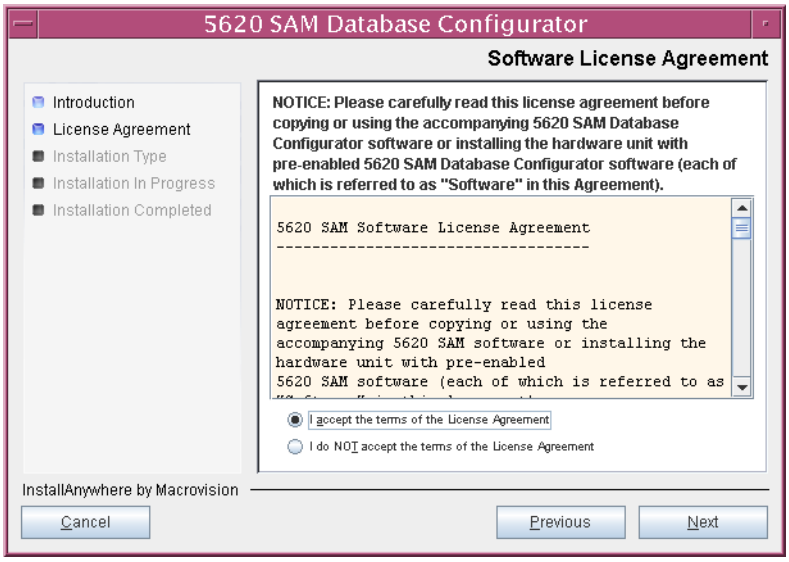
18 The 5620 SAM installer opens, as shown in Figure 3-2. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-2 Introduction



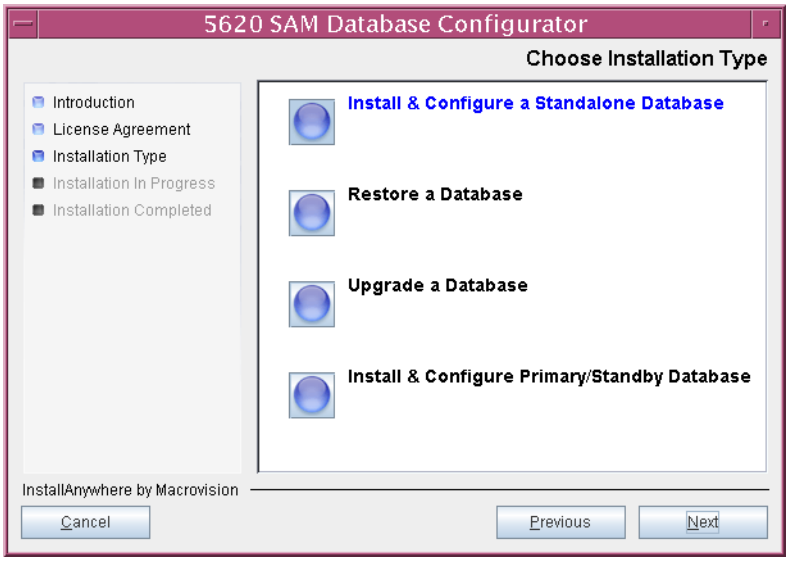
19 Review and accept the terms of the license agreement shown in Figure 3-3, then click on the Next button.

Figure 3-3 Software License Agreement



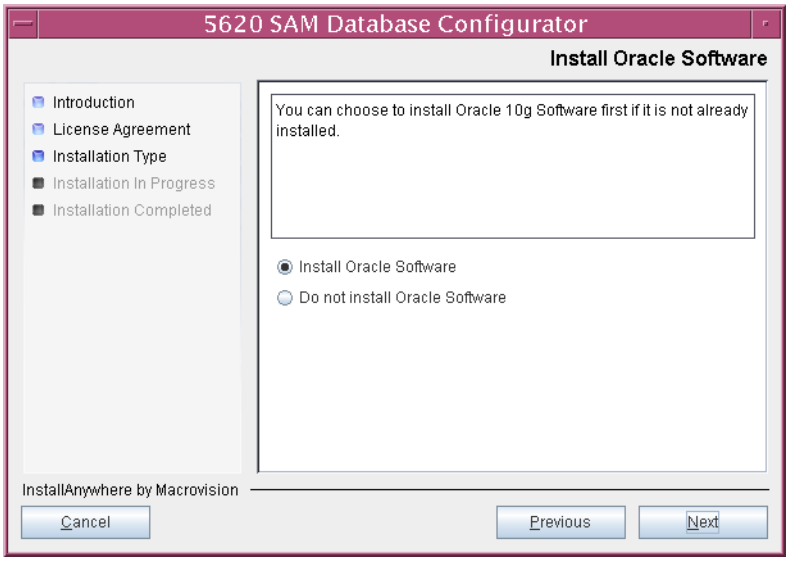
20 Select Install and Configure a Standalone Database, as shown in Figure 3-4, then click on the Next button.

Figure 3-4 Choose Installation Type



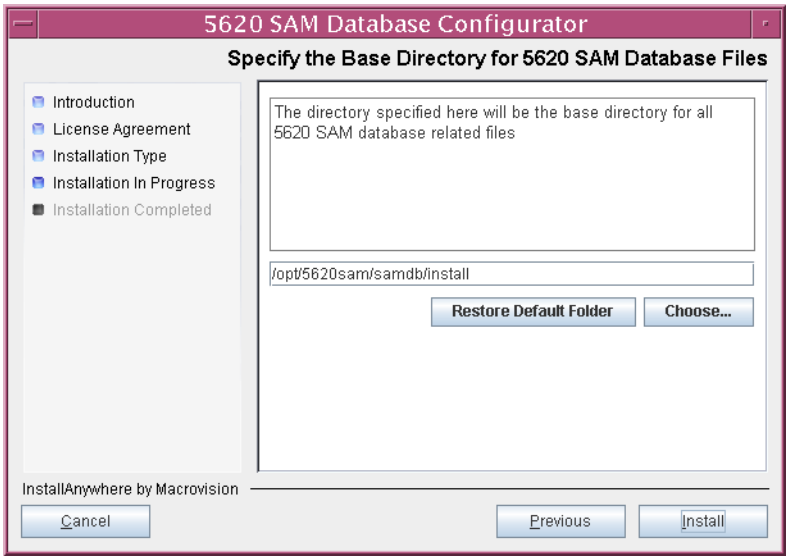
21 Select Install Oracle Software, as shown in Figure 3-5, then click on the Next button.

Figure 3-5 Install Oracle Software



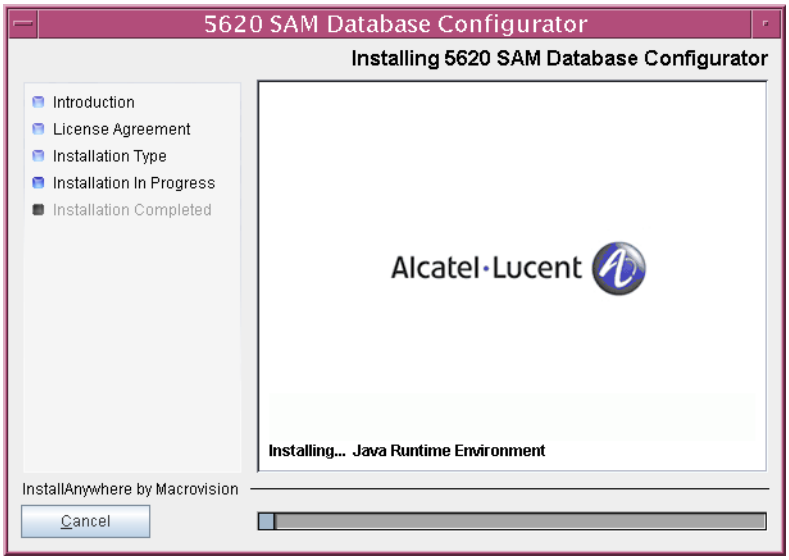
22 Specify a base directory in which to install the 5620 SAM database (typically /opt/5620sam/samdb/install), as shown in Figure 3-6. You are prompted to create the directory if it does not exist. Click on the Install button to proceed.

Figure 3-6 Specify the Base Directory for 5620 SAM Database Files



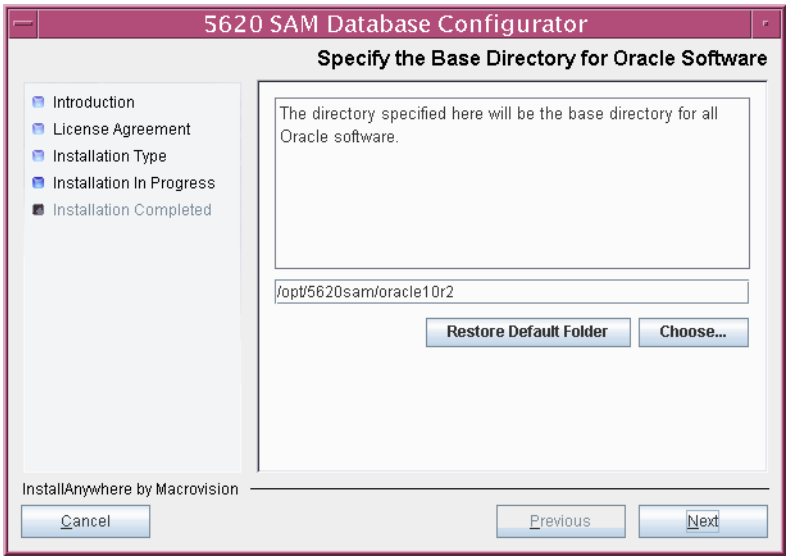
The next panel displays database software installation progress, as shown in Figure 3-7.

Figure 3-7 Installing 5620 SAM Database Configurator



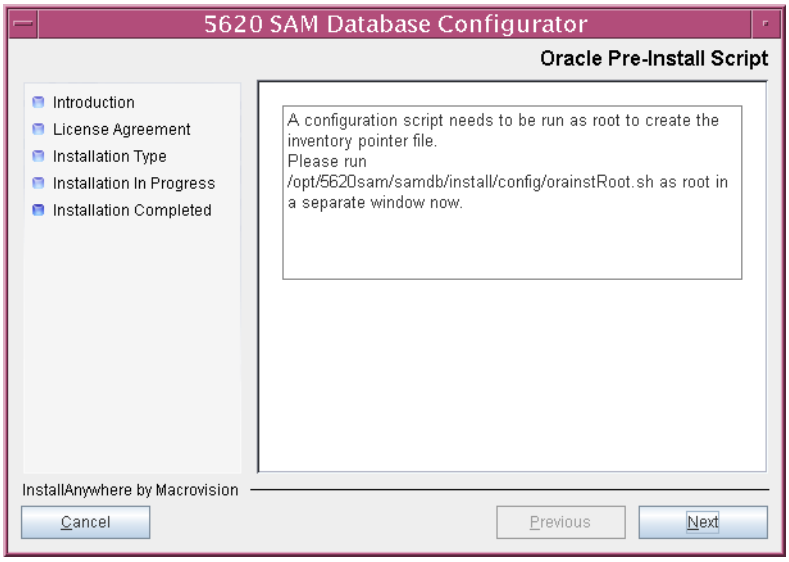
23 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 3-8. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-8 Specify the Base Directory for Oracle Software



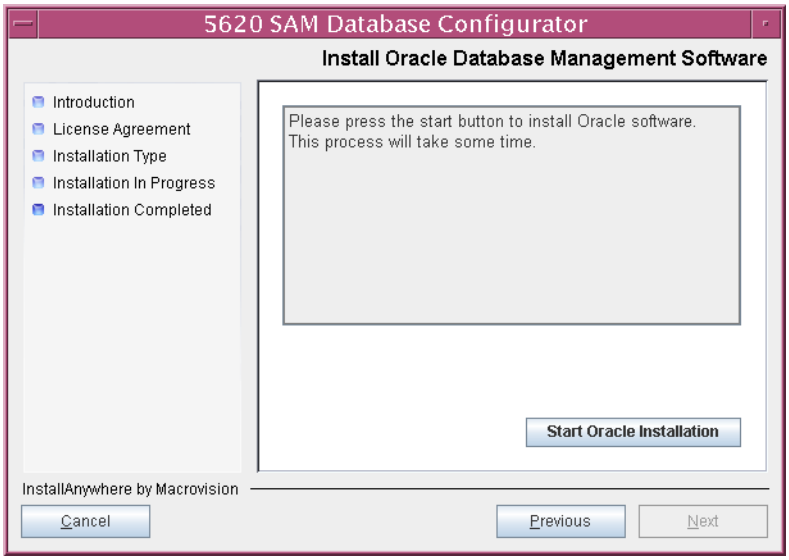
24 You are prompted to run an Oracle pre-installation script, as shown in Figure 3-9. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

Figure 3-9 Oracle Pre-Install Script



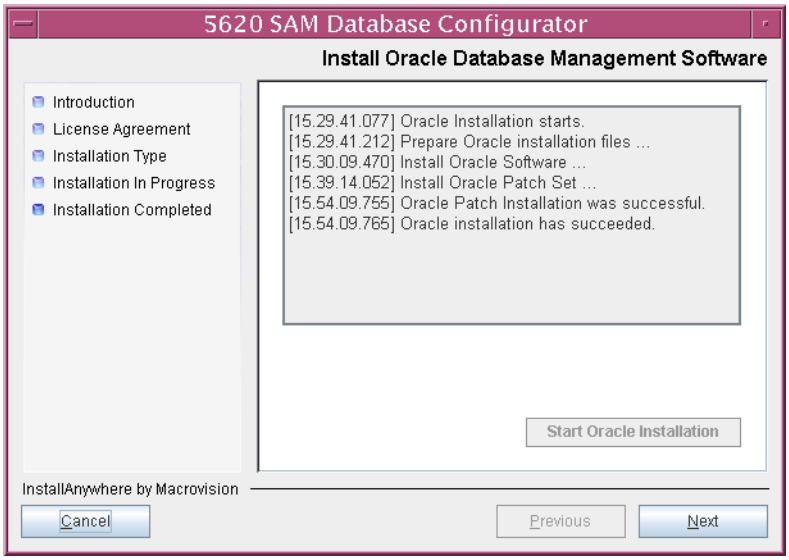
25 You are prompted to begin Oracle installation, as shown in Figure 3-10. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 3-10 Install Oracle Database Management Software



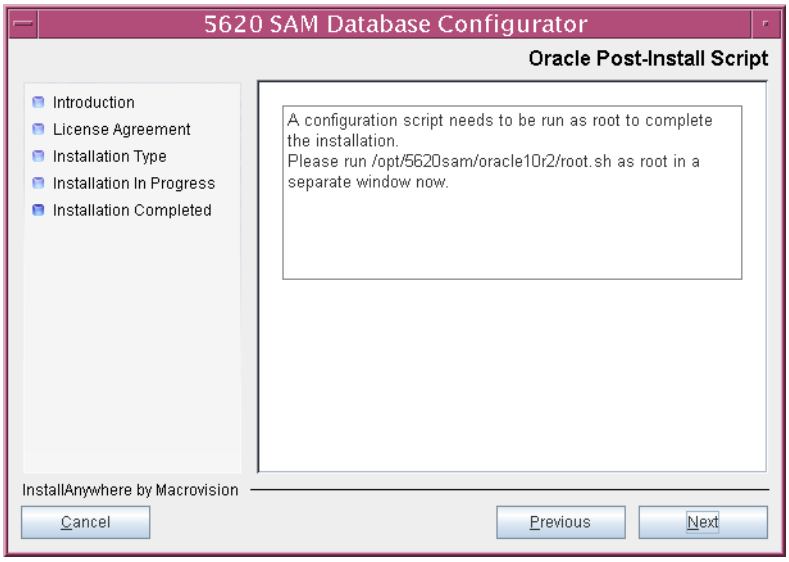
26 As shown in Figure 3-11, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button to continue.

Figure 3-11 Install Oracle Database Management Software



27 You are prompted to run an Oracle post-installation script, as shown in Figure 3-12. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

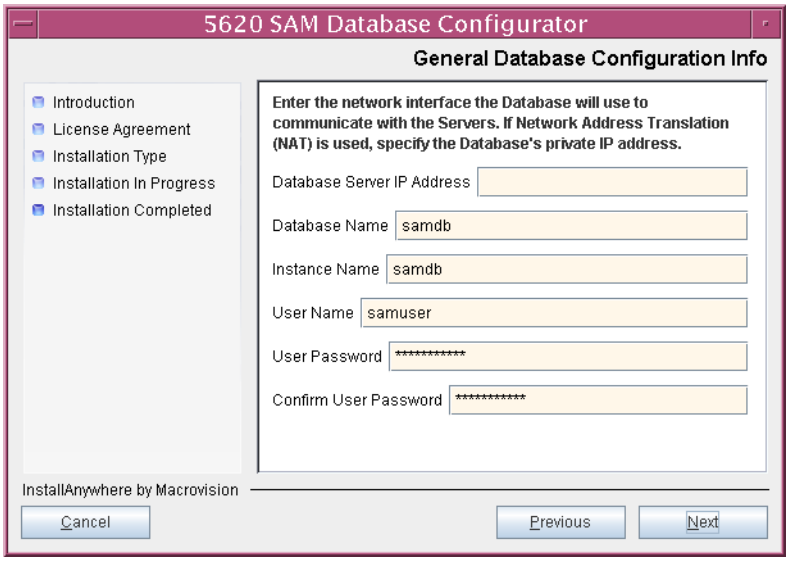
Figure 3-12 Oracle Post-Install Script



28 Configure the following parameters shown in Figure 3-13, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password

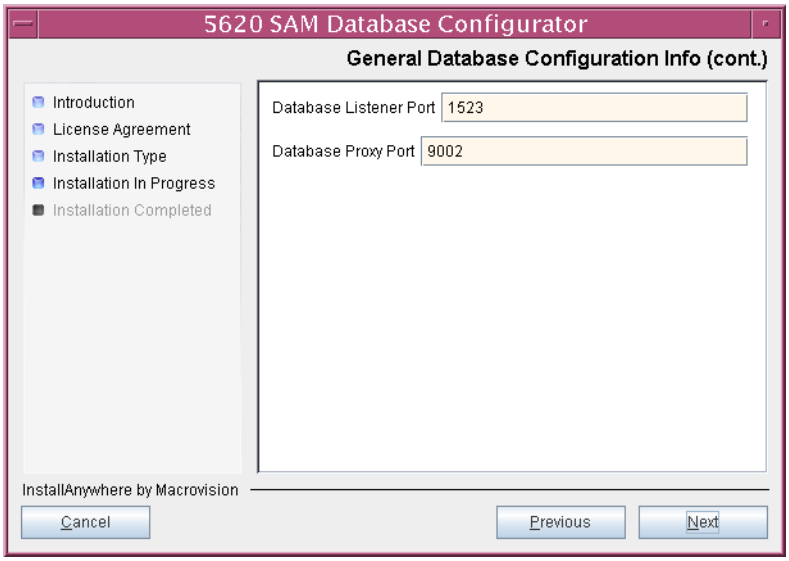
Figure 3-13 General Database Configuration Info



29 Configure the following parameters in Figure 3-14, then click on the Next button:

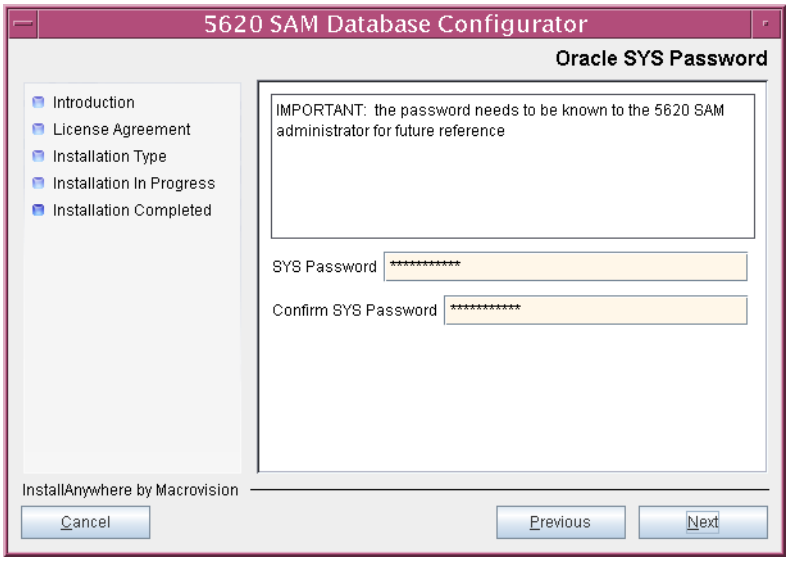
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 3-14 General Database Configuration Info (continued)



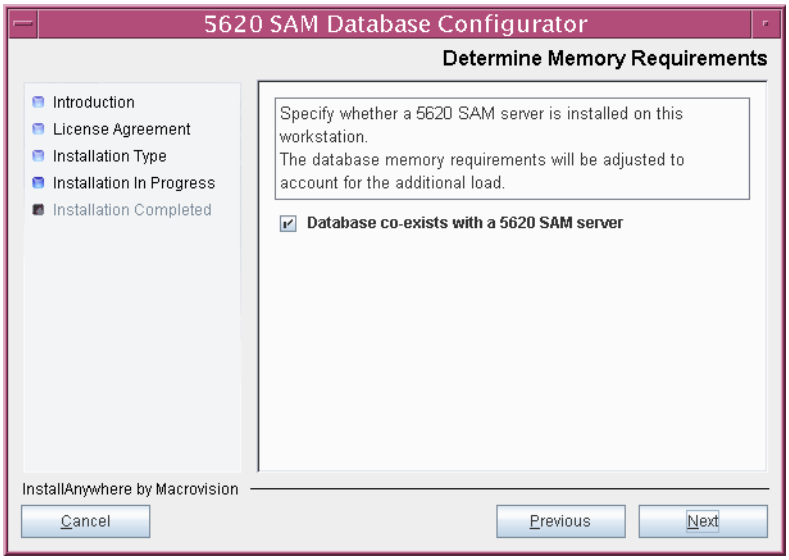
30 Enter and confirm the Oracle SYS password, as shown in Figure 3-15, then click on the Next button.

Figure 3-15 Oracle SYS Password



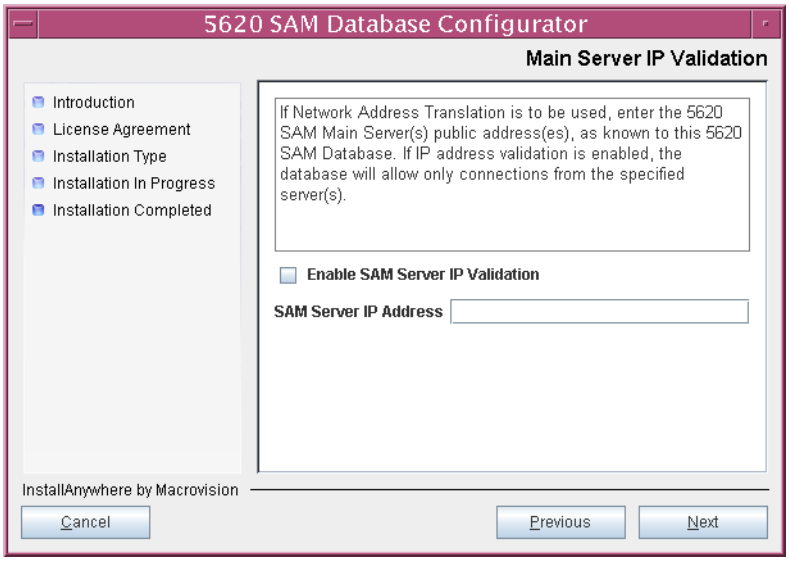
31 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 3-16. Click on the Next button to continue.

Figure 3-16 Determine Memory Requirements



32 If the "Enable SAM Server IP Validation" parameter shown in Figure 3-17 is enabled, only the specified server can connect to the database. If required, enable this parameter and enter the IP address of the 5620 SAM server. Click on the Next button to continue.

Figure 3-17 Main Server IP Validation



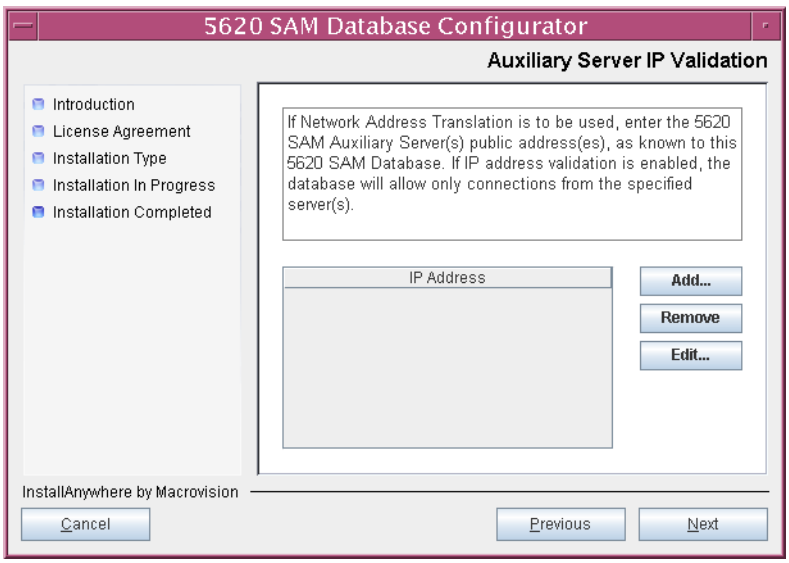
33 If the “Enable SAM Server IP Validation” parameter in step 32 is enabled, perform one of the following actions.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

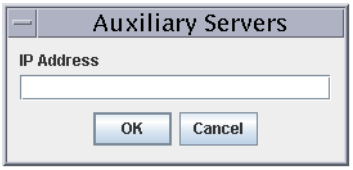
i Click on the Add button shown in Figure 3-18. The Auxiliary Server Configuration form shown in Figure 3-19 opens.

Figure 3-18 Auxiliary Server IP Validation



ii Enter the IP Address of the auxiliary server.

Figure 3-19 Auxiliary Servers



iii Click on the OK button to save the information and close the form.

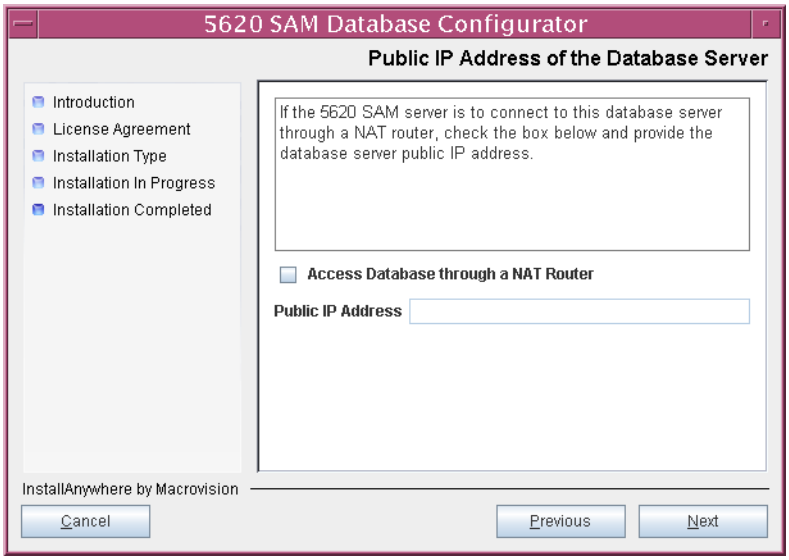
iv Repeat steps 33 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

34 Click on the Next button to continue.

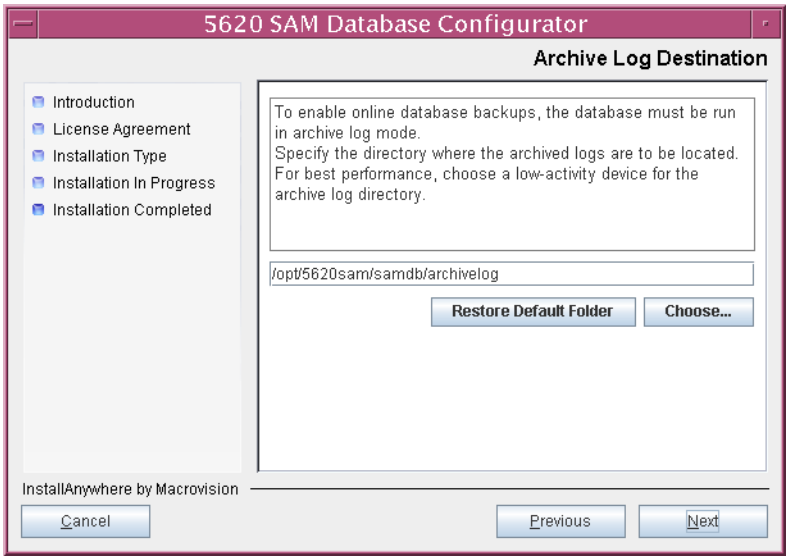
35 If NAT is used between the 5620 SAM server and database, enable the “Access Database through a NAT Router” parameter shown in Figure 3-20 and enter the public IP address of the database. Click on the Next button to continue.

Figure 3-20 Public IP Address of the Database Server



36 Specify a directory as the archive log destination (typically /opt/5620sam/samdb/archivelog), as shown in Figure 3-21. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

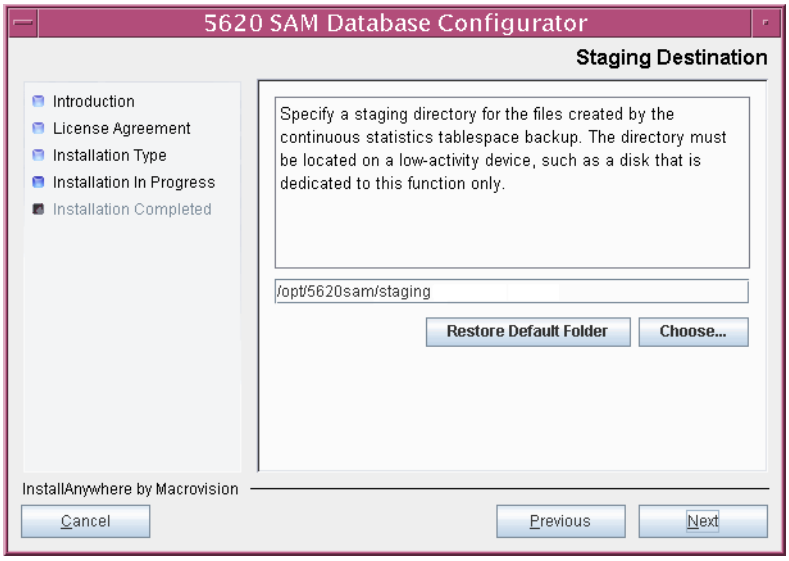
Figure 3-21 Archive Log Destination



37 Specify a directory for the continuous statistics tablespace backup, as shown in Figure 3-22. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

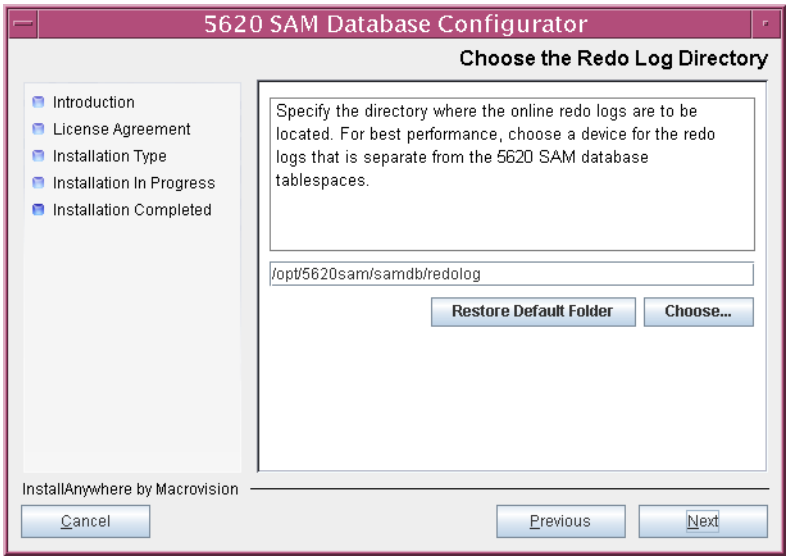
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/dbbackup partition, such as /opt/5620sam/dbbackup/staging.

Figure 3-22 Staging Destination



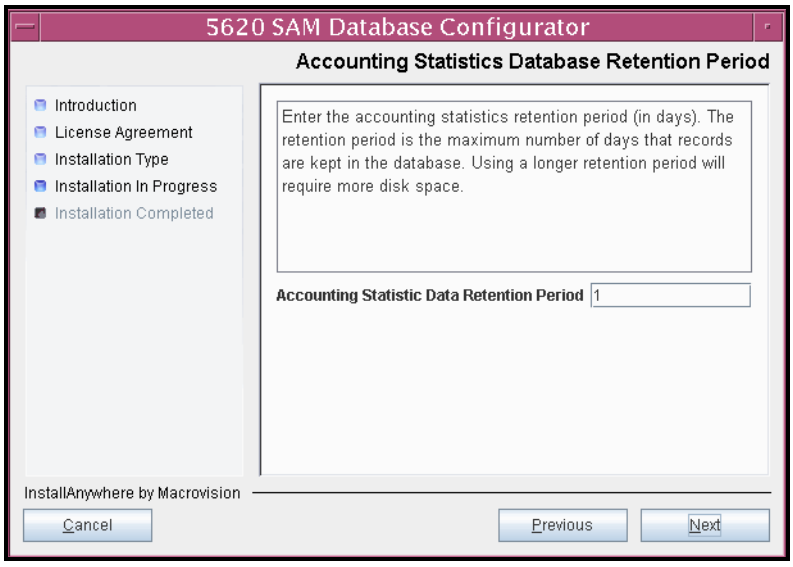
38 Specify a directory for the Redo logs (typically /opt/5620sam/samdb/redolog), as shown in Figure 3-23. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-23 Choose the Redo Log Directory



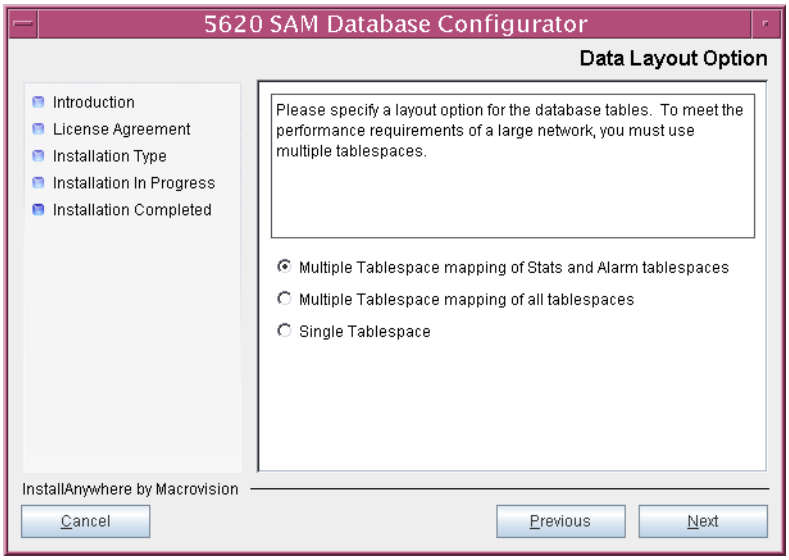
39 Configure the "Accounting Statistic Database Retention Period" parameter shown in Figure 3-24. Click on the Next button to continue.

Figure 3-24 Accounting Statistics Database Retention Period



40 Select one of the data layout options shown in Figure 3-25, then click on the Next button. Contact your Alcatel-Lucent support representative for information about data layout options.

Figure 3-25 Data Layout Option



41 Choose the tablespace directories.

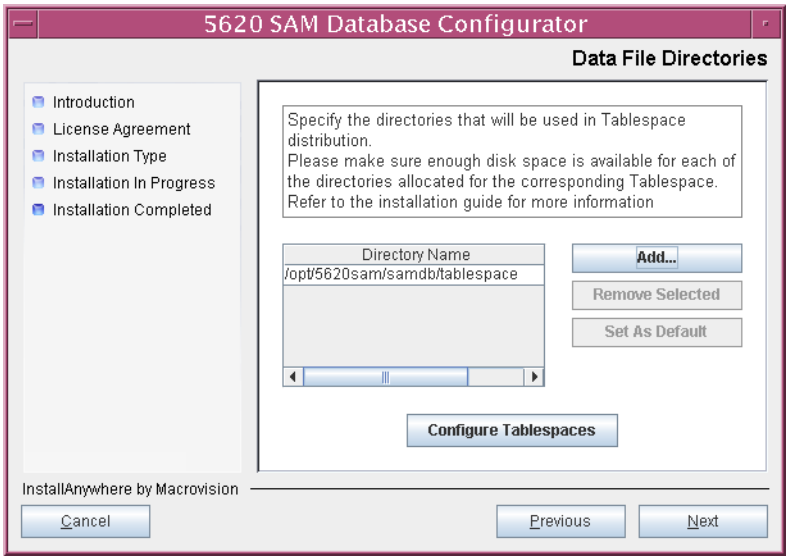
i Click on the Add button shown in Figure 3-26. A file browser form opens.

ii Use the browser form to choose a tablespace directory.

iii If the option selected in step 40 is Single Tablespace, go to step 43.

iv Repeat steps 41 i and ii as required to specify additional tablespace directories.

Figure 3-26 Data File Directories



42 Associate tablespaces with the directories specified in step 41.

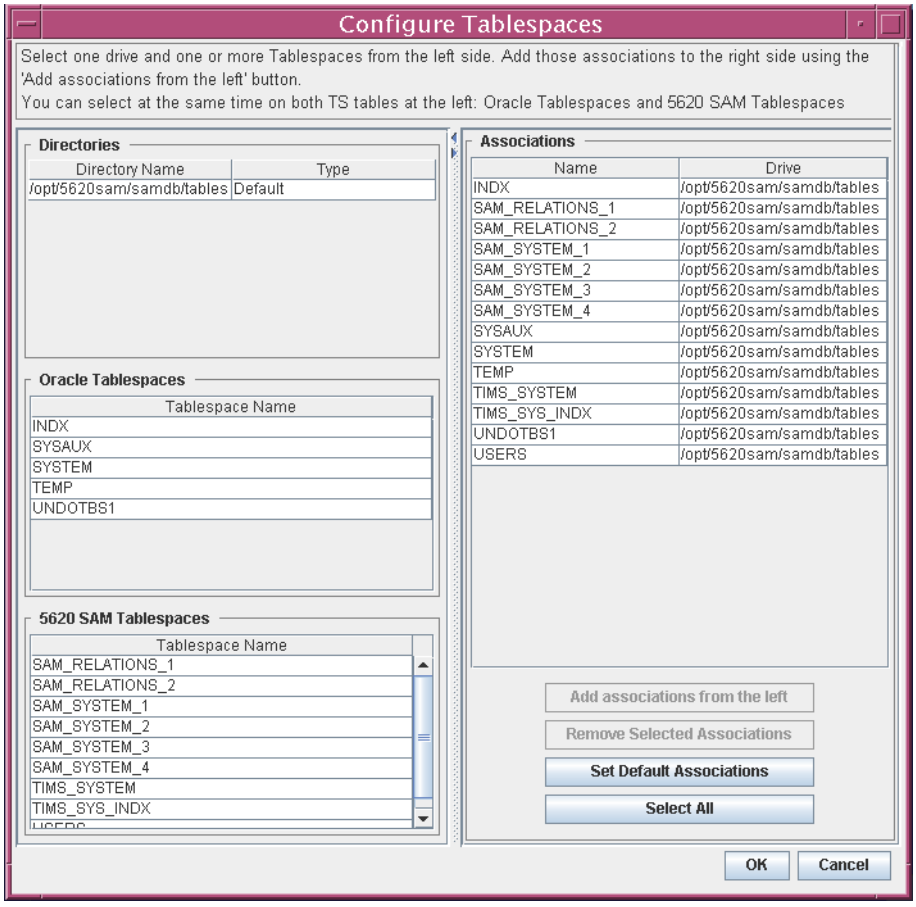
i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 3-27.

Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with the directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 3-26 is again displayed.

Figure 3-27 Configure Tablespaces

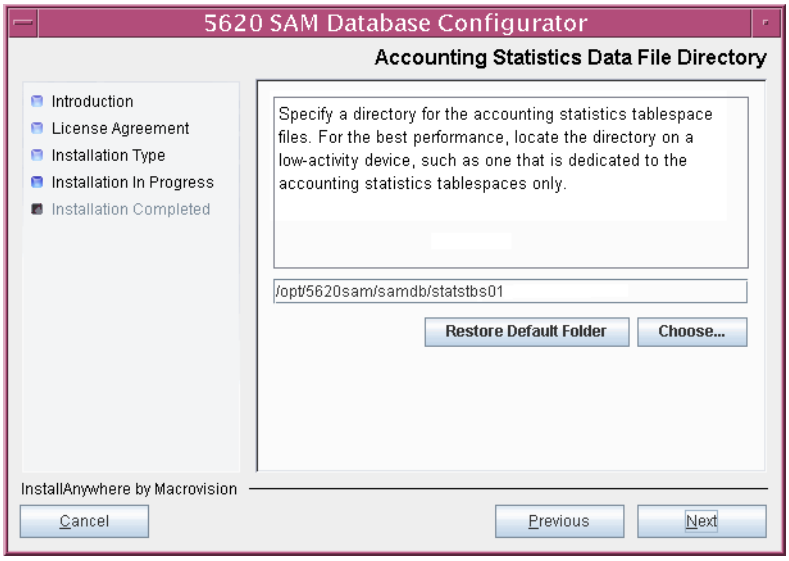


43 Click on the Next button to continue.

44 Specify a directory for the accounting statistics tablespace files, as shown in Figure 3-28. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

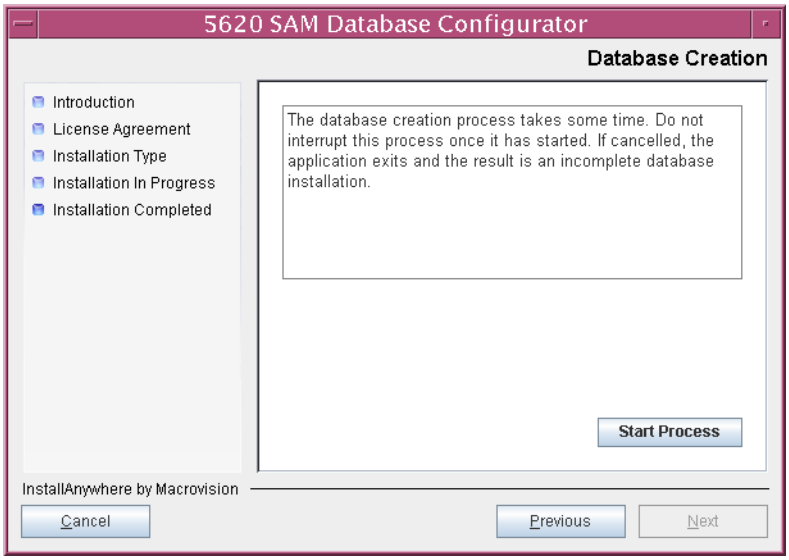
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/samdb/tablespace partition, such as /opt/5620sam/samdb/tablespace/statstbs01.

Figure 3-28 Accounting Statistics Data File Directory



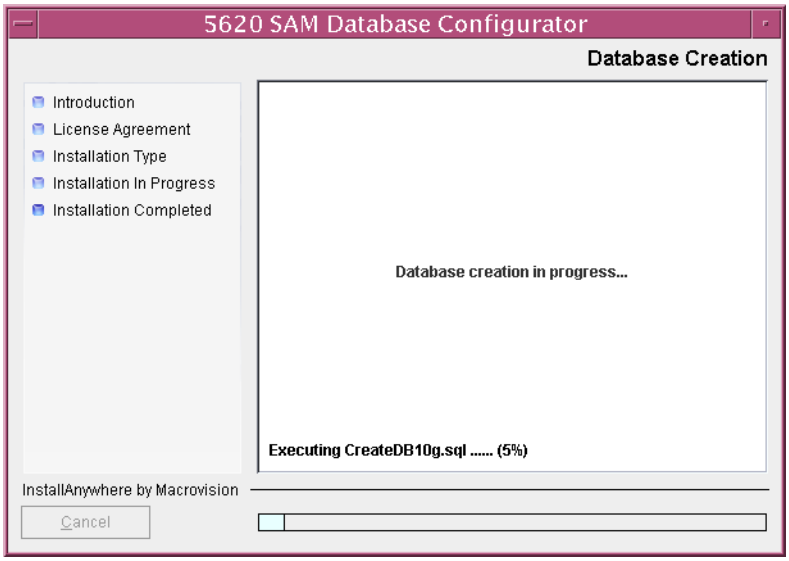
45 You are prompted to begin database creation, as shown in Figure 3-29. Database creation can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 3-29 Database Creation



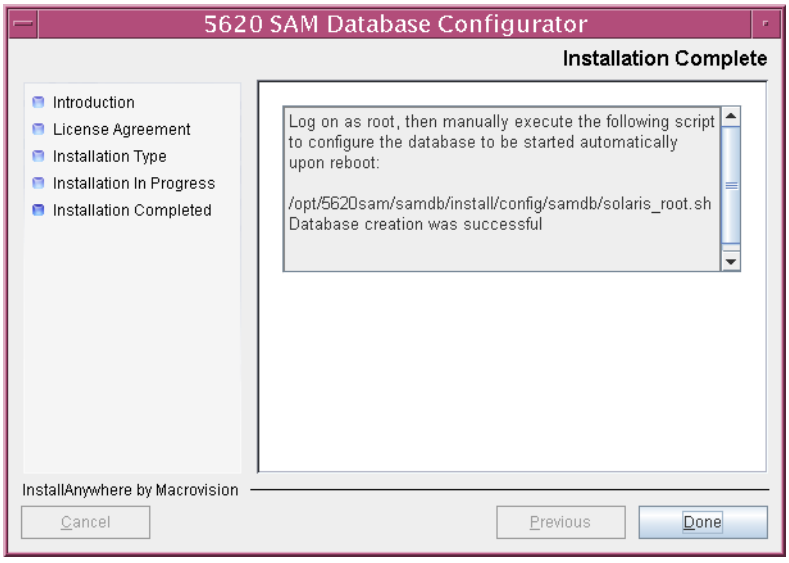
The next panel displays database creation progress, as shown in Figure 3-30.

Figure 3-30 Database Creation



46 When 5620 SAM database installation is complete, you are prompted to run a script that enables automatic database startup during Solaris initialization, as shown in Figure 3-31. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 3-31 Installation Complete



The next section of the procedure describes the installation of the standalone 5620 SAM server. You can install the server on the same station as the database, or on another station. Server installation requires root-equivalent privileges.

Install standalone server

47 Log in as a user with root-equivalent privileges on the station that is to be the server station.

48 Open a console window.

49 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

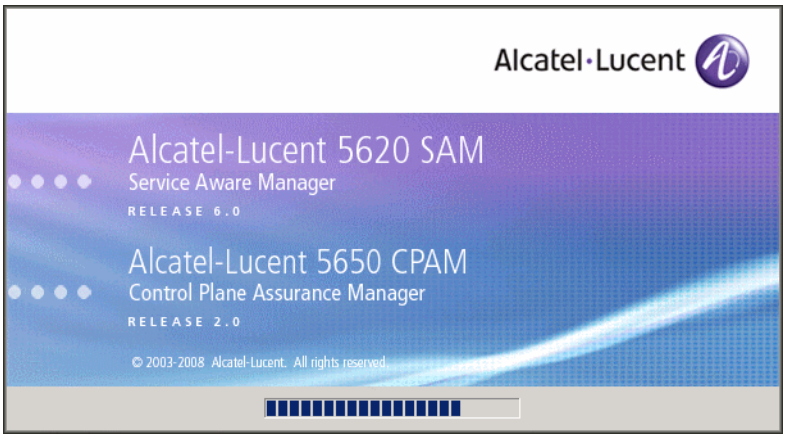
50 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

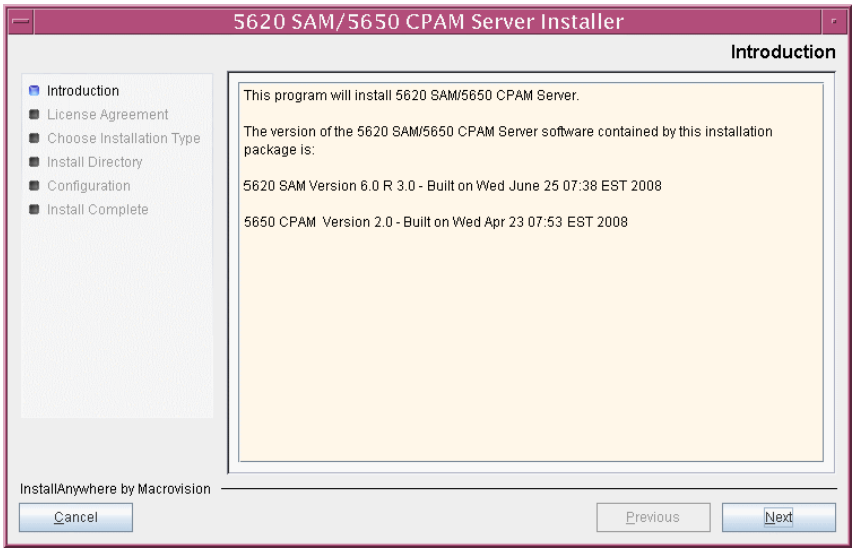
The splash screen in Figure 3-32 appears and the installation process begins.

Figure 3-32 5620 SAM Installer



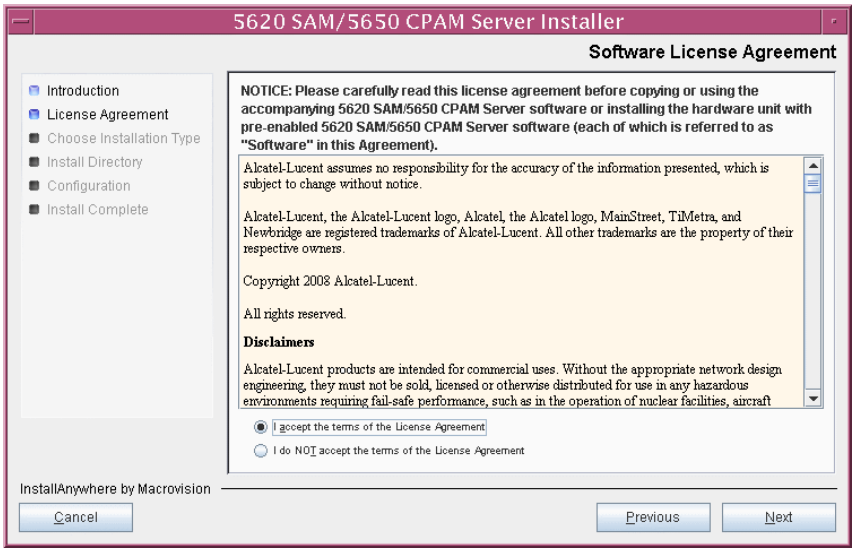
51 The 5620 SAM installer opens as shown in Figure 3-33. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-33 Introduction



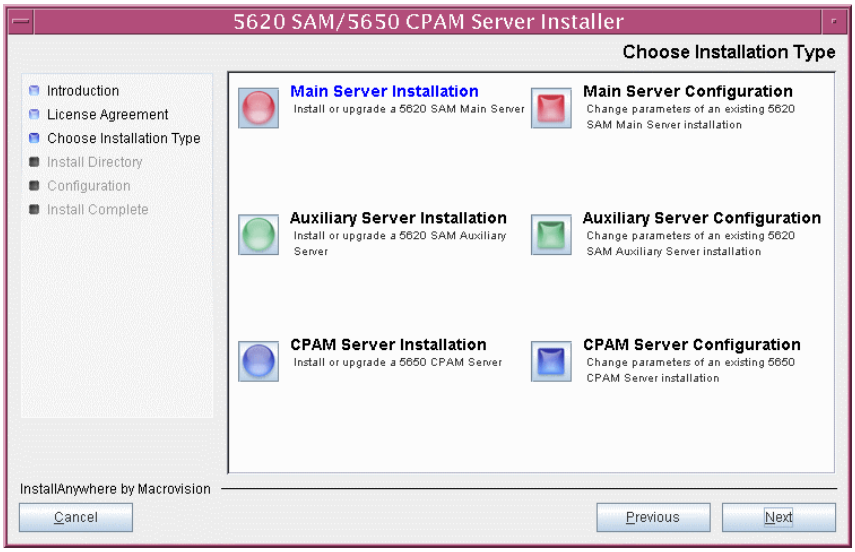
52 Review and accept the terms of the license agreement shown in Figure 3-34, then click on the Next button.

Figure 3-34 Software License Agreement



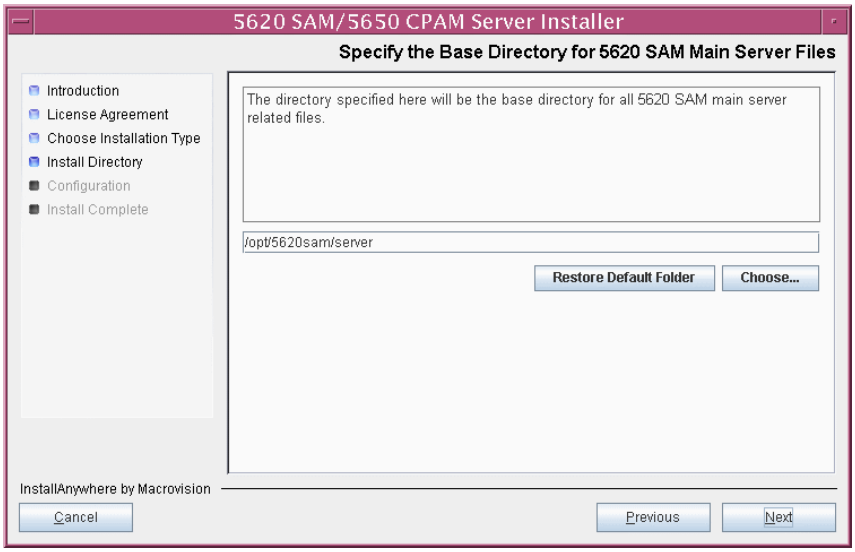
53 Select Main Server Installation, as shown in Figure 3-35, then click on the Next button.

Figure 3-35 Choose Installation Type



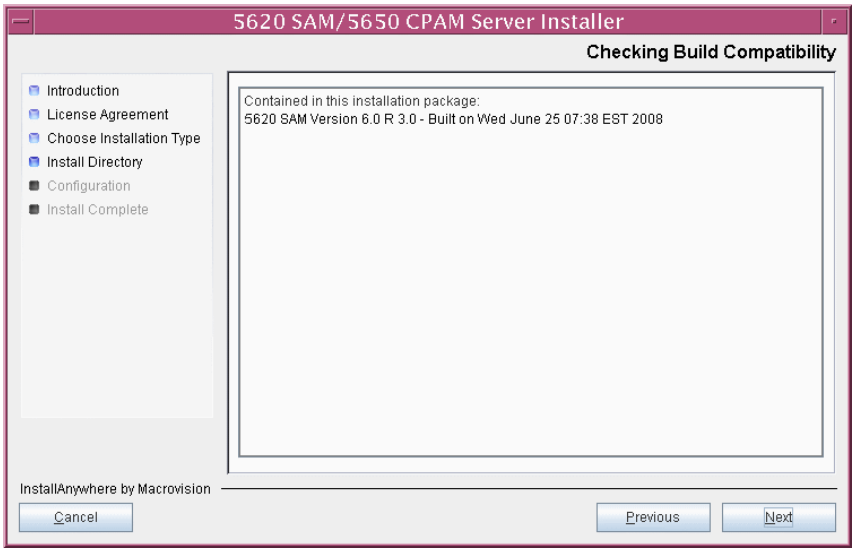
54 Specify a base directory in which to install the 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 3-36. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-36 Specify the Base Directory for 5620 SAM Main Server Files



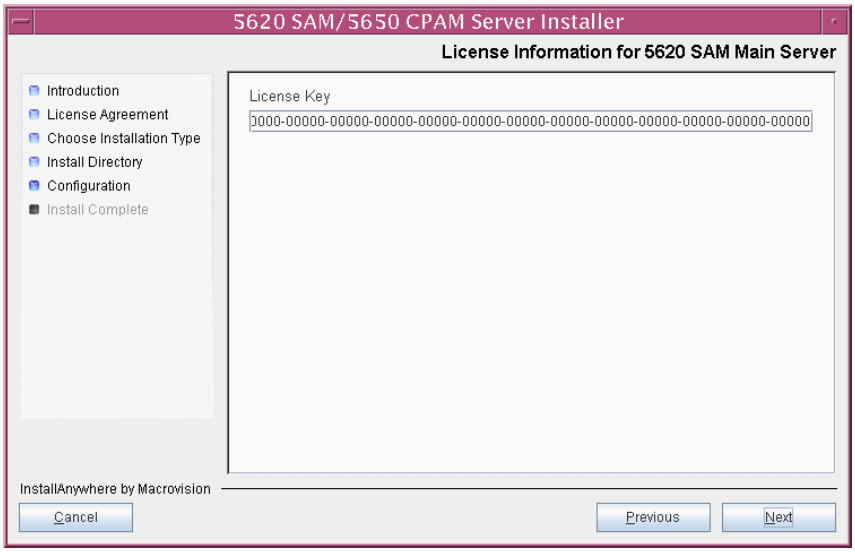
55 As shown in Figure 3-37, the installer displays the version of the 5620 SAM main server software that is to be installed. Verify the information, then click on the Next button.

Figure 3-37 Checking Build Compatibility



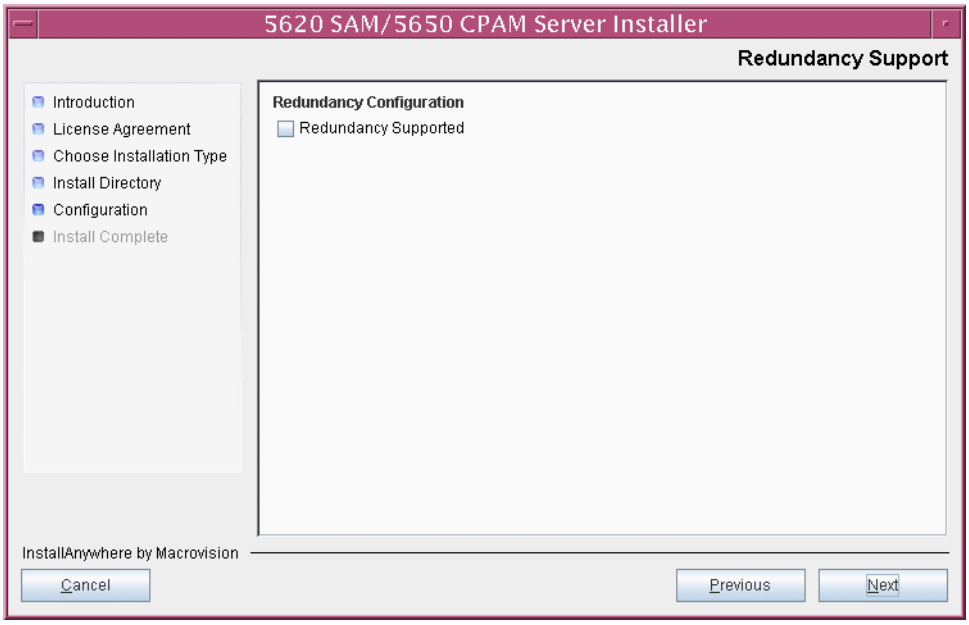
56 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-38. Click on the Next button to continue.

Figure 3-38 License Information for 5620 SAM Main Server



57 Ensure that the "Redundancy Supported" parameter is disabled, as shown in Figure 3-39, then click on the Next button.

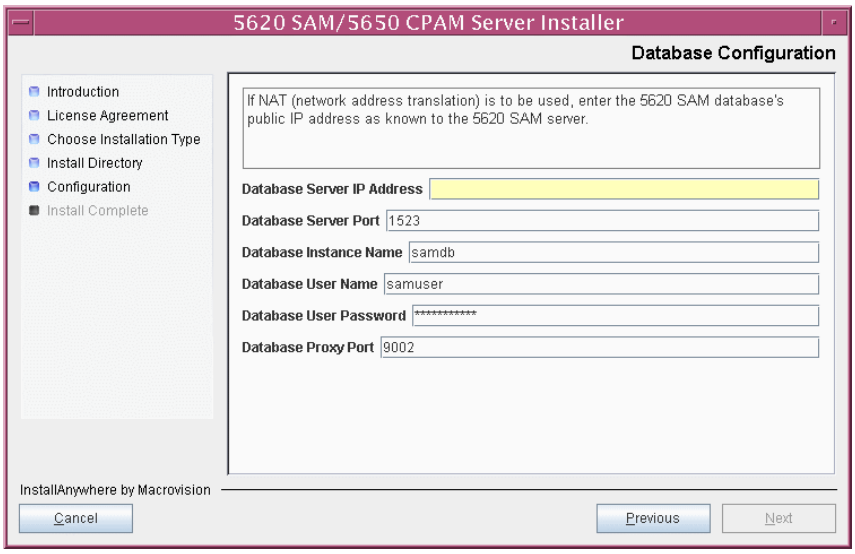
Figure 3-39 Redundancy Support



58 Configure the following parameters, shown in Figure 3-40, using the recorded values from the database installation. Click on the Next button to continue.

- Database Server IP address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

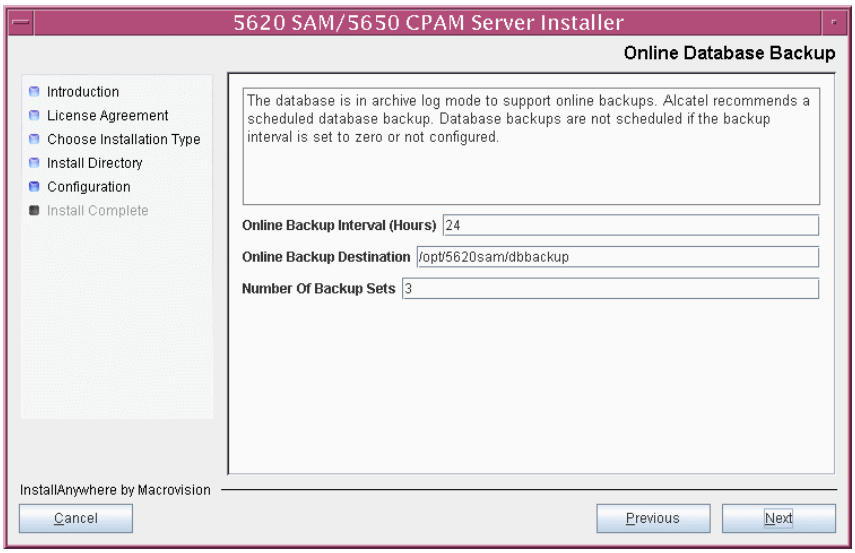
Figure 3-40 Database Configuration



59 Configure the following parameters shown in Figure 3-41, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

Figure 3-41 Online Database Backup

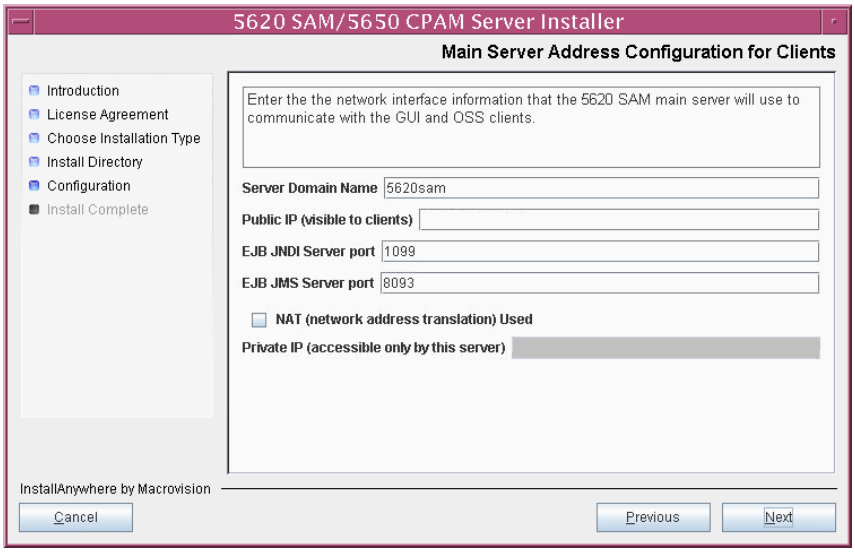


60 Configure the following parameters shown in Figure 3-42:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 3-42 Main Server Address Configuration for Clients



61 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

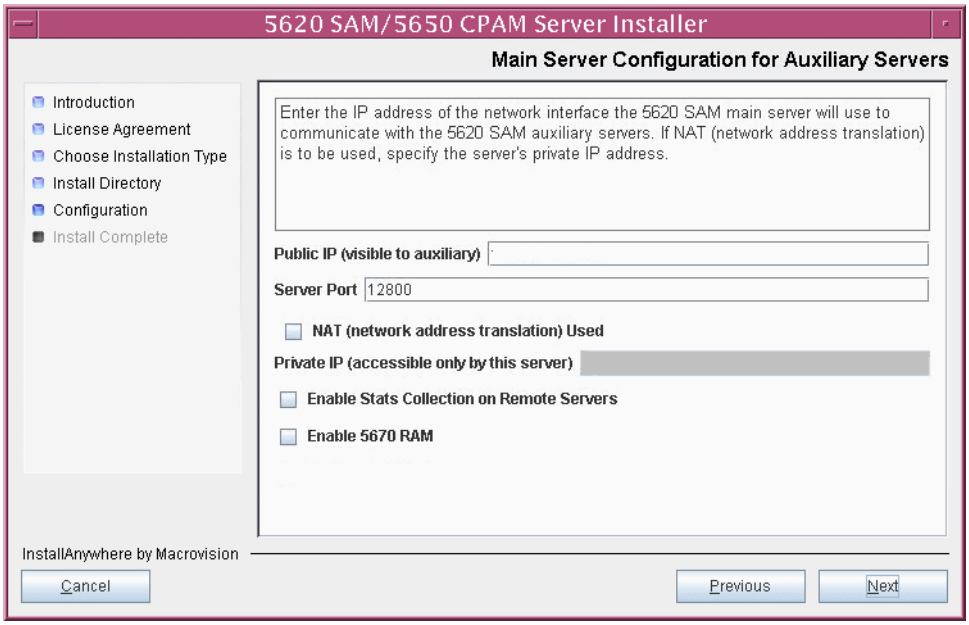
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 3-43:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the "Enable Stats Collection on Remote Servers" parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 3-43 Main Server Configuration for Auxiliary Servers



ii If NAT is to be used between the 5620 SAM main and auxiliary servers, enable the "NAT (network address translation) Used" parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 3-44 to specify an auxiliary server. The form shown in Figure 3-45 opens.

Figure 3-44 Auxiliary Servers

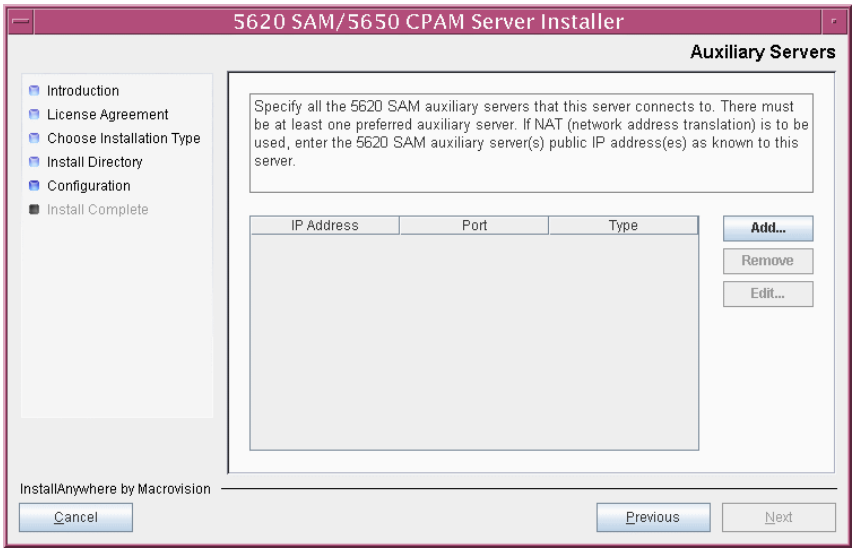
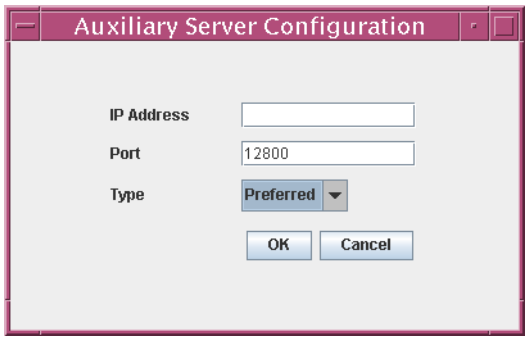


Figure 3-45 Auxiliary Server Configuration



v Configure the following parameters:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 61 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

62 Click on the Next button to continue.

63 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the "Install User Documentation at Central Location Below" parameter, as shown in Figure 3-46.

ii If you want to accept the default user documentation location that is displayed, go to step 64.

Note — If NAT is to be used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

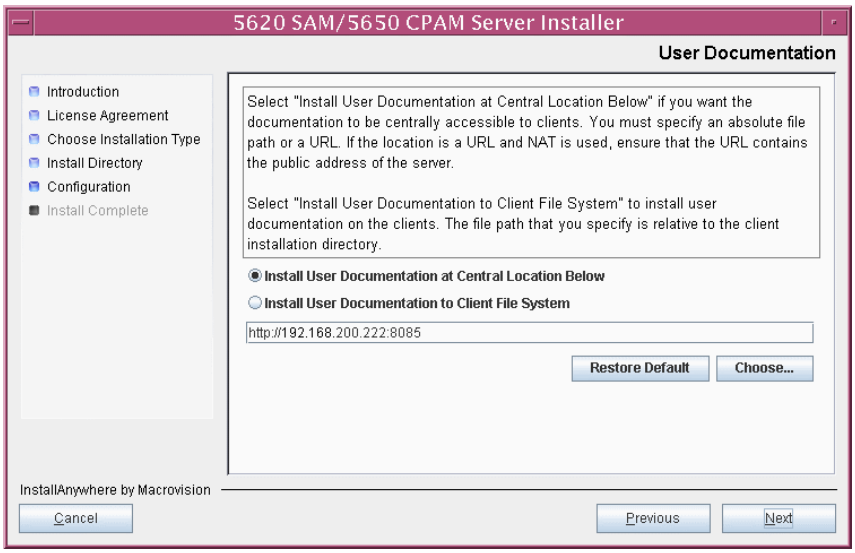
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 3-46.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

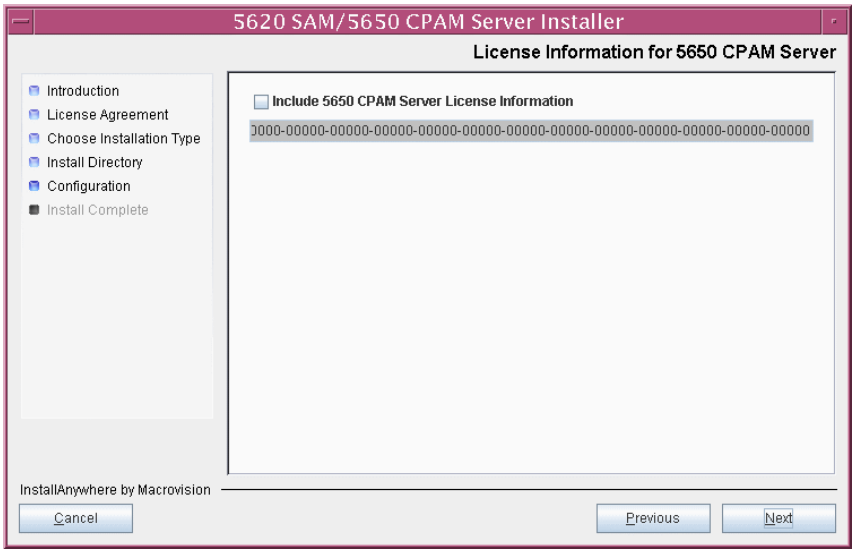
Figure 3-46 User Documentation



64 Click on the Next button to continue.

65 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-47. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

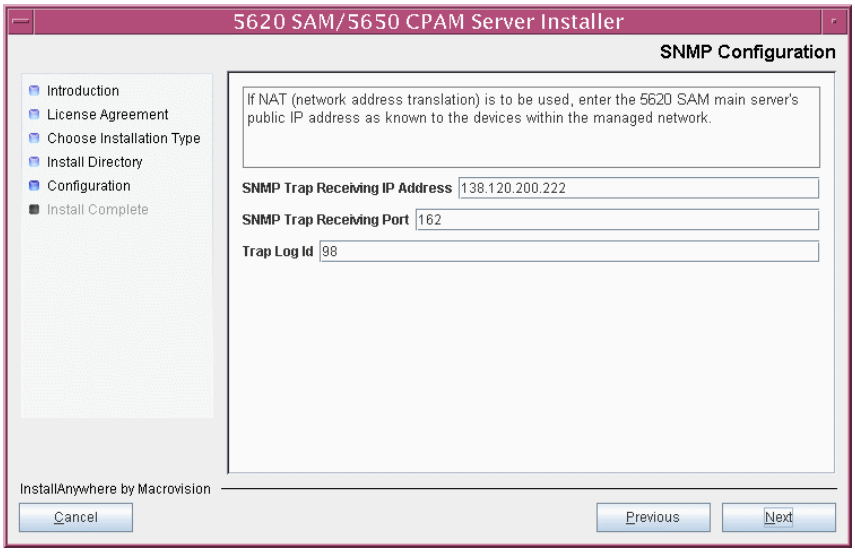
Figure 3-47 License Information for 5650 CPAM Server



66 Configure the following parameters shown in Figure 3-48, then click on the Next button:

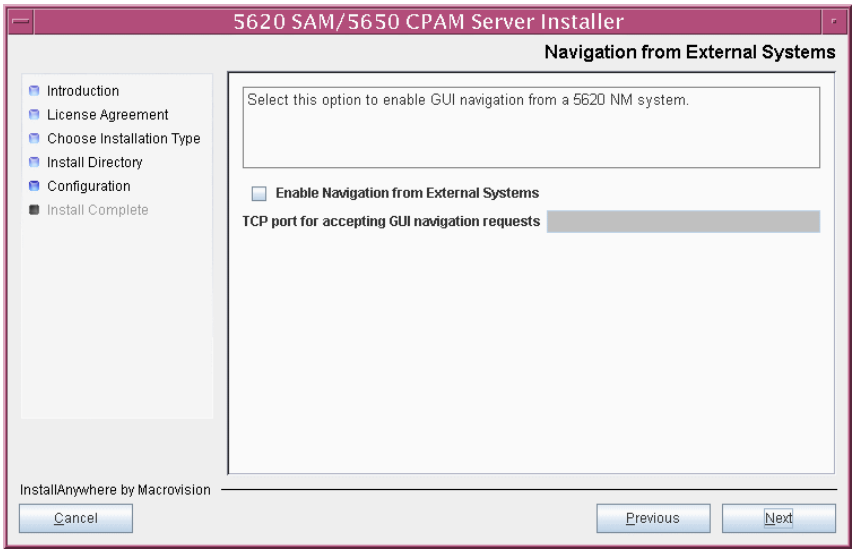
- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

Figure 3-48 SNMP Configuration



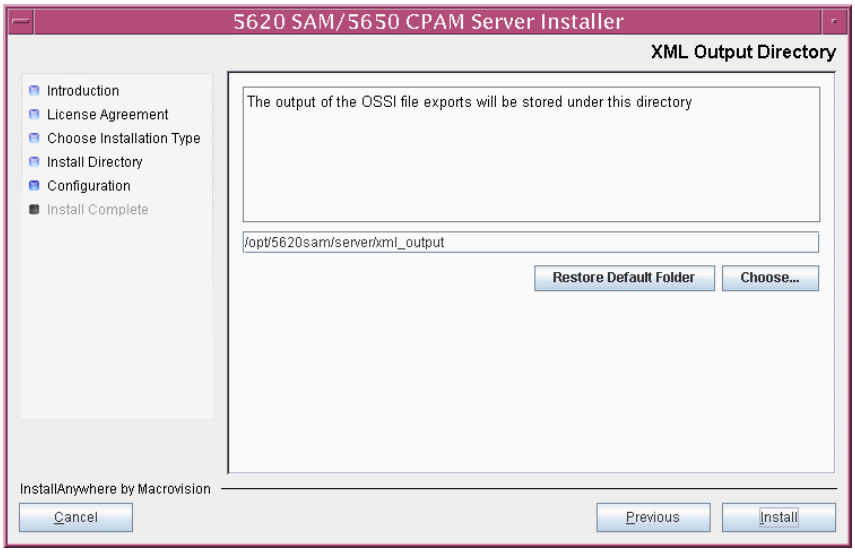
67 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 3-49 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 3-49 Navigation from External Systems



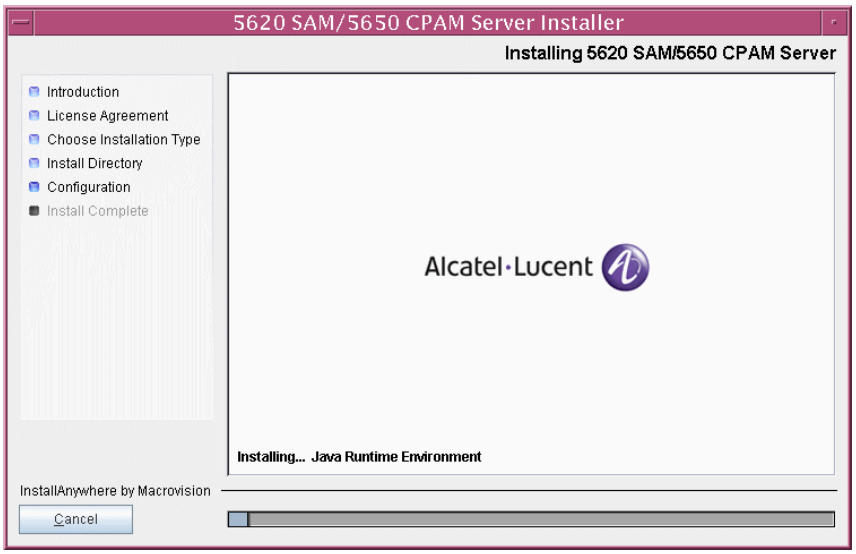
68 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 3-50. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 3-50 XML Output Directory



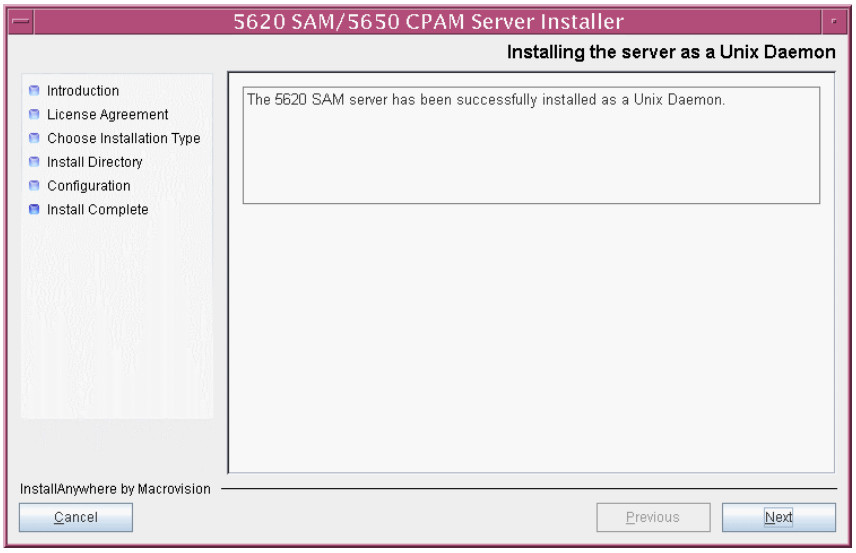
The next panel displays server installation progress, as shown in Figure 3-51.

Figure 3-51 Installing 5620 SAM/5650 CPAM Server



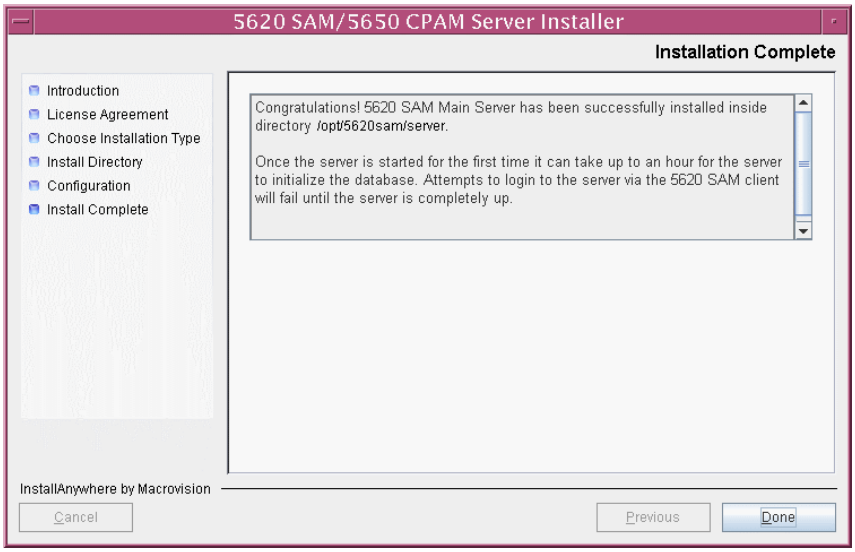
69 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 3-52. Click on the Next button to continue.

Figure 3-52 Installing the Server as a Unix Daemon



70 When the server installation is complete, as shown in Figure 3-53, click on the Done button to close the installer.

Figure 3-53 Installation Complete



Start server

71 Start the 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# nmsserver.bash start ↵
```

The 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

Install client

72 Install a 5620 SAM client. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

Procedure 3-2 To install a 5620 SAM client on Solaris or Linux

Perform this procedure to install the 5620 SAM client software on a Solaris or Linux station.

You can also install a Windows 5620 SAM client for a 5620 SAM system on Solaris. See chapter 2 for information about installing a 5620 SAM client on a Windows station.

Note — If you are installing a client delegate to enable more than one 5620 SAM client GUI on one station, see Procedure 3-4 for additional information before performing this procedure.

Install auto-client update utility

1 Log in as a user with local privileges on the station that is to be the client station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

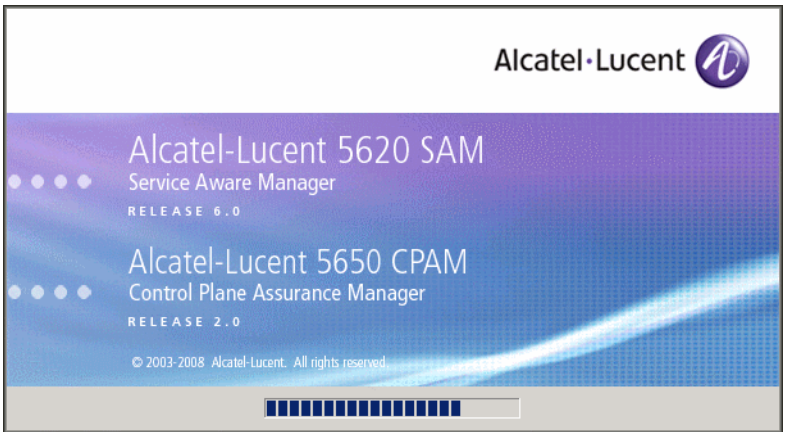
4 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ClientInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

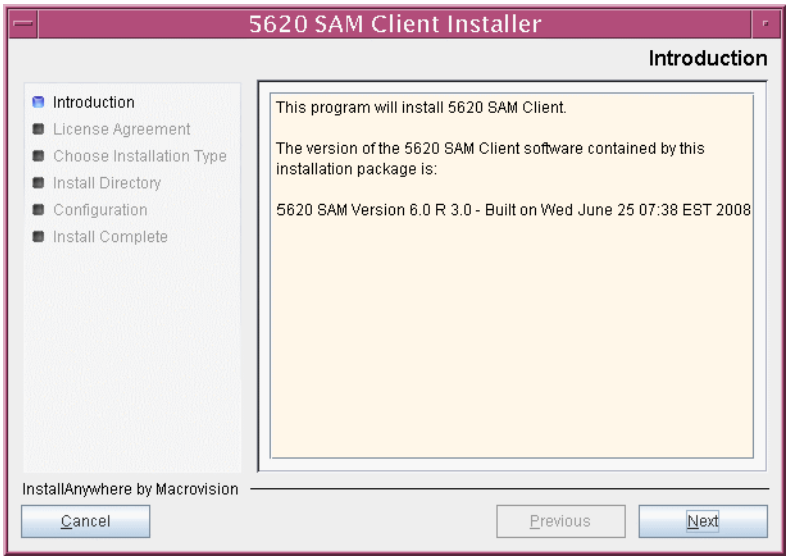
The splash screen in Figure 3-54 appears and the installation process begins.

Figure 3-54 5620 SAM Installer



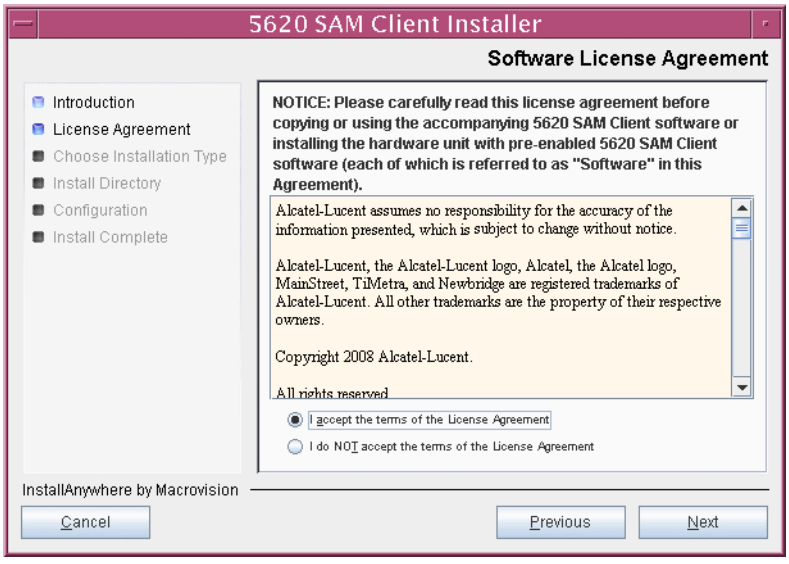
5 The 5620 SAM installer opens, as shown in Figure 3-55. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-55 Introduction



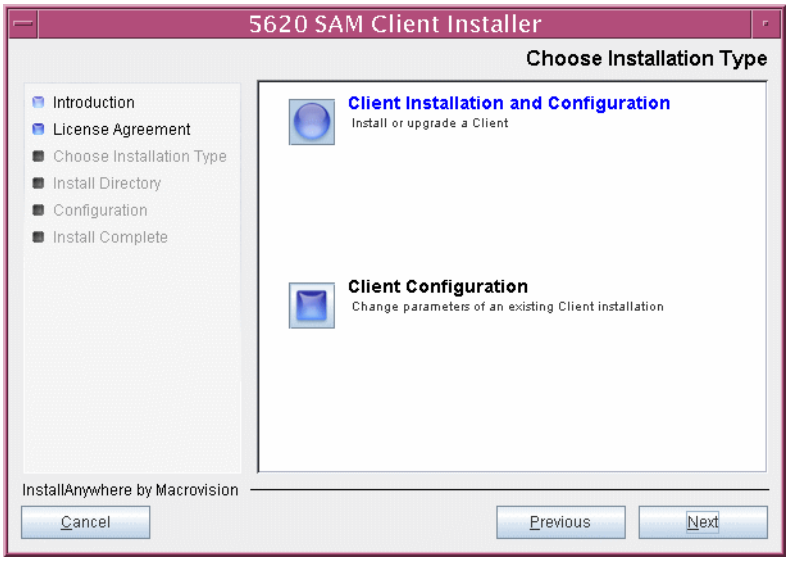
6 Review and accept the terms of the license agreement shown in Figure 3-56, then click on the Next button.

Figure 3-56 Software License Agreement



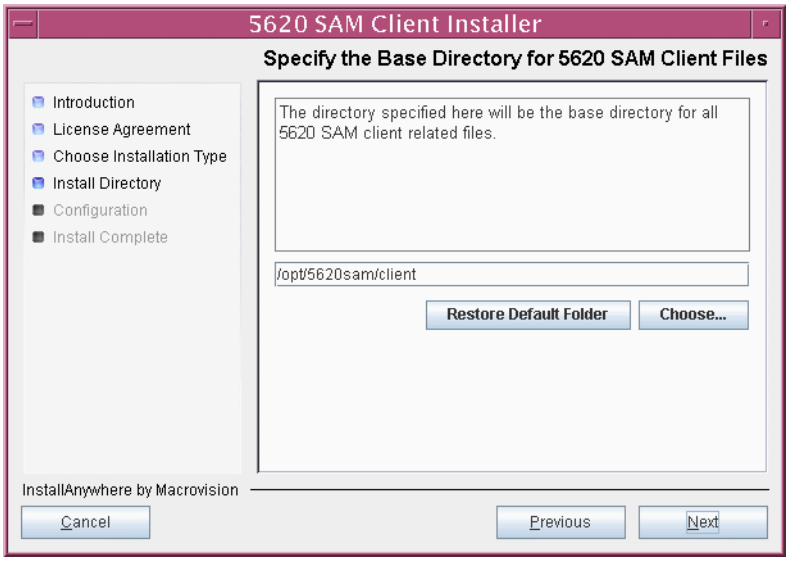
7 Select Client Installation and Configuration, as shown in Figure 3-57, then click on the Next button.

Figure 3-57 Choose Installation Type



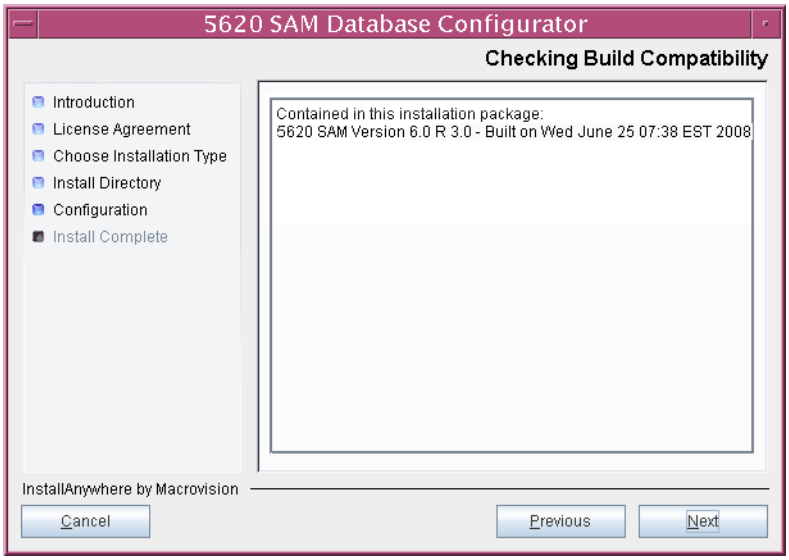
8 Specify a base directory in which to install the 5620 SAM client software (typically /opt/5620sam/client) as shown in Figure 3-58. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-58 Specify the Base Directory for 5620 SAM Client Files



9 As shown in Figure 3-59, the installer displays the version of the 5620 SAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 3-59 Checking Build Compatibility



10 Perform one of the following actions.

a Configure the 5620 SAM client for use with a standalone 5620 SAM server and database.

i Ensure that the “Redundancy Support” parameter is disabled, as shown in Figure 3-60.

ii Configure the “Server IP Address” parameter using the IP address that the client uses to address the 5620 SAM server.

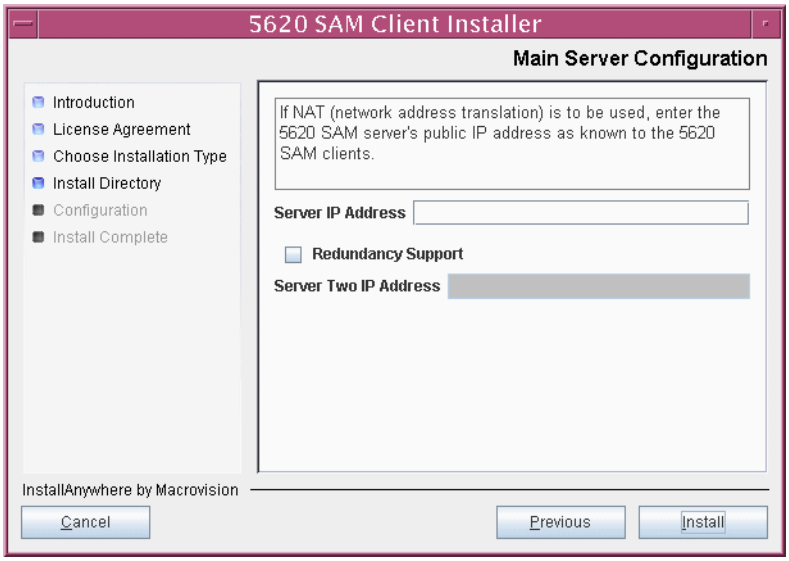
b Configure the 5620 SAM client for use with a redundant 5620 SAM server and database pair.

i Enable the “Redundancy Support” parameter shown in Figure 3-60.

ii Configure the “Server IP Address” parameter using the IP address that the client uses to reach the primary 5620 SAM server.

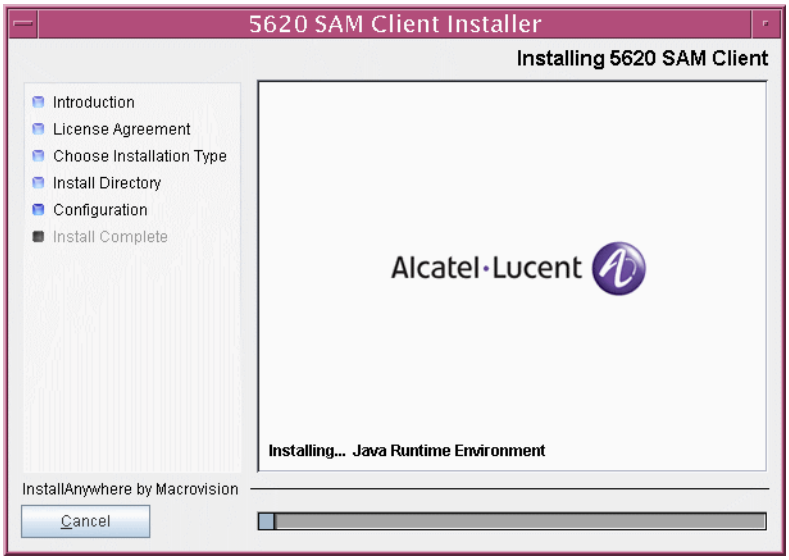
iii Configure the “Server Two IP Address” parameter using the IP address that the client uses to reach the standby 5620 SAM server.

Figure 3-60 Main Server Configuration



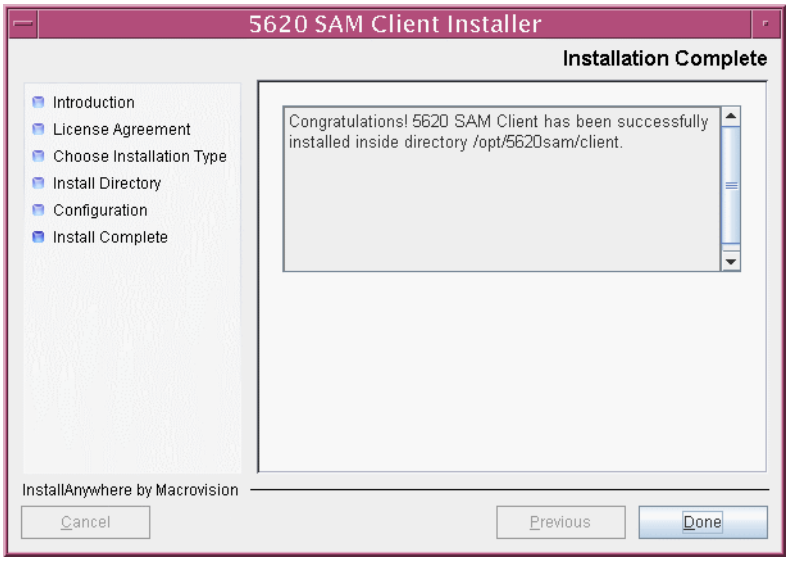
11 Click on the Install button to proceed with the installation of the auto-client update utility. The next panel displays installation progress, as shown in Figure 3-61.

Figure 3-61 Installing 5620 SAM Client



12 When the client installation is complete, as shown in Figure 3-62, click on the Done button to close the installer.

Figure 3-62 Installation Complete



Install 5620 SAM client software using auto-client update utility

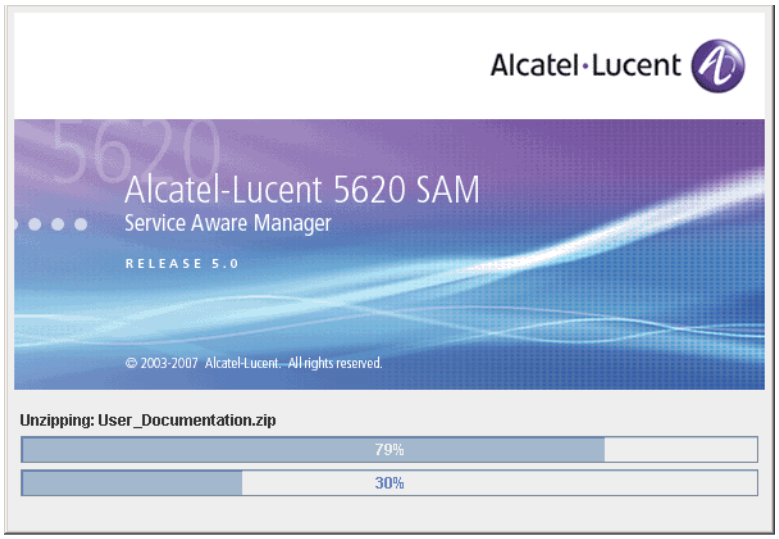
13 As the same user that installed the auto-client update utility, start the 5620 SAM auto-client update utility by entering the following at the CLI prompt:

```
# path/nms/bin/nmsclient.bash ↵
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

The utility detects the available client software on the 5620 SAM server, begins downloading files, and presents the panel shown in Figure 3-63. The panel displays the installation progress using separate indicators for the overall and current task progress.

Figure 3-63 Installation progress



When the installation is complete, the auto-client update utility closes and the newly installed 5620 SAM client opens.

14 Log in to the 5620 SAM client GUI to ensure that the client and server are communicating properly.

3.5 Workflow for redundant 5620 SAM system installation on Solaris

The following is an overview of the steps required to install a redundant 5620 SAM system on Solaris. A section heading in quotation marks refers to a section in Procedure 3-3.

1 Prepare the primary database station for the installation. See "Run Oracle pre-installation script for primary database" and "Set directory ownership for database installation" for more information.

2 Install the primary database. See "Install primary database" for more information.

3 Prepare the standby database station for the installation. See "Run Oracle pre-installation script for standby database" and "Set directory ownership for database installation" for more information.

4 Install the standby database. See "Install standby database" for more information.

5 Install the primary server. See "Install primary server" in Procedure 3-3 for more information.

6 Start the primary server. See "Start primary server" for more information.

7 Reinstantiate the primary database on the standby database station. See "Reinstantiate database on standby station" for more information.

8 Install the standby server. See "Install standby server" for more information.

9 Start the standby server. See "Start standby server" for more information.

10 Install one or more auxiliary servers, if required. See Procedure 3-5 for more information.

11 Install 5620 SAM clients as required. See "Install client" for more information.

12 Install a client delegate, if required. See Procedure 3-4 for more information.

3.6 Redundant 5620 SAM system installation on Solaris procedures

Procedure 3-3 describes how to install the 5620 SAM server and database components in a redundant 5620 SAM system on Solaris. Procedure 2-3 describes how to install the 5620 SAM client component on Windows. Procedure 3-2 describes how to install the 5620 SAM client component on Solaris or Linux.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 3-3 To install a redundant 5620 SAM system on Solaris

Perform this procedure to install the 5620 SAM software on the primary and standby main server and database components, and one or more client components, in a redundant 5620 SAM system.

The operator who performs this procedure requires the following user-account privileges:

On the server stations:

- root or root-equivalent

On the database stations:

- root or root-equivalent
- Oracle management

Note — The Oracle management user account is created on each database station during this procedure.

Ensure that you record all information that you specify during this procedure, for example, directories, passwords, and IP addresses.

Run Oracle pre-installation script for primary database

1 Before you perform a 5620 SAM database installation on Solaris, you must run the Oracle10g_PreInstall.sh script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in as a user with root-equivalent privileges on the station that is to be the primary database station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

4 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh install ↵
```

5 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — If you receive a "failed to create group" message, ensure that NIS is disabled and re-run the pre-installation script. For more information about NIS, contact your Alcatel-Lucent customer support representative.

6 After the script execution completes, enter the following at the CLI prompt to reboot the primary database station:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

Before database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

7 After the primary database station reboots, log in to the primary database station as a user with root-equivalent privileges.

8 Open a console window.

9 Enter the following at the CLI prompt to change the current directory to /opt:

```
# cd /opt ↵
```

10 Enter the following at the CLI prompt to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where
user is the user name value from step 5, typically oracle
group_name is the group name value from step 5, typically dba

11 Navigate to the 5620sam directory below the /opt directory. Enter the following at the CLI prompt:

```
# cd 5620sam ↵
```

12 Confirm that the Oracle management user home directory has the correct user and group ownerships. Enter the following at the CLI prompt:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 9 to 12. Do not proceed unless the output is as shown, or the installation fails.

```
drwxr-xr-x   2 user     group        512 Apr 11 11:15 directory
```

where
user is the user name value specified in step 5, typically oracle
group is the group name value specified in step 5, typically dba
directory is the Oracle management user home directory name value specified in step 5, typically /opt/5620sam/oracle10r2

Install primary database

13 Log in as a user with root-equivalent privileges on the station that is to be the primary database station.

14 Open a console window.

15 Switch to the Oracle management user created by the pre-installation script. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

16 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

17 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

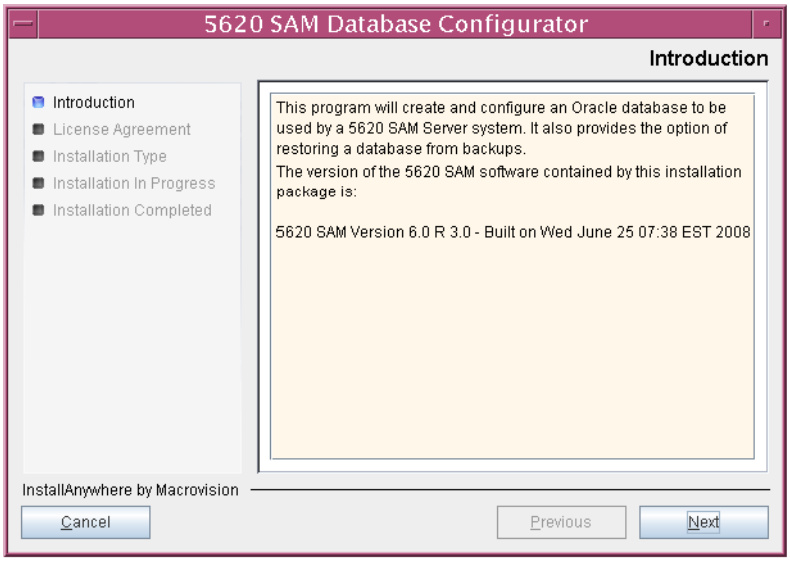
where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 3-64 appears and the installation process begins.

Figure 3-64 5620 SAM Installer

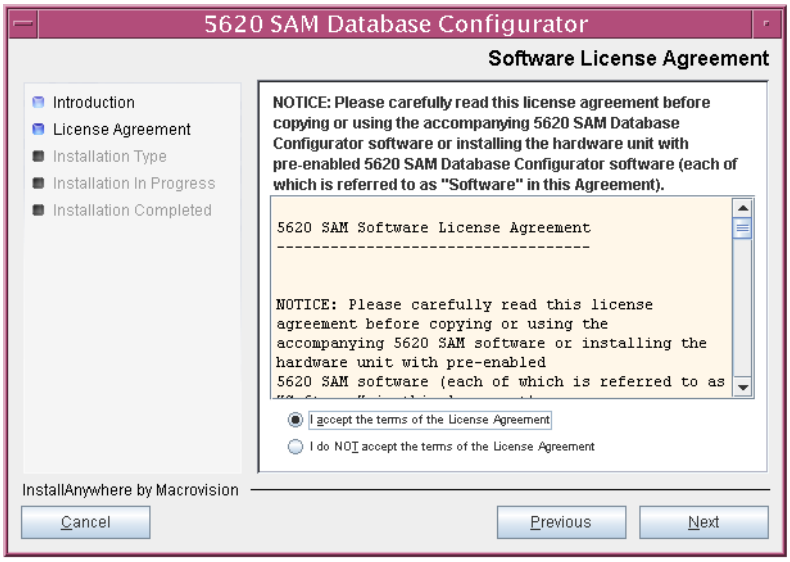
18 The 5620 SAM installer opens, as shown in Figure 3-65. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-65 Introduction



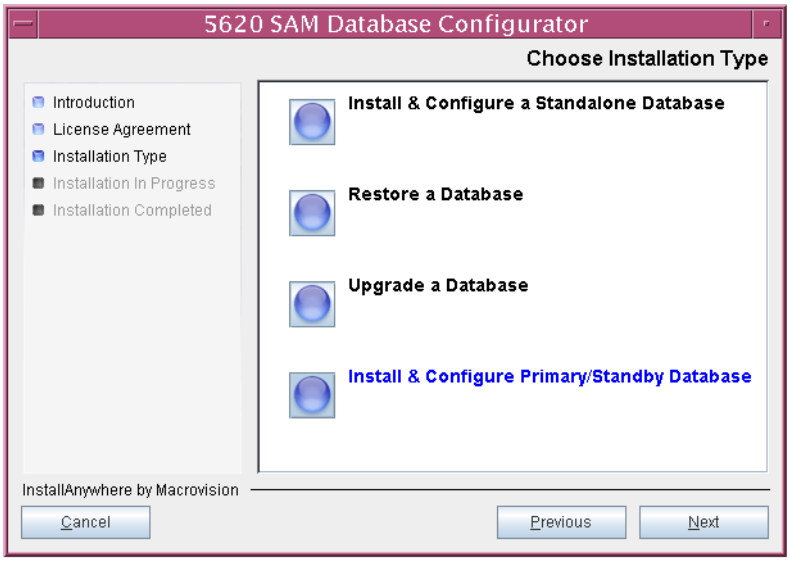
19 Review and accept the terms of the license agreement shown in Figure 3-66, then click on the Next button.

Figure 3-66 Software License Agreement



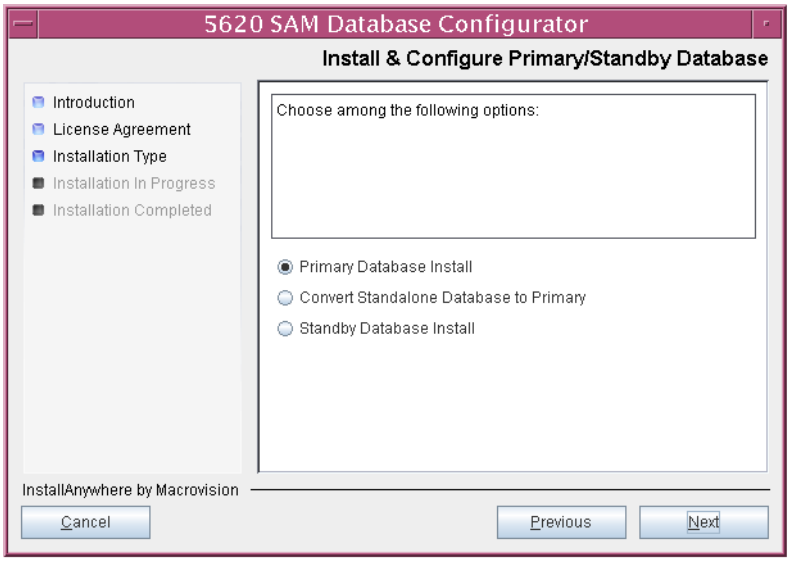
20 Select Install & Configure Primary/Standby Database, as shown in Figure 3-67, then click on the Next button.

Figure 3-67 Choose Installation Type



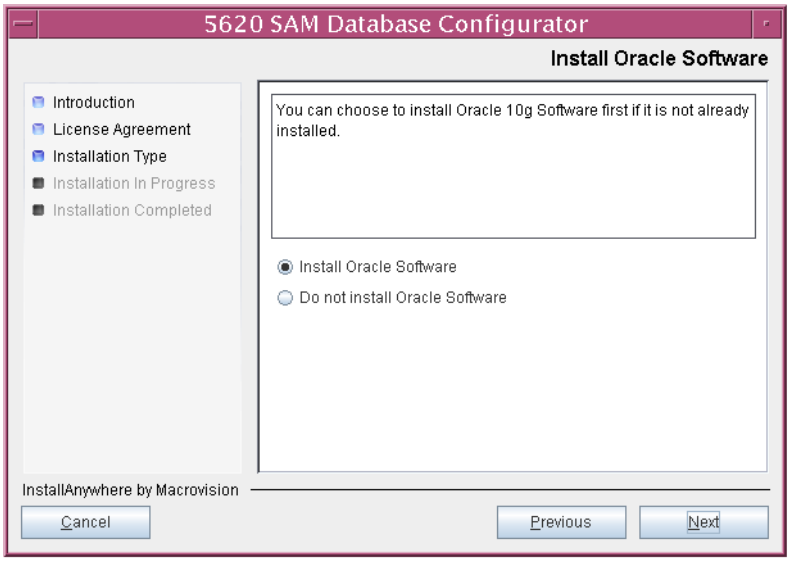
21 Select Primary Database Install, as shown in Figure 3-68, then click on the Next button.

Figure 3-68 Install & Configure Primary/Standby Database



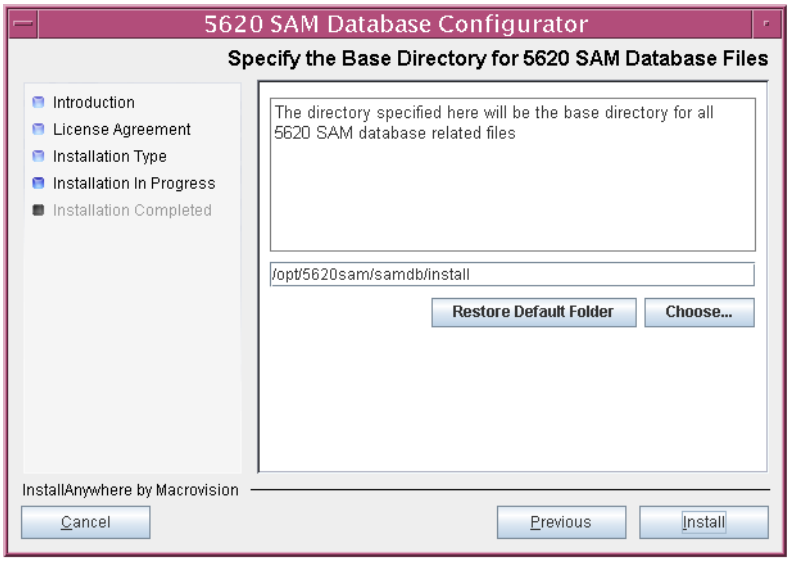
22 Select Install Oracle Software, as shown in Figure 3-69, then click on the Next button.

Figure 3-69 Install Oracle software



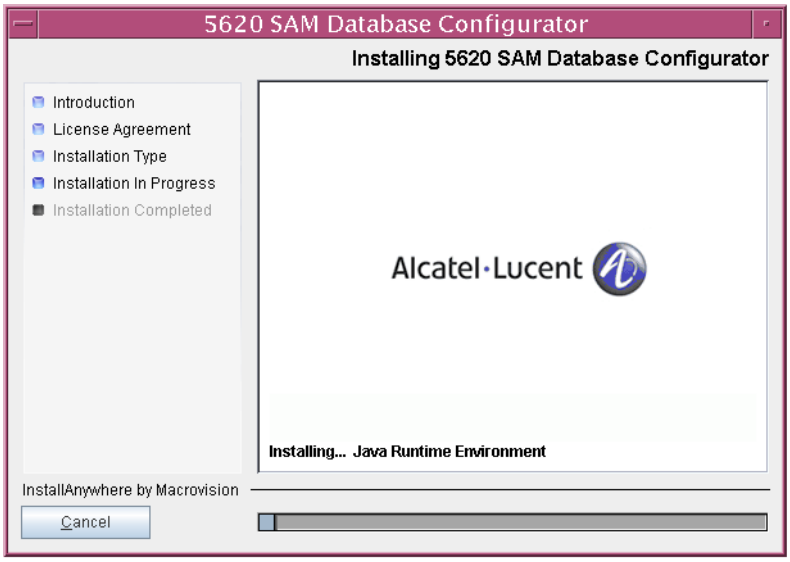
23 Specify a base directory in which to install the primary 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 3-70. You are prompted to create the directory if it does not exist. Click on the Install button to proceed.

Figure 3-70 Specify the Base Directory for 5620 SAM Database Files



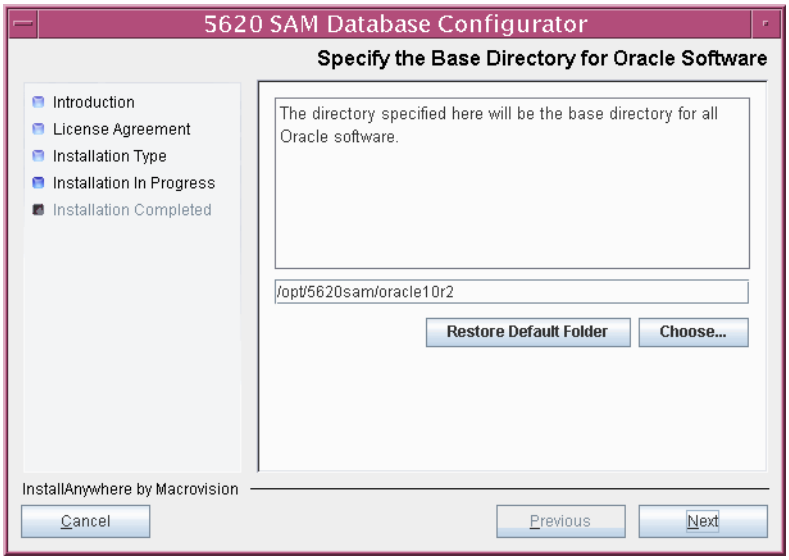
The next panel displays database software installation progress, as shown in Figure 3-71.

Figure 3-71 Installing 5620 SAM Database Configurator



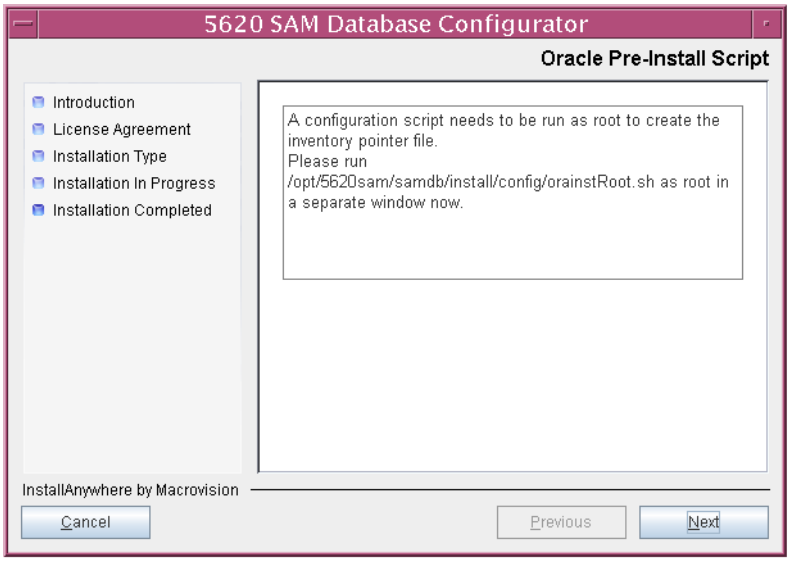
24 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 3-72. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-72 Specify the Base Directory for Oracle Software



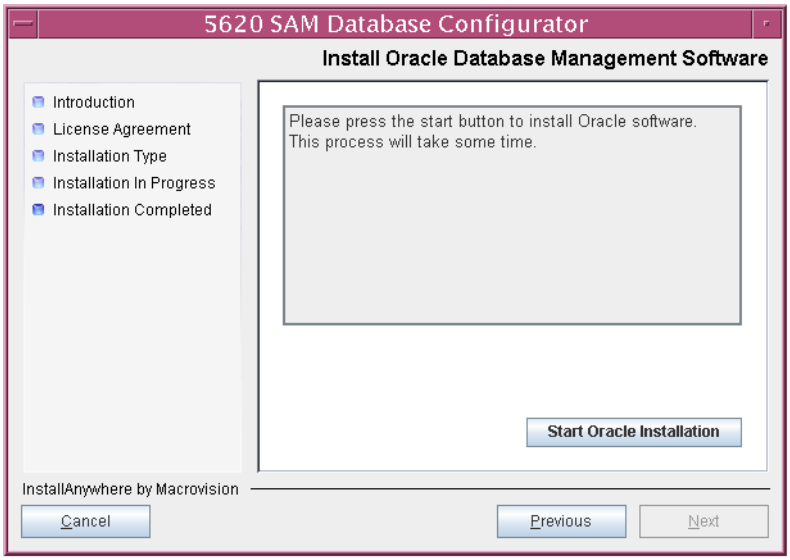
25 You are prompted to run an Oracle pre-installation script, as shown in Figure 3-73. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

Figure 3-73 Oracle Pre-Install Script



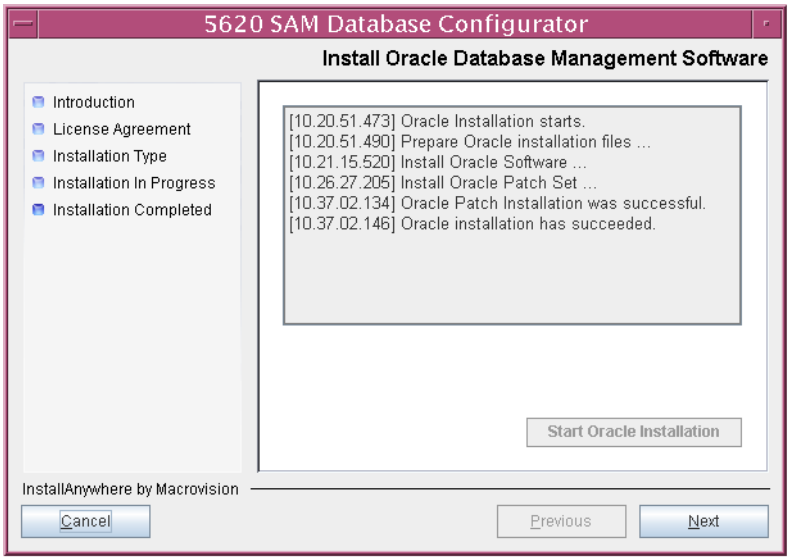
26 You are prompted to begin Oracle installation, as shown in Figure 3-74. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 3-74 Install Oracle Database Management Software



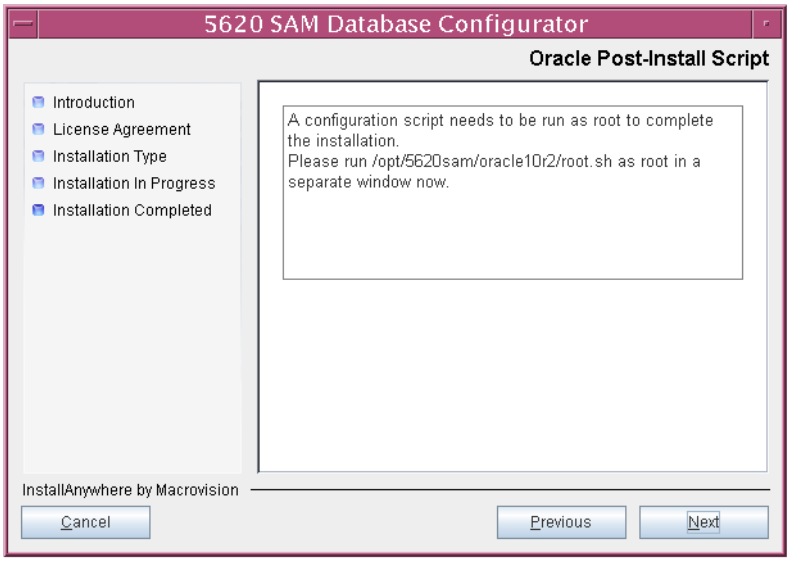
27 Oracle installation details are displayed as the installation progresses. When Oracle installation is complete, as shown in Figure 3-75, click on the Next button.

Figure 3-75 Install Oracle Database Management Software



28 You are prompted to run an Oracle post-installation script, as shown in Figure 3-76. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

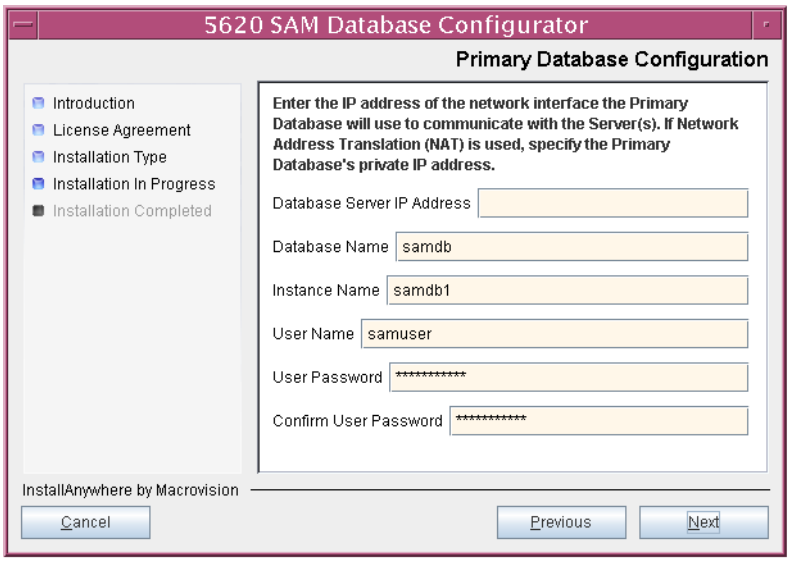
Figure 3-76 Oracle Post-Install Script



29 Configure the following primary database installation parameters shown in Figure 3-77, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb1)
- User Name (typically samuser)
- User Password

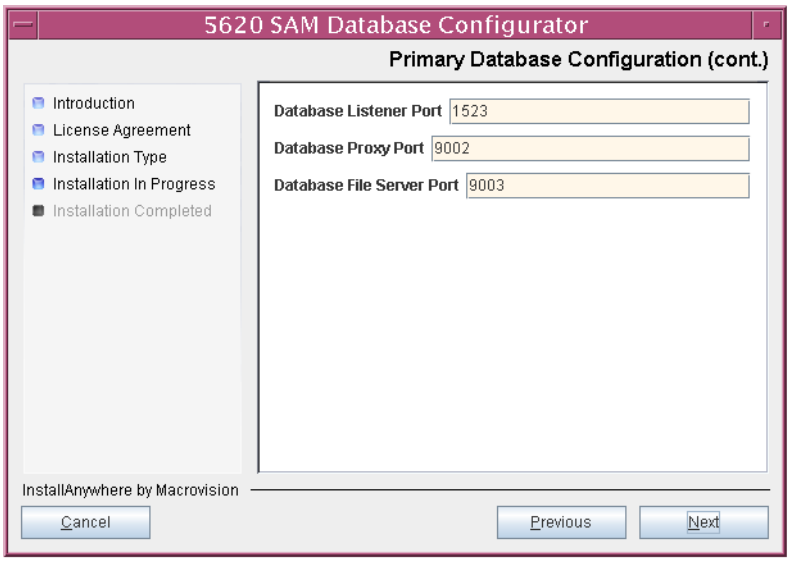
Figure 3-77 Primary Database Configuration



30 Configure the following parameters shown in Figure 3-78, record the information for use later in the procedure, then click on the Next button.

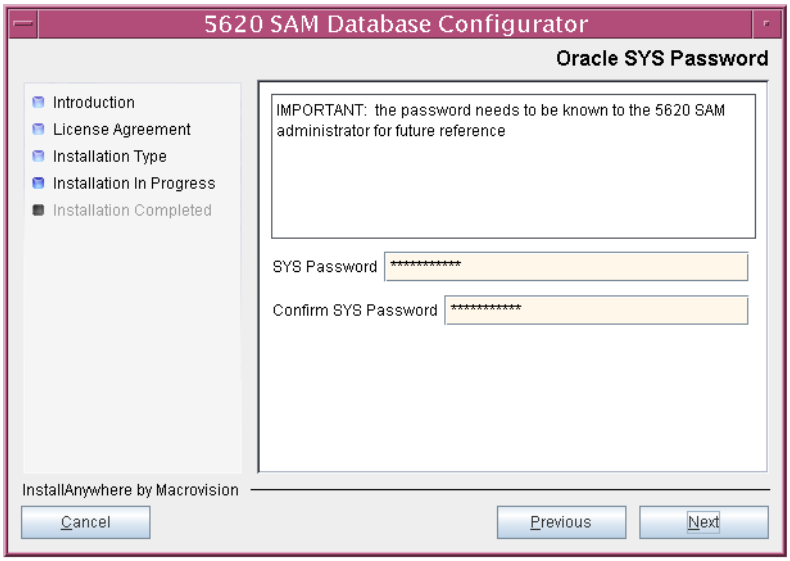
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 3-78 Primary Database Configuration (continued)



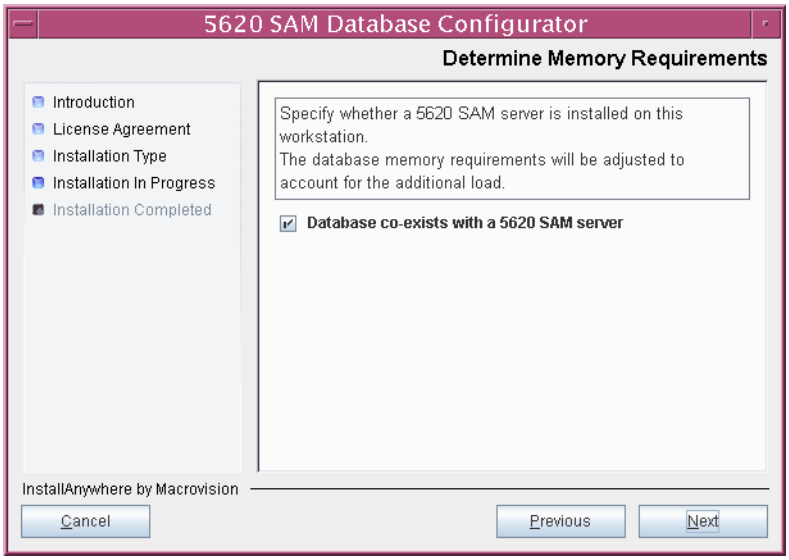
31 Enter and confirm the Oracle SYS password, as shown in Figure 3-79, then click on the Next button.

Figure 3-79 Oracle SYS Password



32 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 3-80. Click on the Next button to continue.

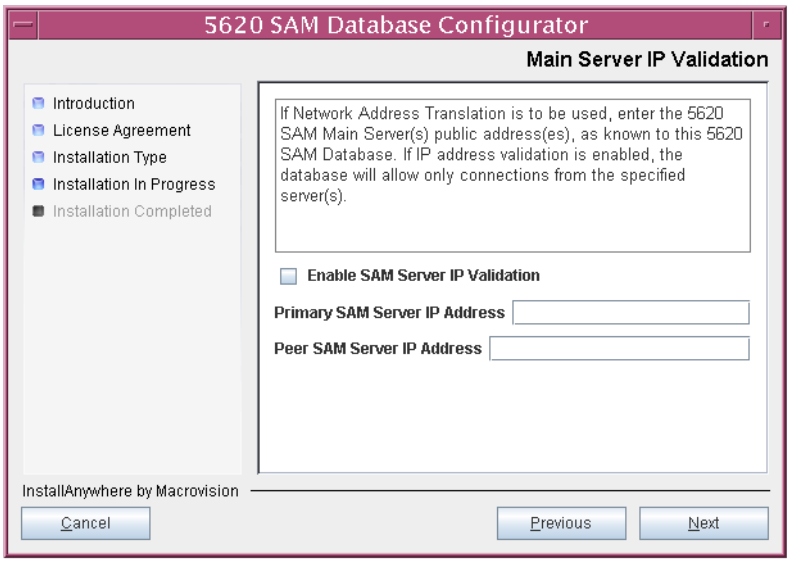
Figure 3-80 Determine Memory Requirements



33 If the "Enable SAM Server IP Address Validation" parameter shown in Figure 3-81 is enabled, only the specified servers can connect to the database. If required, enable it and configure the following parameters. Click on the Next button to continue.

- Primary SAM Server IP Address
- Peer SAM Server IP Address

Figure 3-81 Main Server IP Validation



34 If the “Enable SAM Server IP Address Validation” parameter shown in step 33 is enabled, perform one of the following actions.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Click on the Add button shown in Figure 3-82. The form shown in Figure 3-83 opens.

Figure 3-82 Auxiliary Server IP Validation

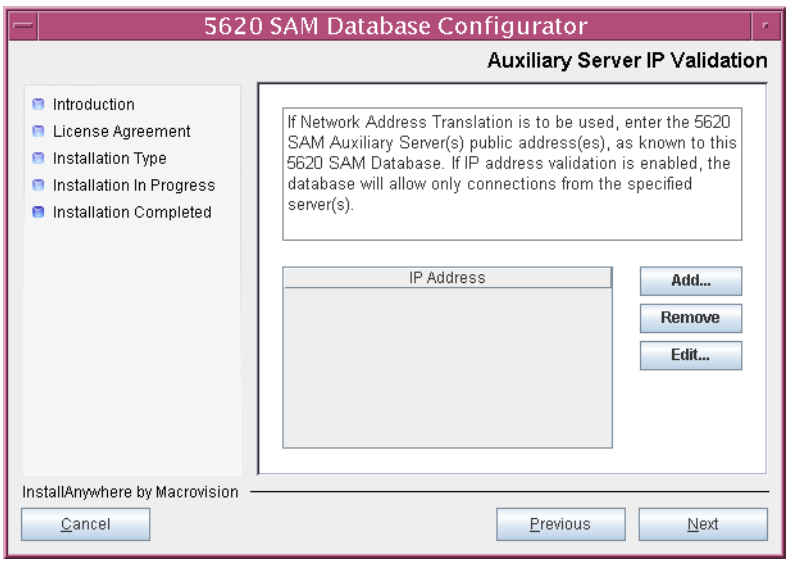
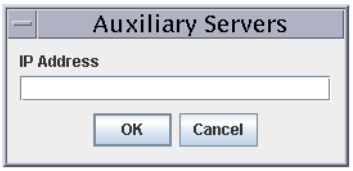


Figure 3-83 Auxiliary Servers



ii Enter the IP Address of the auxiliary server.

iii Click on the OK button to save the information and close the form.

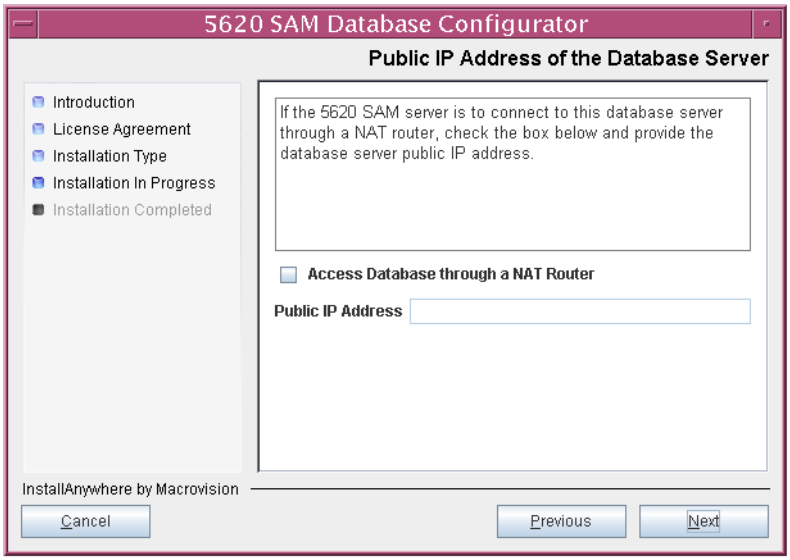
iv Repeat steps 34 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

35 Click on the Next button to continue.

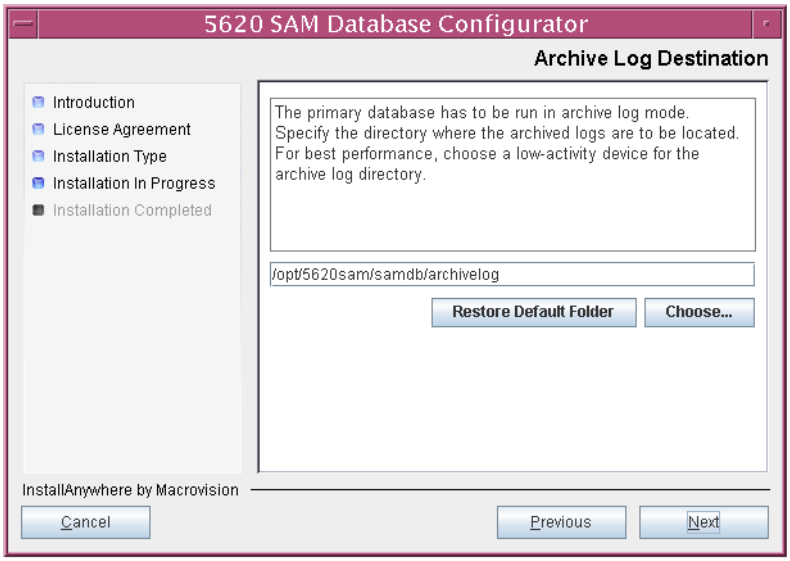
36 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 3-84 and enter the public IP address of the database. Click on the Next button to continue.

Figure 3-84 Public IP Address of the Database Server



37 Specify an archive log destination (typically /opt/5620sam/samdb/archivelog) as shown in Figure 3-85. The archive log destination must be the same for the primary and standby databases. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

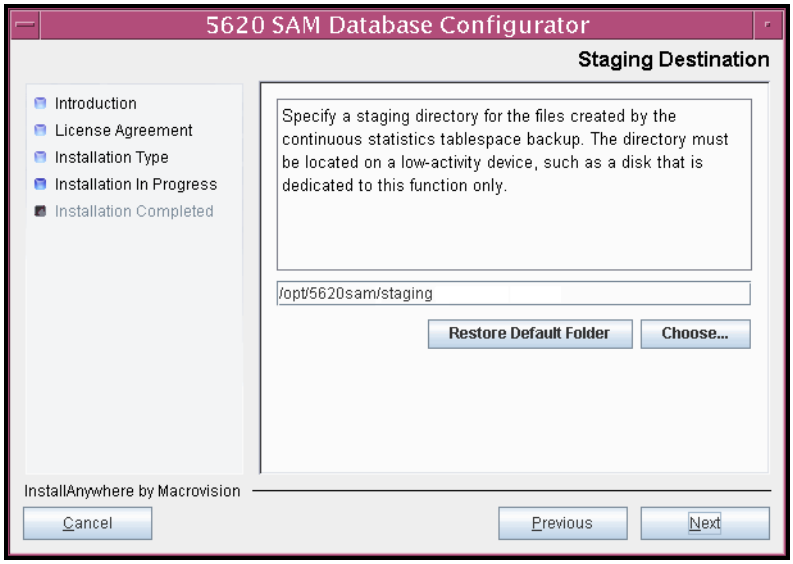
Figure 3-85 Archive Log Destination



38 Specify a directory for the continuous statistics tablespace backup, as shown in Figure 3-86. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

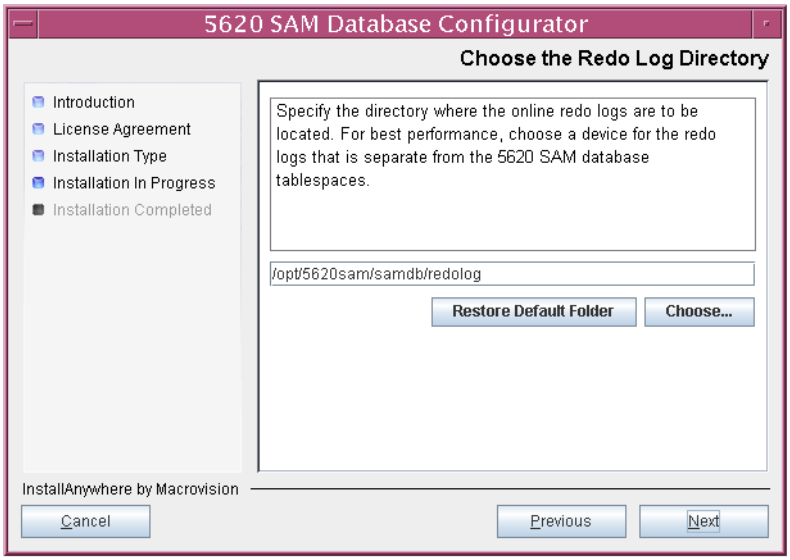
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/dbbackup partition, such as /opt/5620sam/dbbackup/staging.

Figure 3-86 Staging Destination



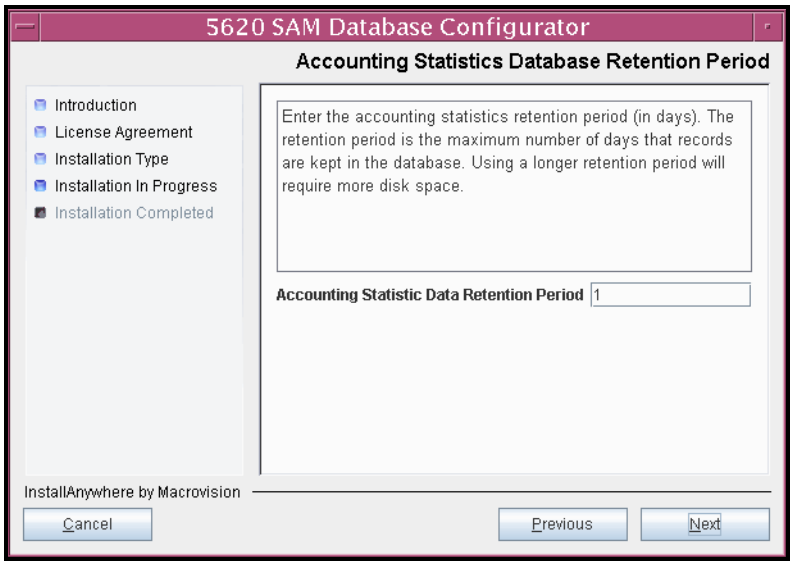
39 Specify a directory for the Redo logs (typically /opt/5620sam/samdb/redolog), as shown in Figure 3-87. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-87 Choose the Redo Log Directory



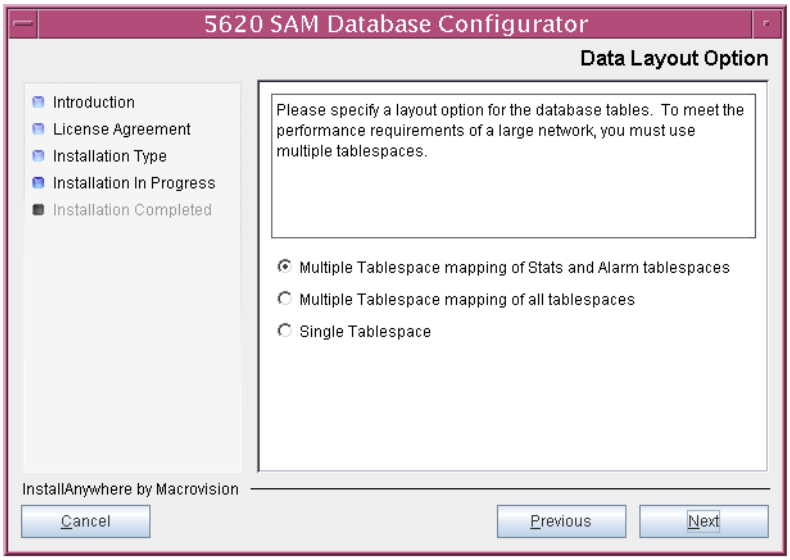
40 Configure the "Accounting Statistic Database Retention Period" parameter shown in Figure 3-88. Click on the Next button to continue.

Figure 3-88 Accounting Statistics Database Retention Period



41 Choose a data layout option, as shown in Figure 3-89, then click on the Next button. Contact your Alcatel-Lucent support representative for information about data layout options.

Figure 3-89 Data Layout Option



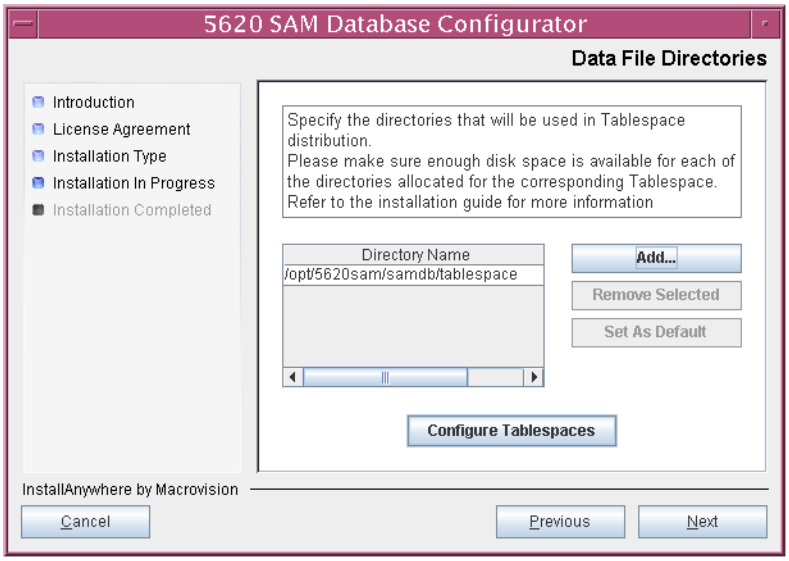
42 Choose the tablespace directories.

i Click on the Add button shown in Figure 3-90 and use the browser form that opens to specify a directory for association with a tablespace.

ii If the option chosen in step 41 is Single Tablespace, go to step 44.

iii Repeat step 42 i as required to specify additional tablespace directories.

Figure 3-90 Data File Directories



43 Associate tablespaces with the directories specified in step 42.

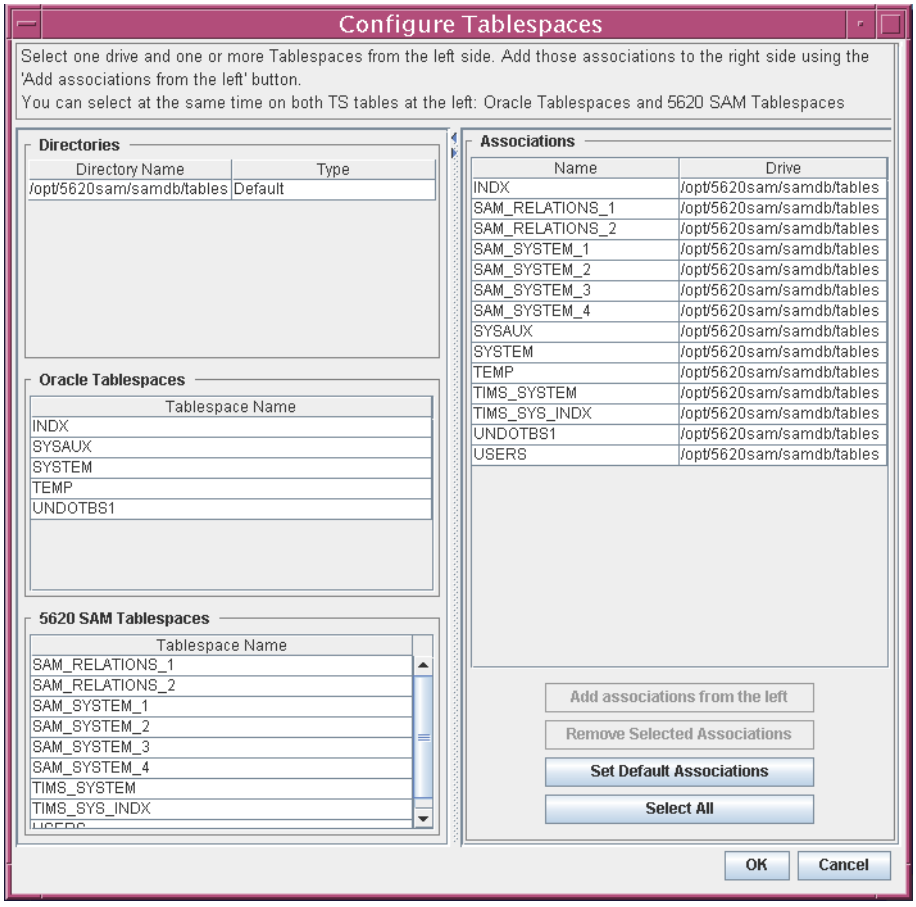
i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 3-91.

Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 3-90 is again displayed.

Figure 3-91 Configure Tablespaces

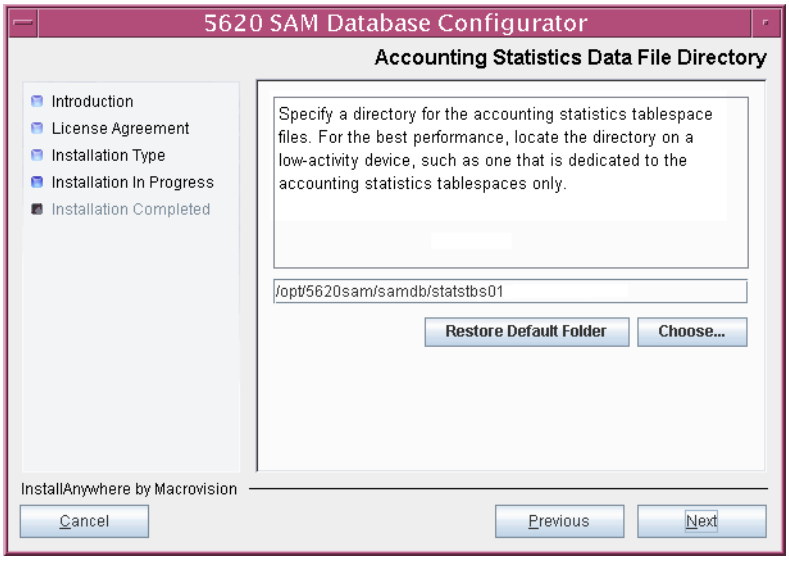


44 Click on the Next button to continue.

45 Specify a directory for the accounting statistics tablespace files, as shown in Figure 3-92. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/samdb/tablespace partition, such as /opt/5620sam/samdb/tablespace/statstbs01.

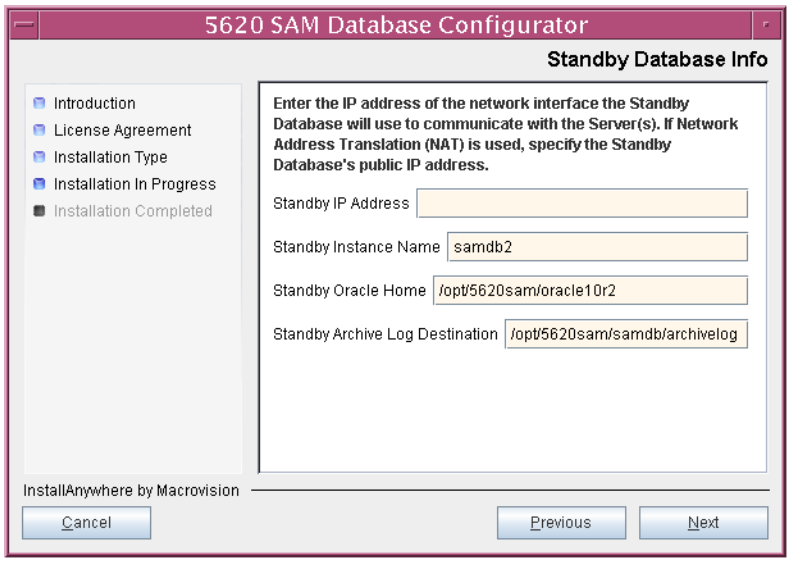
Figure 3-92 Accounting Statistics Data File Directory



46 Configure the following parameters shown in Figure 3-93, record the information for use later in the procedure, then click on the Next button:

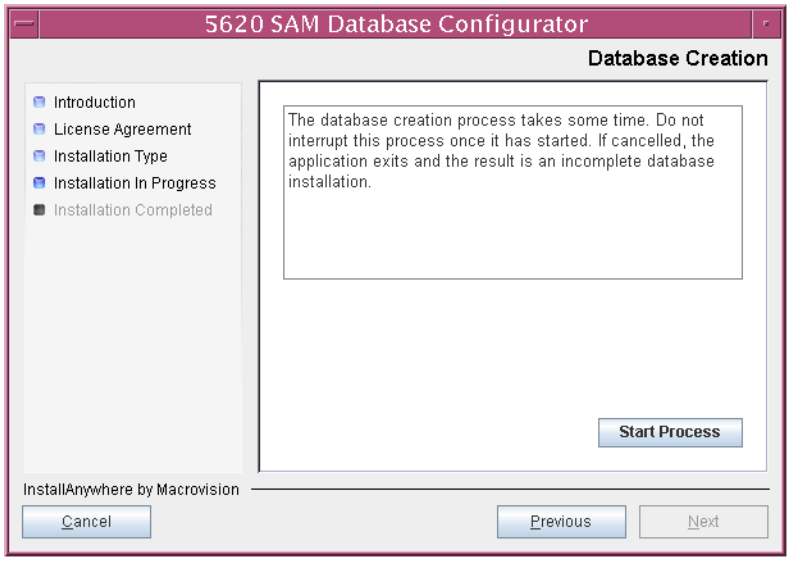
- Standby IP Address
- Standby Instance Name (typically samdb2)
- Standby Oracle Home (typically /opt/5620sam/oracle10r2)
- Standby Archive Log Destination (typically /opt/5620sam/samdb/archivelog)

Figure 3-93 Standby Database Info



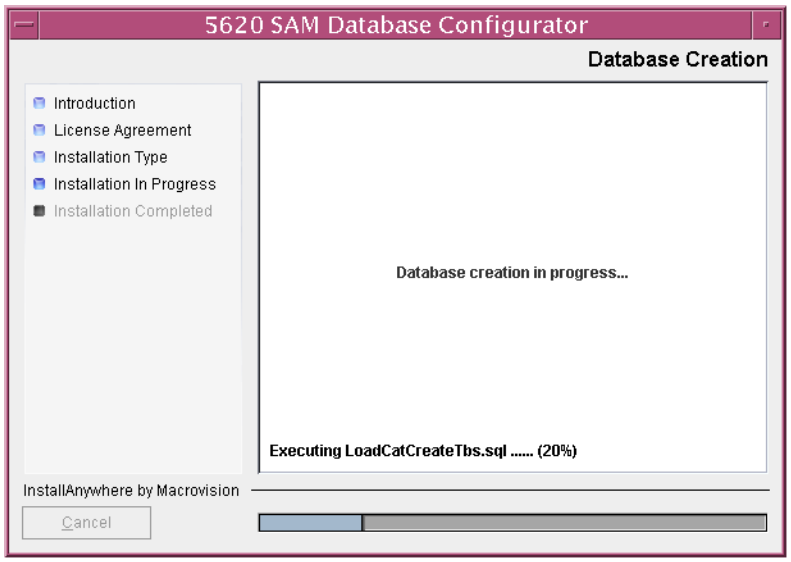
47 You are prompted to begin primary database creation, as shown in Figure 3-94. Database creation can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 3-94 Database Creation



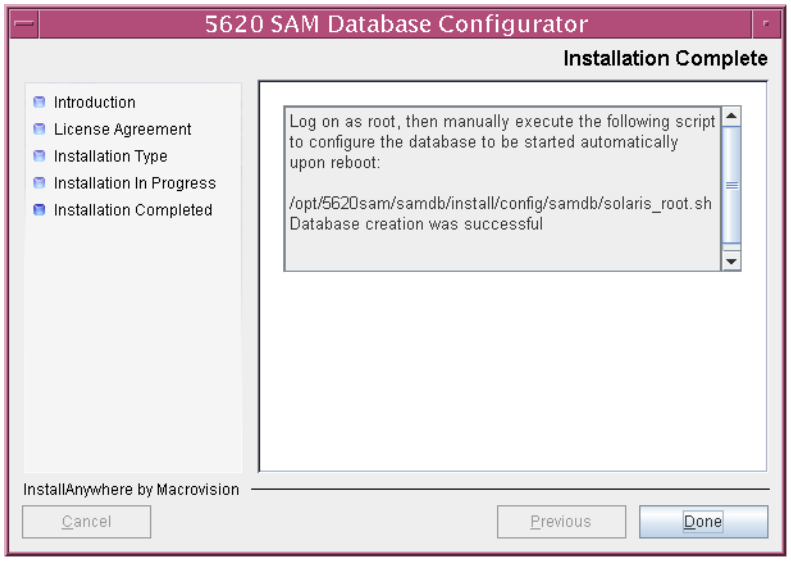
The next panel displays database creation progress, as shown in Figure 3-95.

Figure 3-95 Database Creation



48 When the database installation is complete, as shown in Figure 3-96, you are prompted to run a script that enables automatic database startup during system startup. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 3-96 Installation Complete



The next section of the procedure describes the installation of the standby 5620 SAM database. The standby database must be installed on a station other than the one on which the primary database is installed. Database installation requires root-equivalent privileges.

Run Oracle pre-installation script for standby database

49 Before you perform a 5620 SAM database installation on Solaris, you must run the Oracle10g_PreInstall.sh script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Log in as a user with root-equivalent privileges on the station that is to be the standby database station.

50 Open a console window.

51 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

52 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh install ↵
```

53 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — If you receive a "failed to create group" message, ensure that NIS is disabled and re-run the pre-installation script. For more information about NIS, contact your Alcatel-Lucent customer support representative.

54 After the script execution completes, enter the following at the CLI prompt to reboot the standby database station:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

Before database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database. The next section of the procedure describes how to configure the directory ownership.

Set directory ownership for database installation

55 After the standby database station reboots, log in to the standby database station as a user with root-equivalent privileges.

56 Open a console window.

57 Enter the following at the CLI prompt to change the current directory to /opt:

```
# cd /opt ↵
```

58 Enter the following at the CLI prompt to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where
user is the user name value from step 5, typically oracle
group_name is the group name value from step 5, typically dba

59 Navigate to the 5620sam directory below the /opt directory. Enter the following at the CLI prompt:

```
# cd 5620sam ↵
```

60 Confirm that the Oracle management user home directory has the correct user and group ownerships. Enter the following at the CLI prompt:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 9 to 12. Do not proceed unless the output is as shown, or the installation fails.

```
drwxr-xr-x   2 user     group        512 Apr 11 11:15 directory
```

where
user is the user name value specified in step 5, typically oracle
group is the group name value specified in step 5, typically dba
directory is the Oracle management user home directory name value specified in step 5, typically /opt/5620sam/oracle10r2

Install standby database

61 Log in as a user with root-equivalent privileges on the station that is to be the standby database station.

62 Open a console window.

63 Switch to the Oracle management user created by the pre-installation script. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

64 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

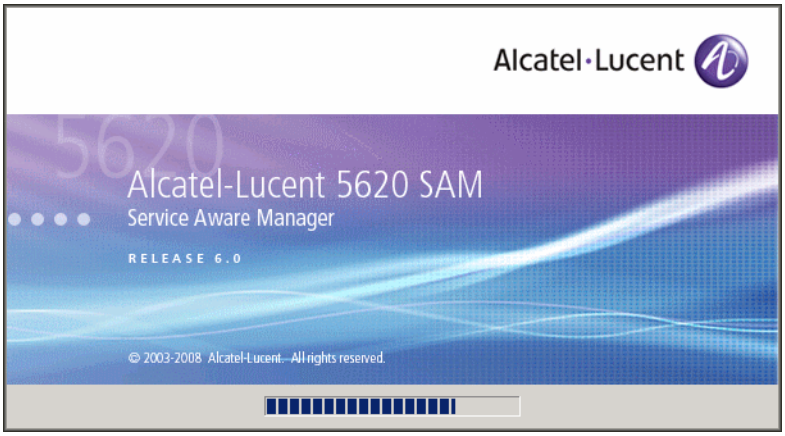
65 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

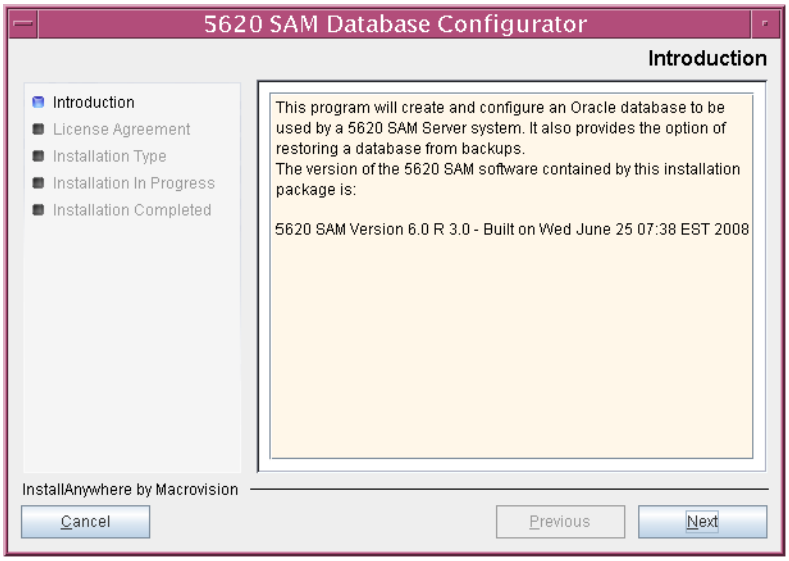
The splash screen in Figure 3-97 appears and the installation process begins.

Figure 3-97 5620 SAM Installer



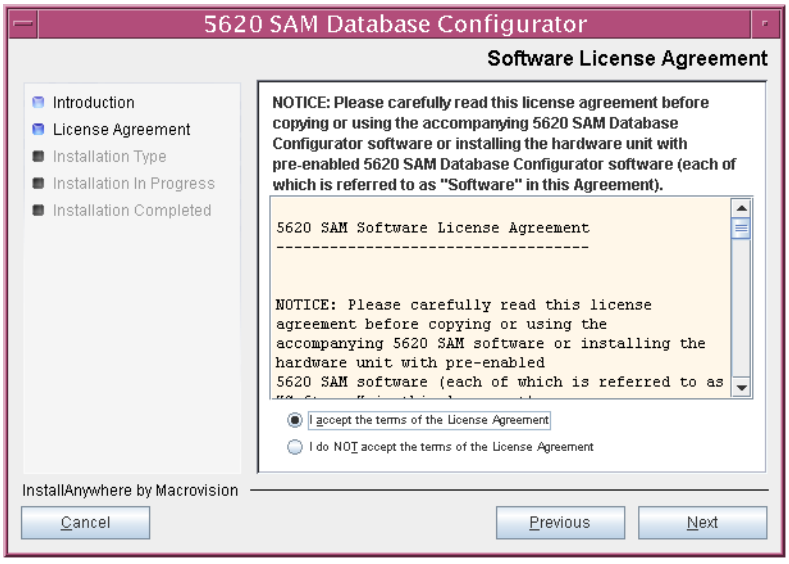
66 The 5620 SAM installer opens, as shown in Figure 3-98. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-98 Introduction



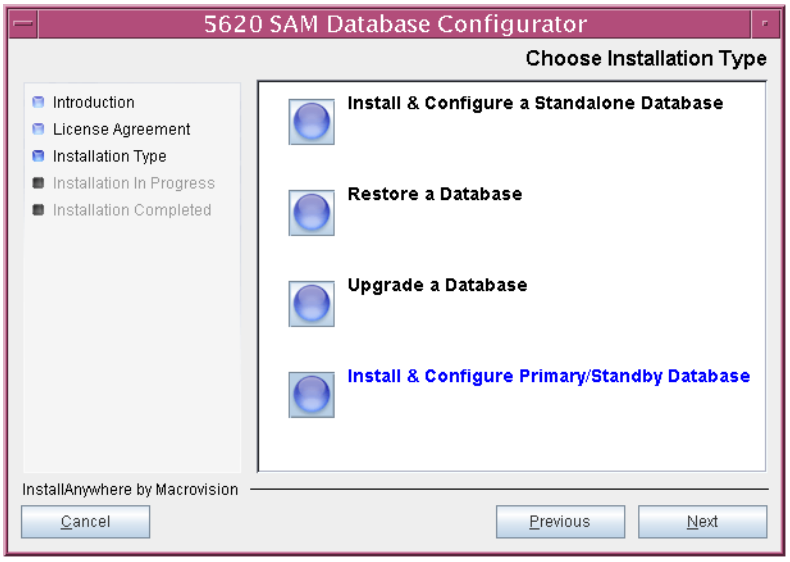
67 Review and accept the terms of the license agreement shown in Figure 3-99, then click on the Next button.

Figure 3-99 Software License Agreement



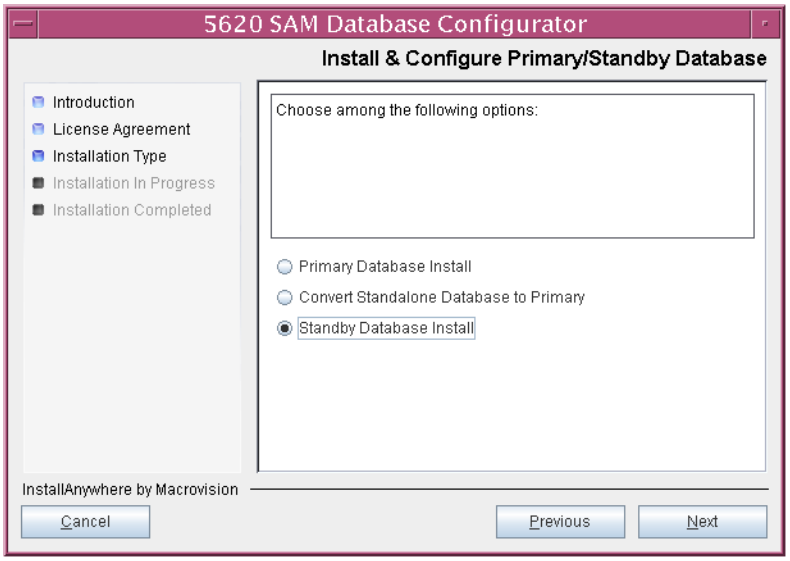
68 Select Install & Configure Primary/Standby Database, as shown in Figure 3-100, then click on the Next button.

Figure 3-100 Choose Installation Type



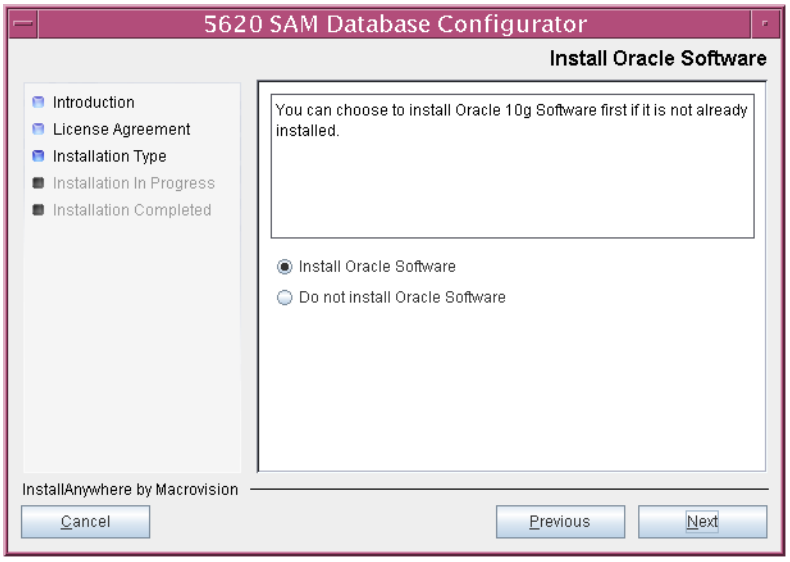
69 Select Standby Database Install, as shown in Figure 3-101, then click on the Next button.

Figure 3-101 Install & Configure Primary/Standby Database



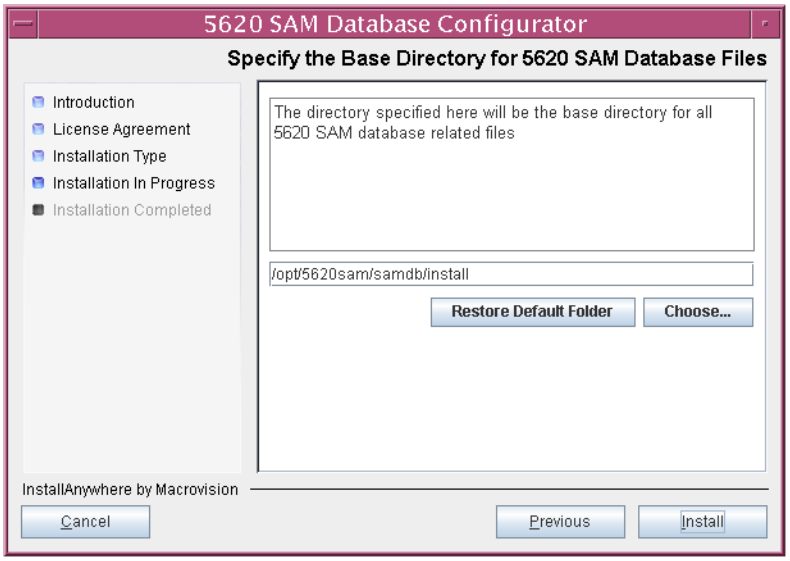
70 Select Install Oracle Software, as shown in Figure 3-102, then click on the Next button.

Figure 3-102 Install Oracle Software



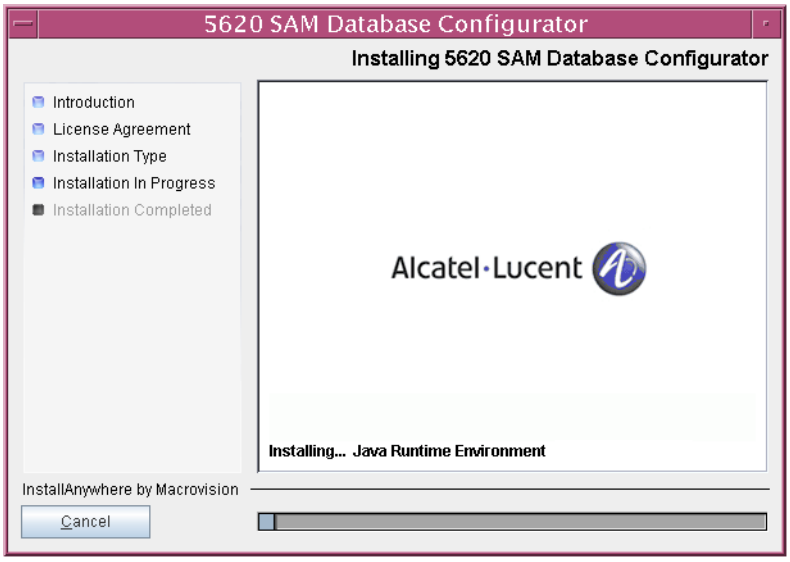
71 Specify a base directory in which to install the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 3-103. You are prompted to create the directory if it does not exist. Click on the Install button to proceed.

Figure 3-103 Specify the Base Directory for 5620 SAM Database Files



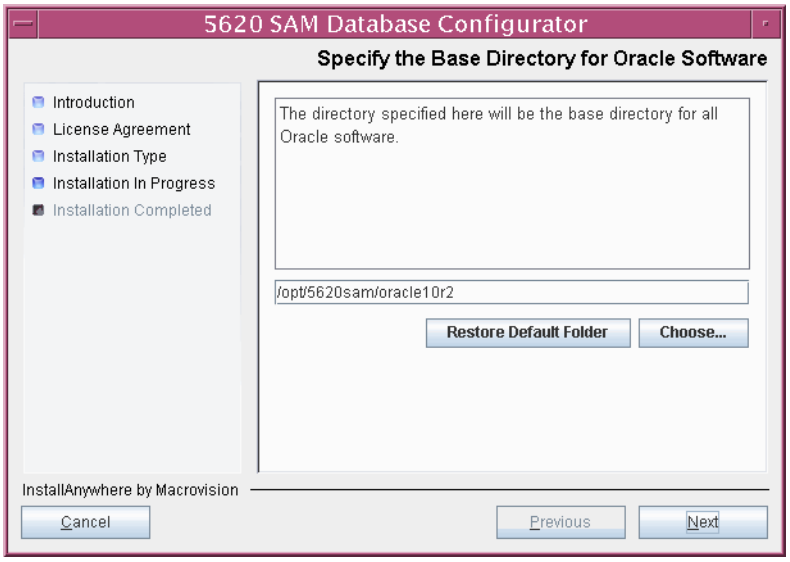
The next panel displays database software installation progress, as shown in Figure 3-104.

Figure 3-104 Installing 5620 SAM Database Configurator



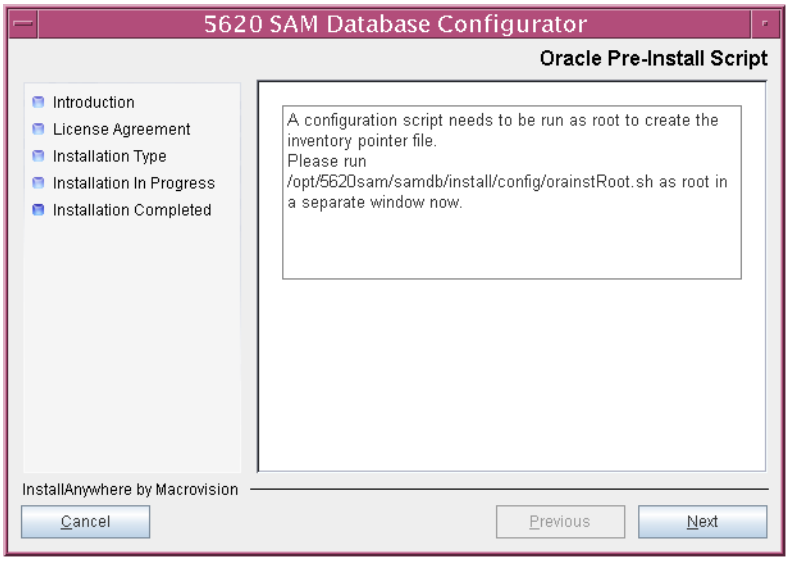
72 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 3-105. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-105 Specify the Base Directory for Oracle Software



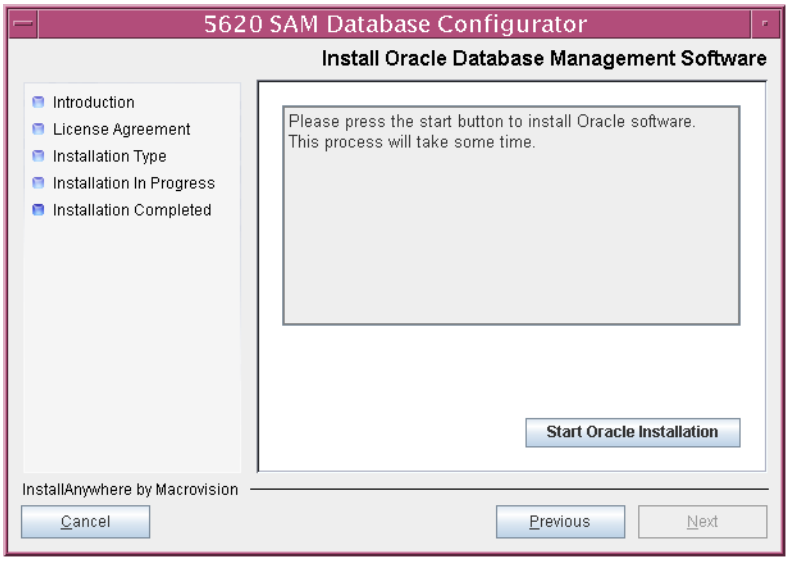
73 You are prompted to run an Oracle pre-installation script, as shown in Figure 3-106. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

Figure 3-106 Oracle Pre-Install Script



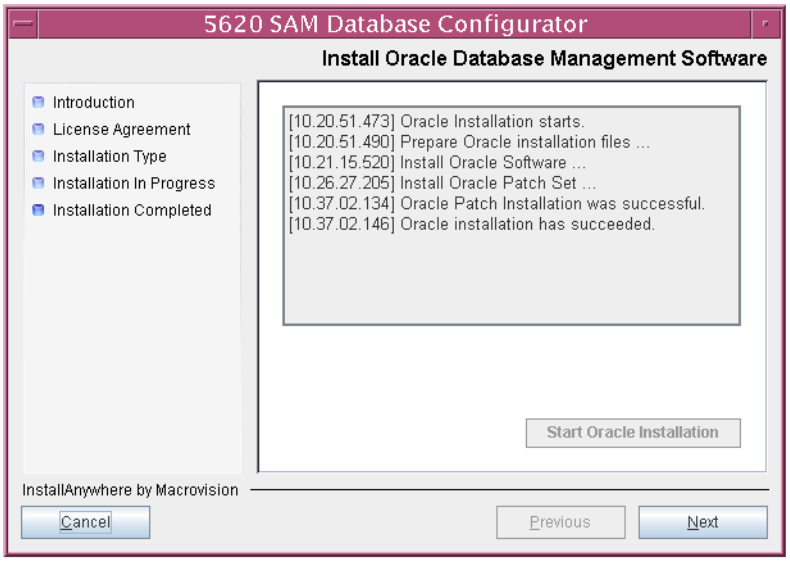
74 You are prompted to begin the Oracle installation, as shown in Figure 3-107. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 3-107 Install Oracle Database Management Software



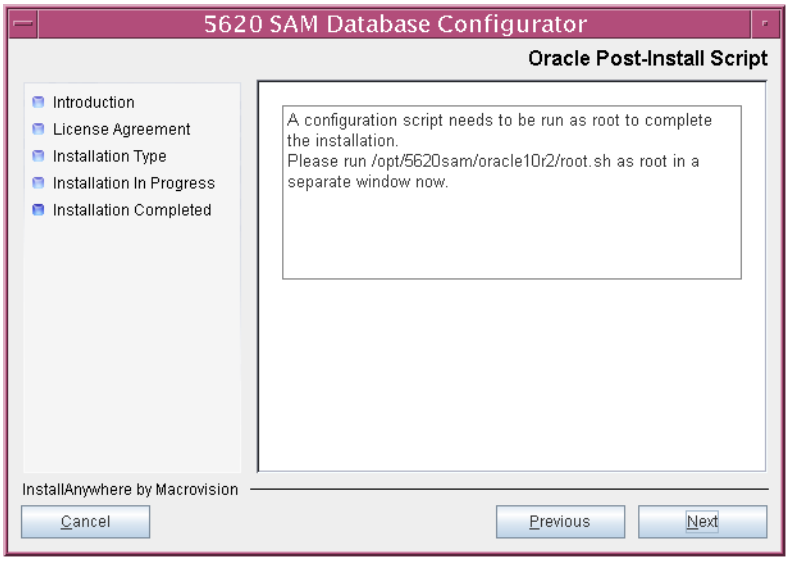
75 Oracle installation details are displayed as the installation progresses, as shown in Figure 3-108. When installation is complete, click on the Next button.

Figure 3-108 Install Oracle Database Management Software



76 You are prompted to run an Oracle post-installation script, as shown in Figure 3-109. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

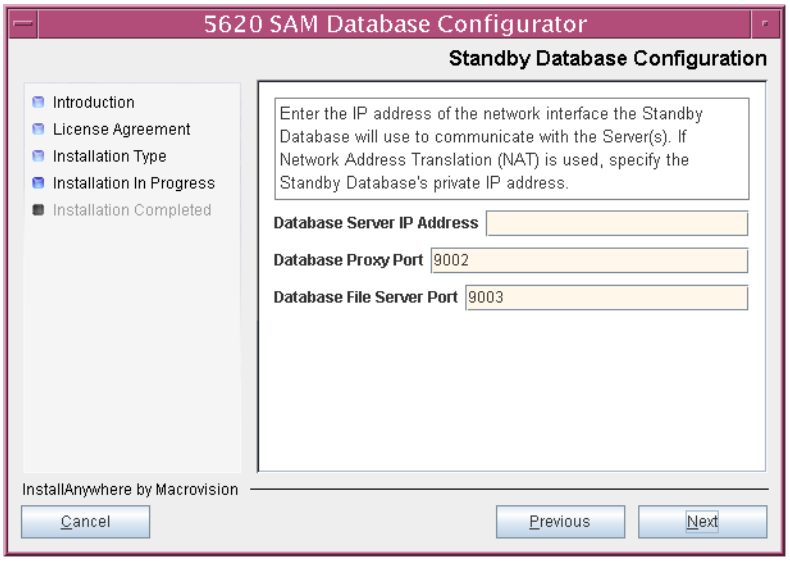
Figure 3-109 Oracle Post-Install Script



77 Configure the parameters shown in Figure 3-110, then click on the Next button to continue.

- Database Server IP Address
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

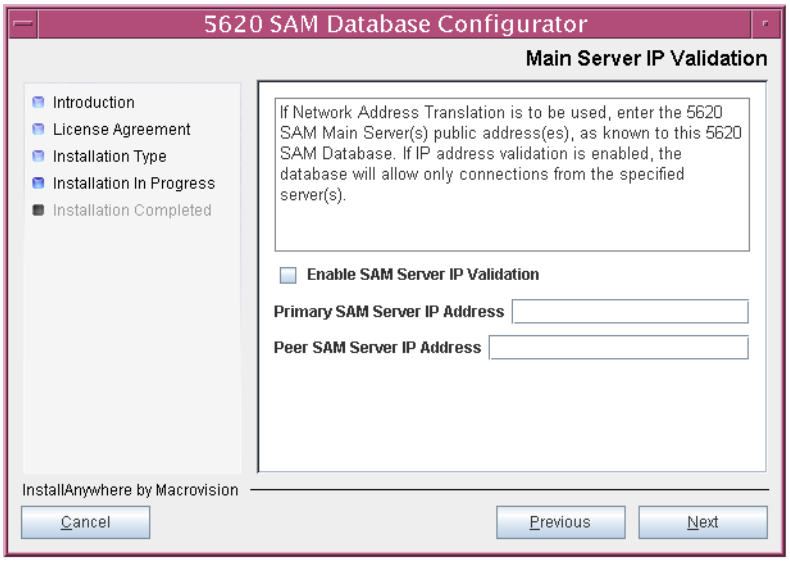
Figure 3-110 Standby Database Configuration



78 If IP-address validation is required, enable the “Enable SAM Server IP Validation” parameter and configure the following parameters shown in Figure 3-111. Click on the Next button to continue.

- Primary SAM Server IP Address
- Peer SAM Server IP Address

Figure 3-111 Main Server IP Validation



79 If the “Enable SAM Server IP Validation” parameter in step 78 is enabled, perform one of the following actions.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Click on the Add button shown in Figure 3-112. The form shown in Figure 3-113 opens.

Figure 3-112 Auxiliary Server IP Validation

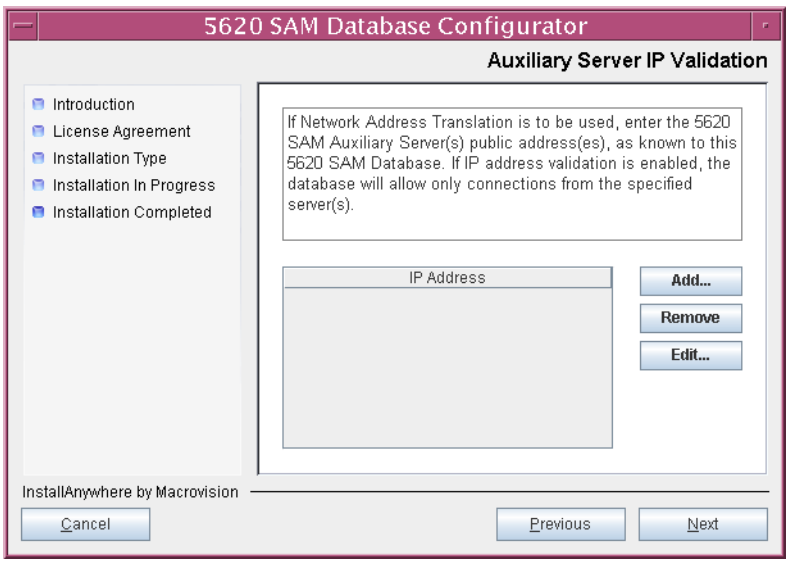
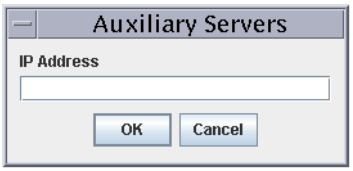


Figure 3-113 Auxiliary Servers



ii Enter the IP Address of the auxiliary server.

iii Click on the OK button to save the information and close the form.

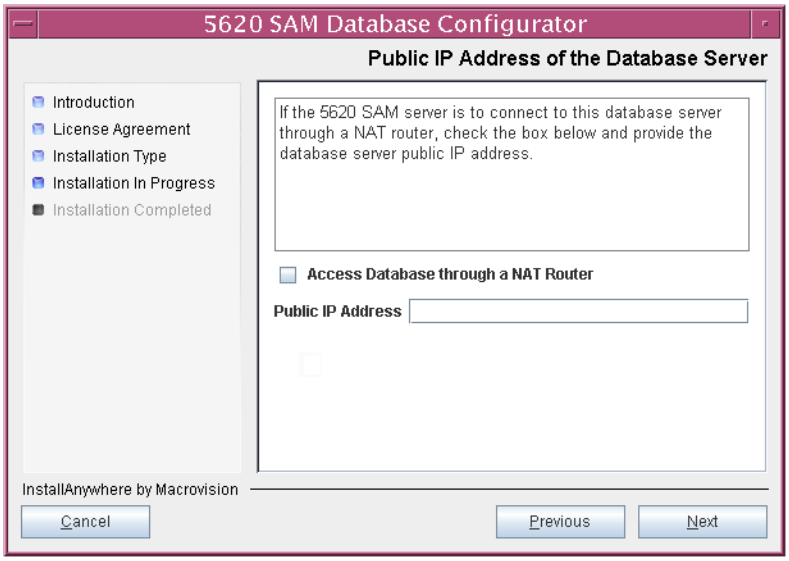
iv Repeat steps 79 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

80 Click on the Next button to continue.

81 If NAT is used between the 5620 SAM server and database, enable the “Access Database through a NAT Router” parameter shown in Figure 3-114 and enter the public IP address of the database. Click on the Next button to continue.

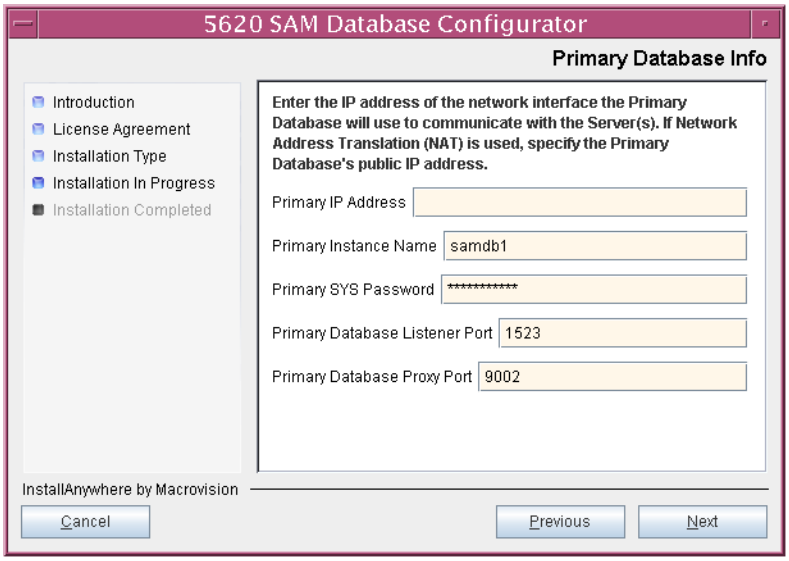
Figure 3-114 Public IP Address of the Database Server



82 Configure the following parameters, shown in Figure 3-115, using the recorded values from the primary database installation. Click on the Next button to continue.

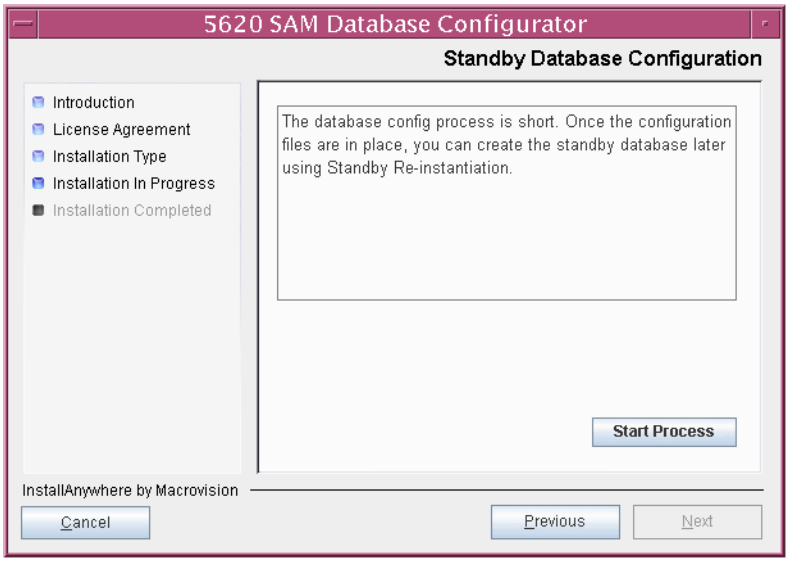
- Primary IP Address
- Primary Instance Name (typically samdb1)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 3-115 Primary Database Info



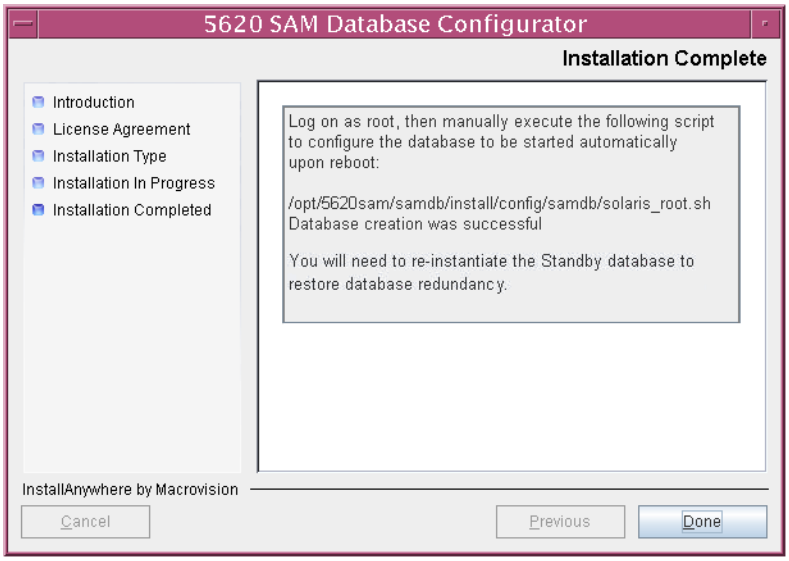
83 You are prompted to begin standby database creation, as shown in Figure 3-116. Click on the Start Process button to proceed.

Figure 3-116 Standby Database Configuration



84 When the database installation is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 3-117. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 3-117 Installation Complete



The next section of the procedure describes the installation of the primary 5620 SAM server. You can install the primary server on the same station as the primary database or on another station. Server installation requires root-equivalent privileges.

Install primary server

85 Log in as a user with root-equivalent privileges on the station that is to be the primary server station.

86 Open a console window.

87 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

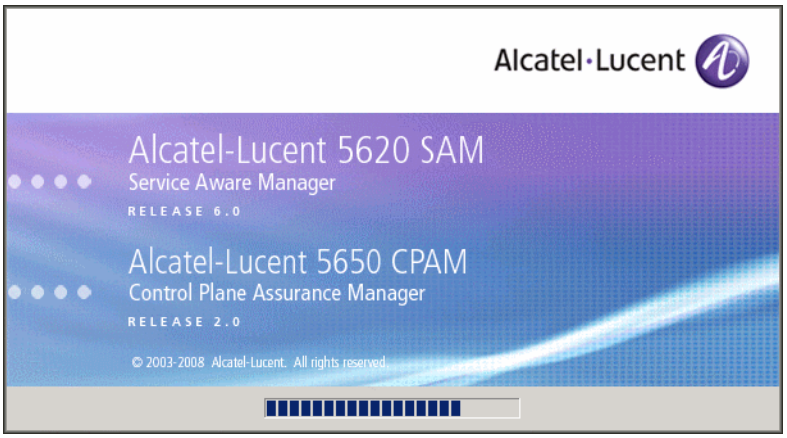
88 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

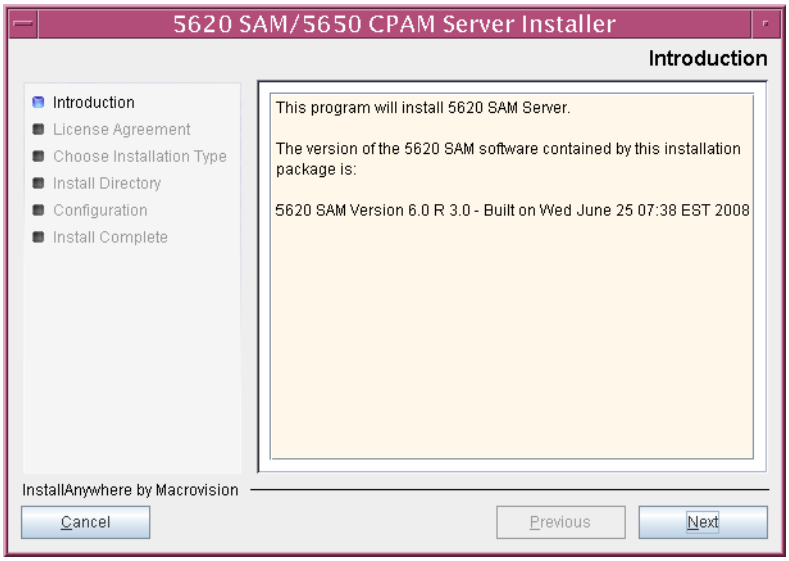
The splash screen in Figure 3-118 appears and the installation process begins.

Figure 3-118 5620 SAM Installer



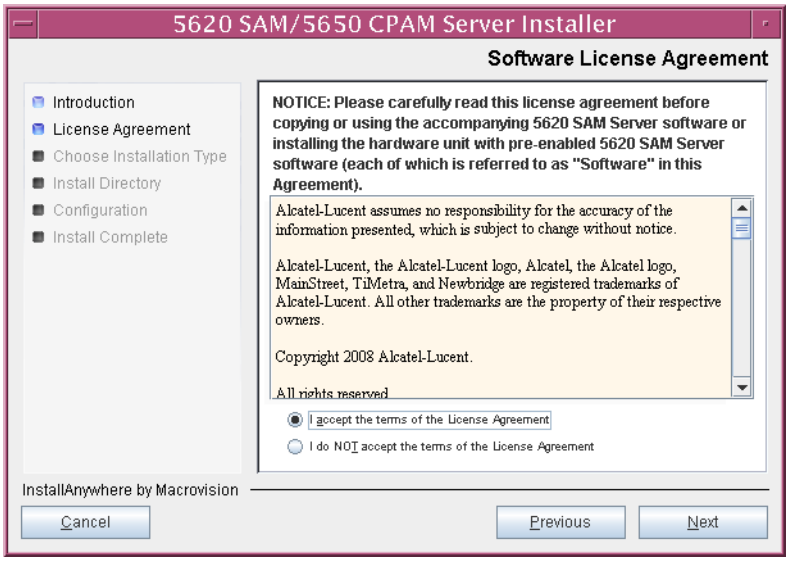
89 The 5620 SAM installer opens, as shown in Figure 3-119. The left pane indicates the installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-119 Introduction



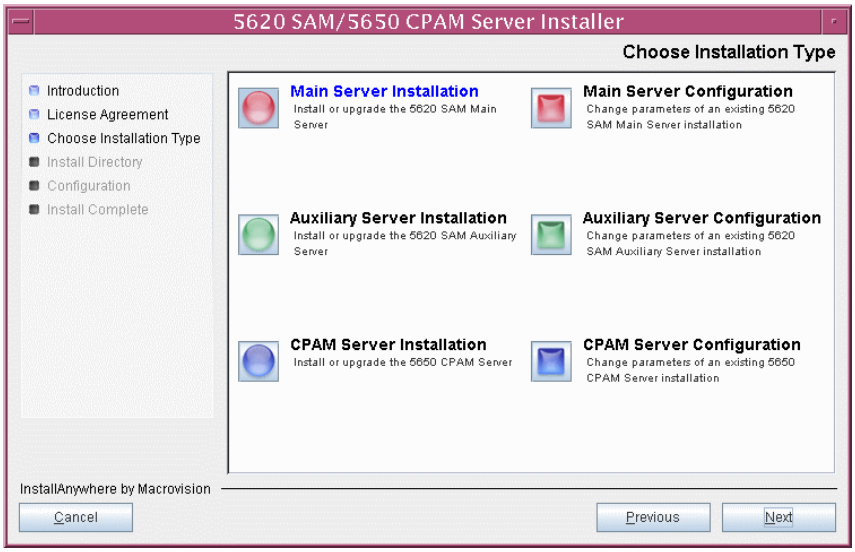
90 Review and accept the terms of the license agreement shown in Figure 3-120, then click on the Next button.

Figure 3-120 Software License Agreement



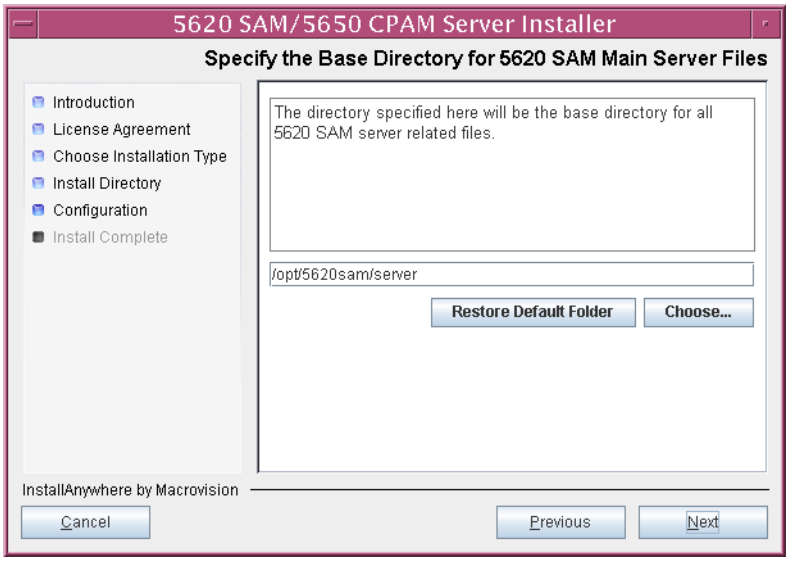
91 Select Main Server Installation, as shown in Figure 3-121, then click on the Next button.

Figure 3-121 Choose Installation Type



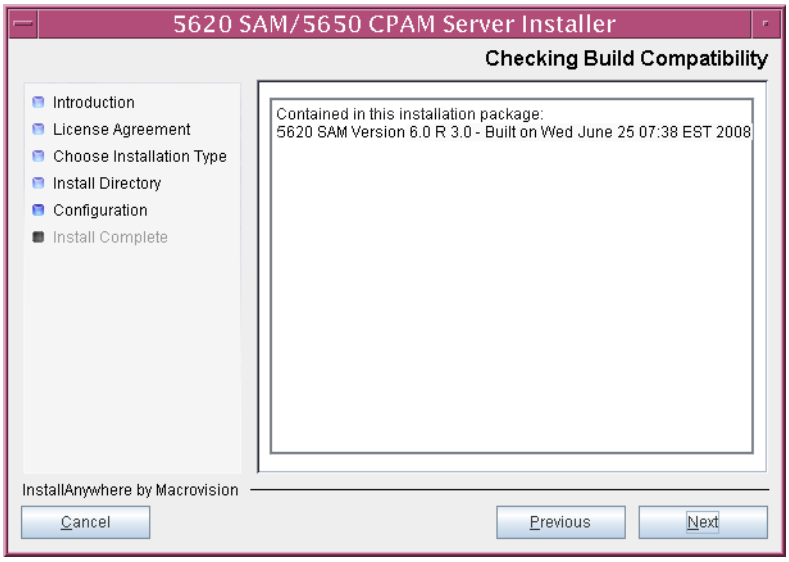
92 Specify a base directory in which to install the primary 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 3-122. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-122 Specify the Base Directory for 5620 SAM Main Server Files



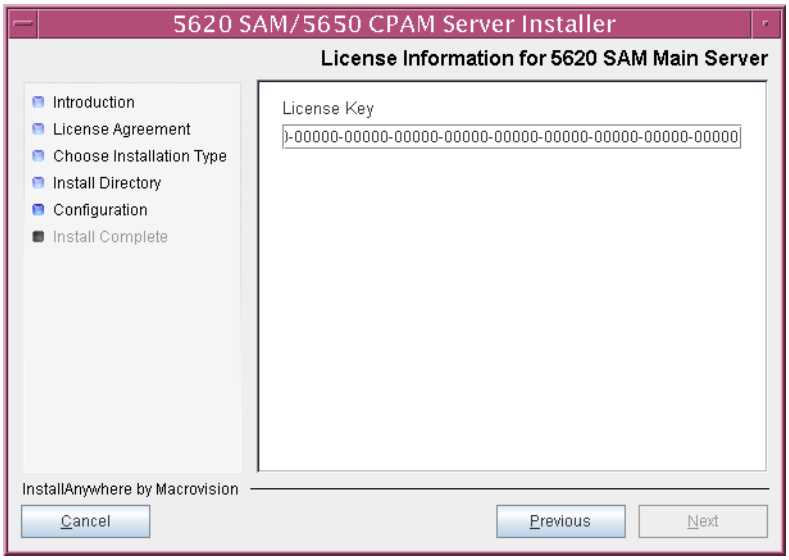
93 As shown in Figure 3-123, the installer displays the version of the 5620 SAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 3-123 Checking Build Compatibility



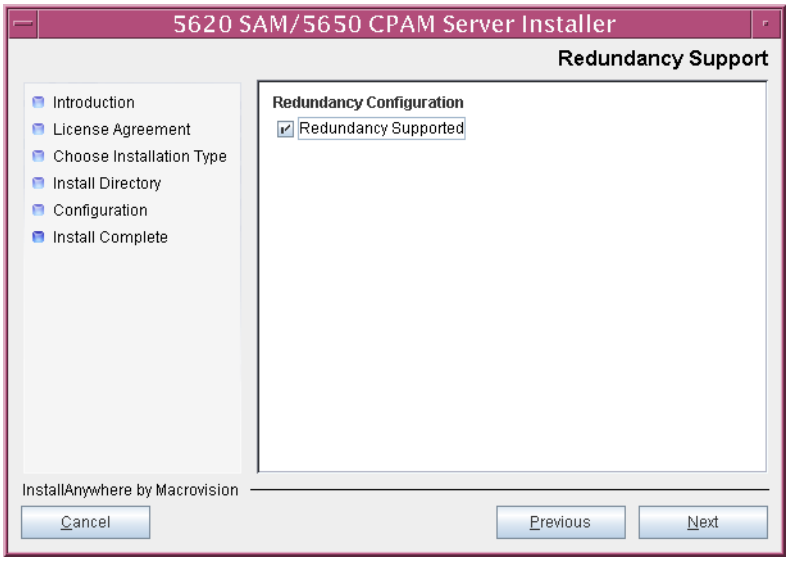
94 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-124. Click on the Next button to continue.

Figure 3-124 License information for 5620 SAM Main Server



95 Enable the “Redundancy Supported” parameter, as shown in Figure 3-125, then click on the Next button.

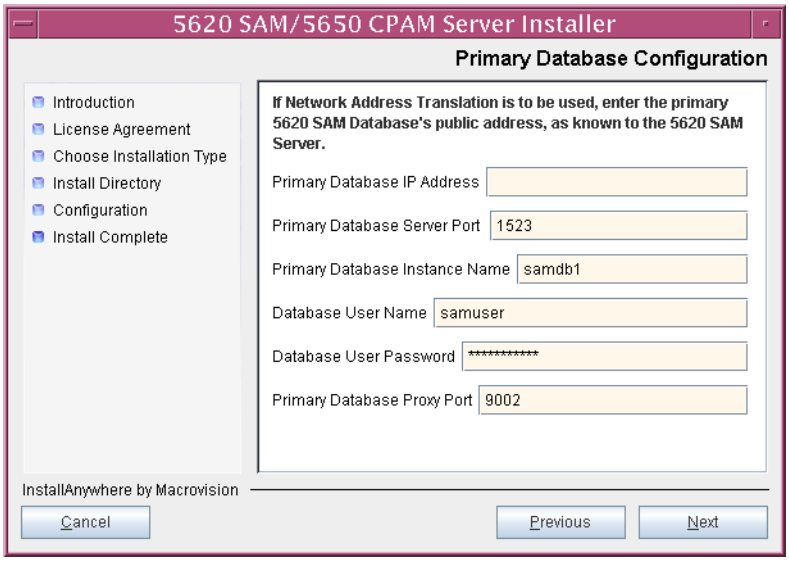
Figure 3-125 Redundancy Support



96 Configure the following parameters, shown in Figure 3-126, using the recorded values from the primary database installation. Click on the Next button to continue.

- Primary Database IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

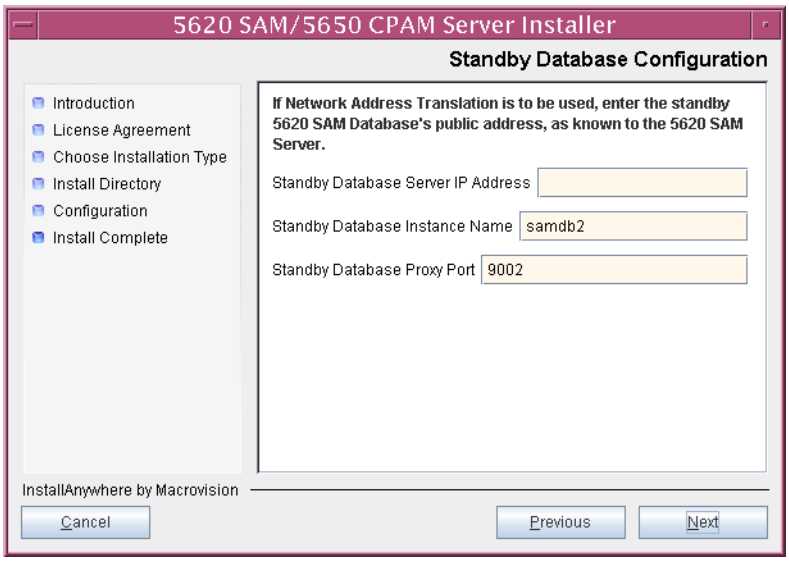
Figure 3-126 Primary Database Configuration



97 Configure the following parameters shown in Figure 3-127, then click on the Next button:

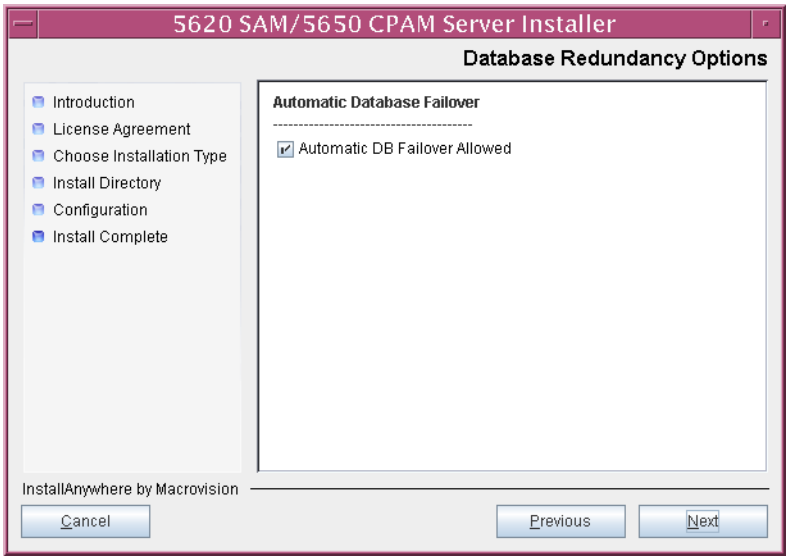
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 3-127 Standby Database Configuration



98 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 3-128, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 3-128 Database Redundancy Options

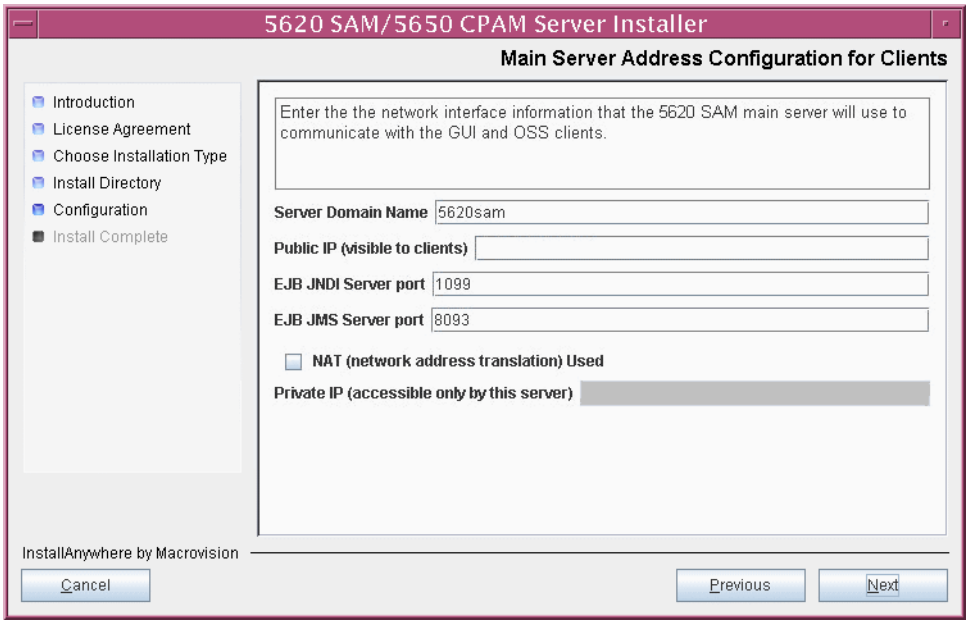


99 Configure the following parameters shown in Figure 3-129:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 3-129 Main Server Address Configuration for Clients

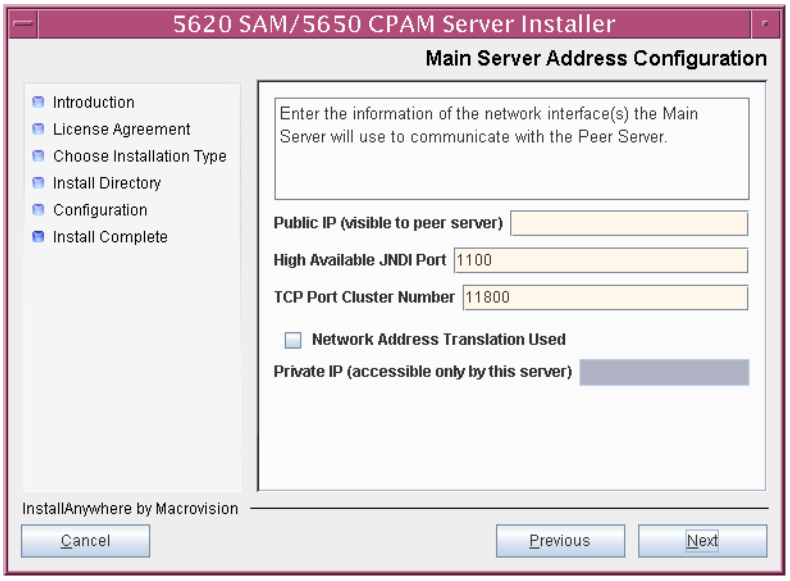


100 Configure the following parameters shown in Figure 3-130:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 3-130 Main Server Address Configuration



101 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

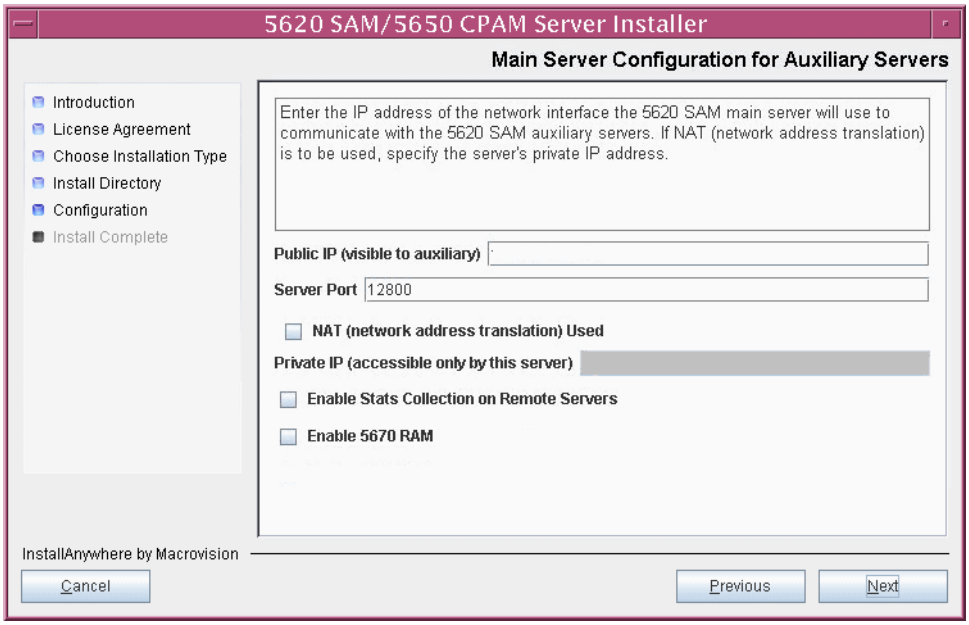
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 3-131:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the "Enable Stats Collection on Remote Servers" parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 3-131 Main Server Configuration for Auxiliary Servers



ii If NAT is to be used between this 5620 SAM main server and the auxiliary servers, enable the "NAT (network address translation) Used" parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 3-132. The form shown in Figure 3-133 opens.

Figure 3-132 Auxiliary Servers

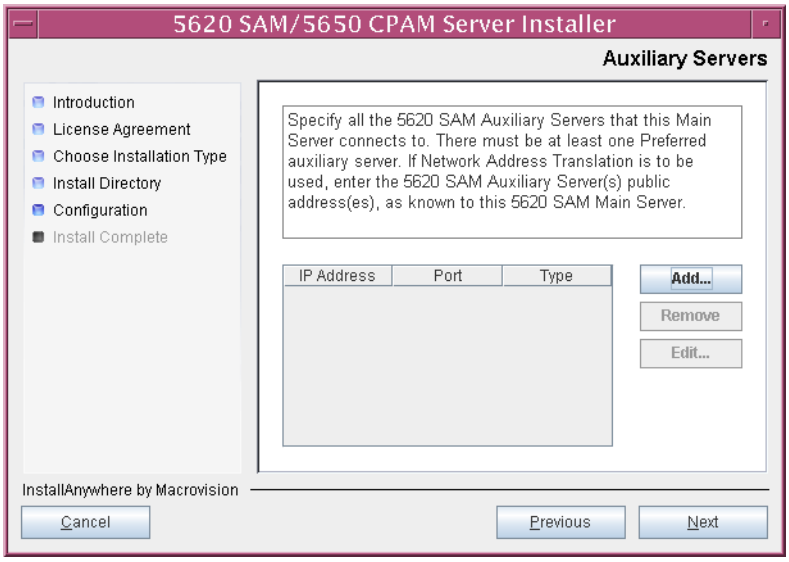
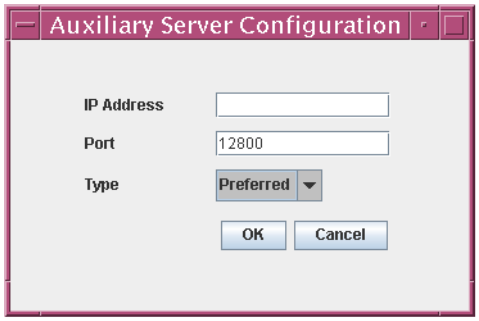


Figure 3-133 Auxiliary Server Configuration



v Configure the following parameters shown in Figure 3-133:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 101 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

102 Click on the Next button to continue.

103 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 3-134.

ii If you want to accept the default user documentation location that is displayed, go to step 104.

Note — If NAT is to be used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

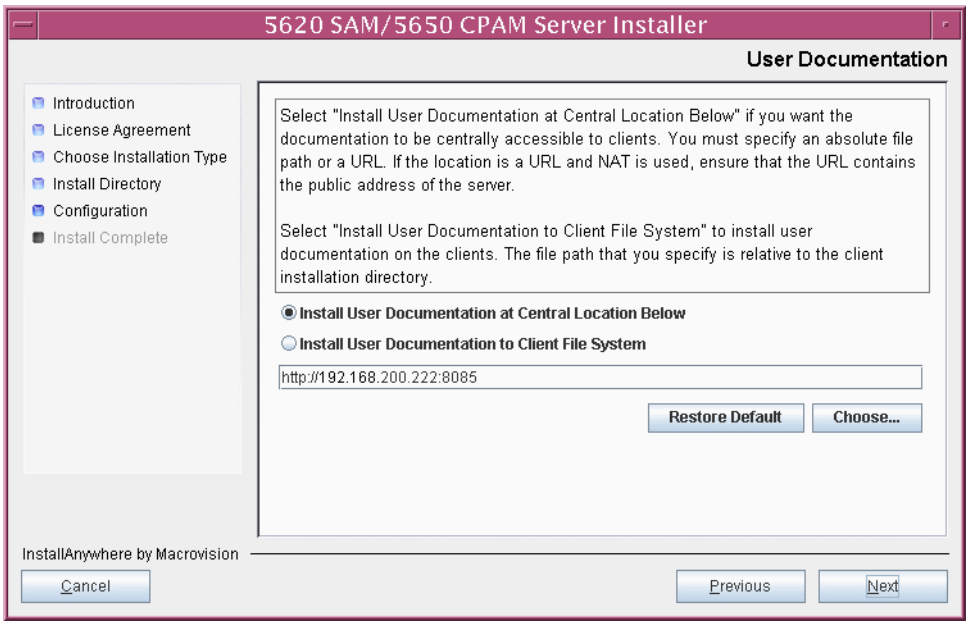
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 3-134.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

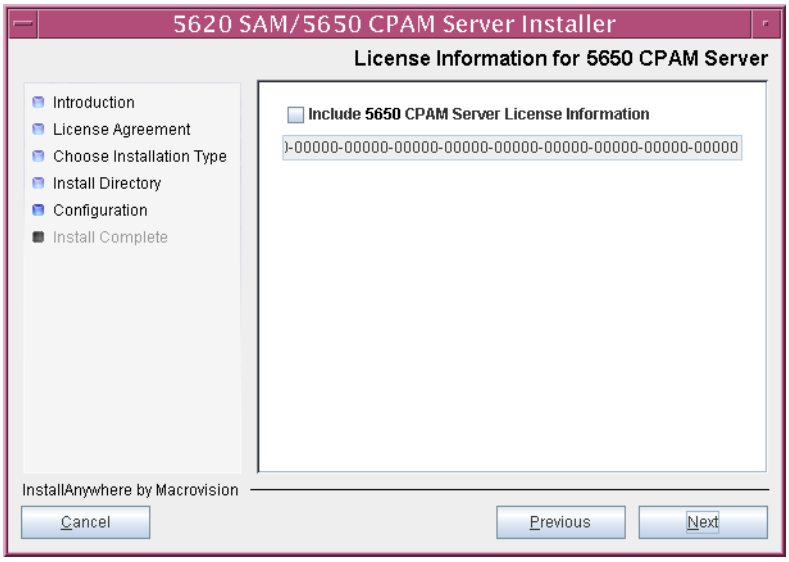
Figure 3-134 User Documentation



104 Click on the Next button to continue.

105 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-135. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

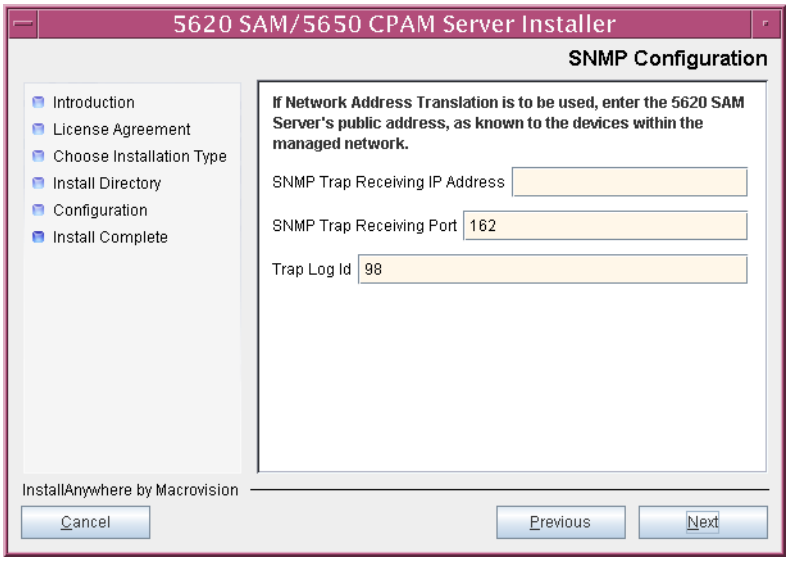
Figure 3-135 License Information for 5650 CPAM Server



106 Configure the following parameters shown in Figure 3-136, then click on the Next button:

- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

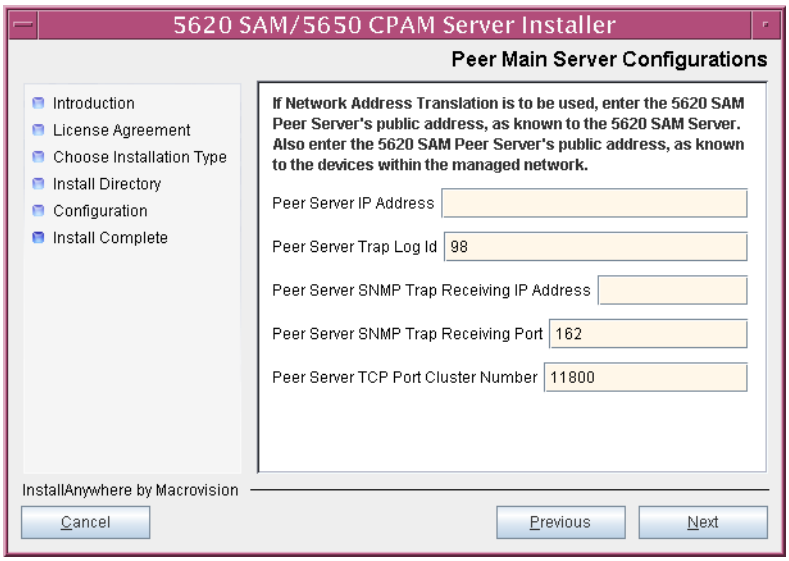
Figure 3-136 SNMP Configuration



107 Configure the following parameters shown in Figure 3-137, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Port Number (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

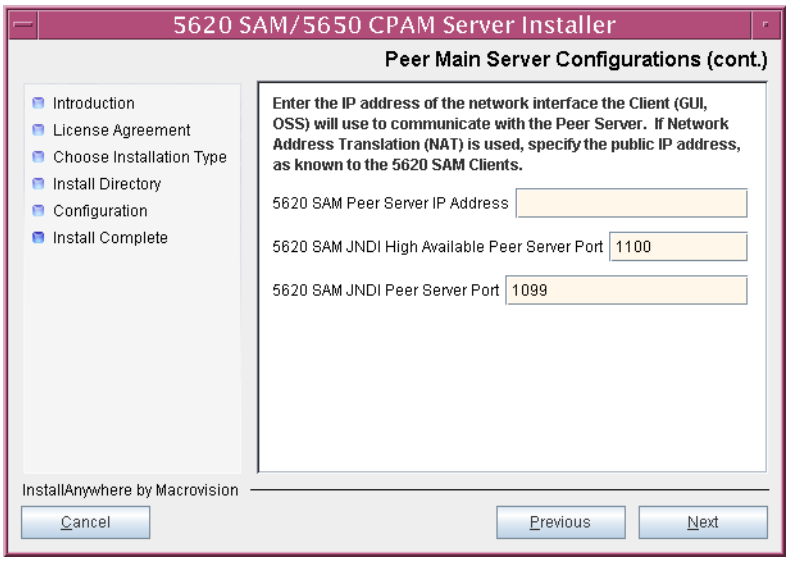
Figure 3-137 Peer Main Server Configurations



108 Configure the following parameters shown in Figure 3-138, then click on the Next button:

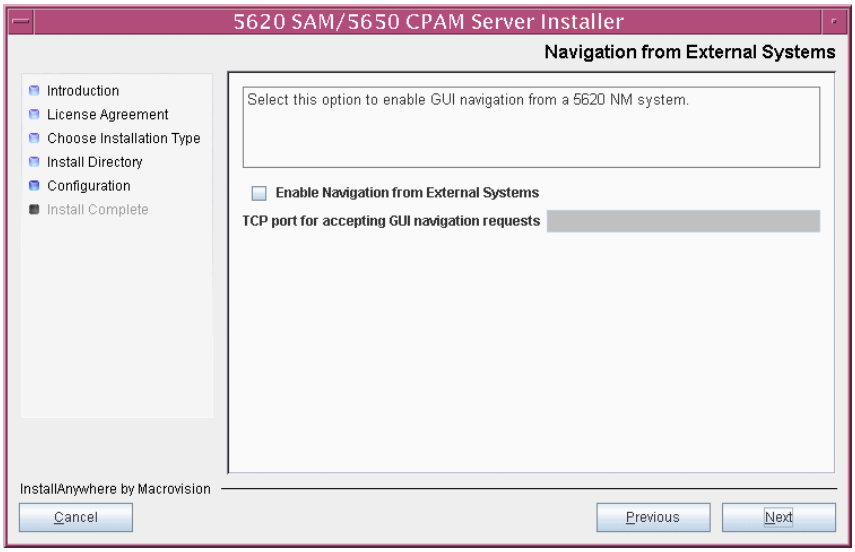
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 3-138 Peer Main Server Configurations (continued)



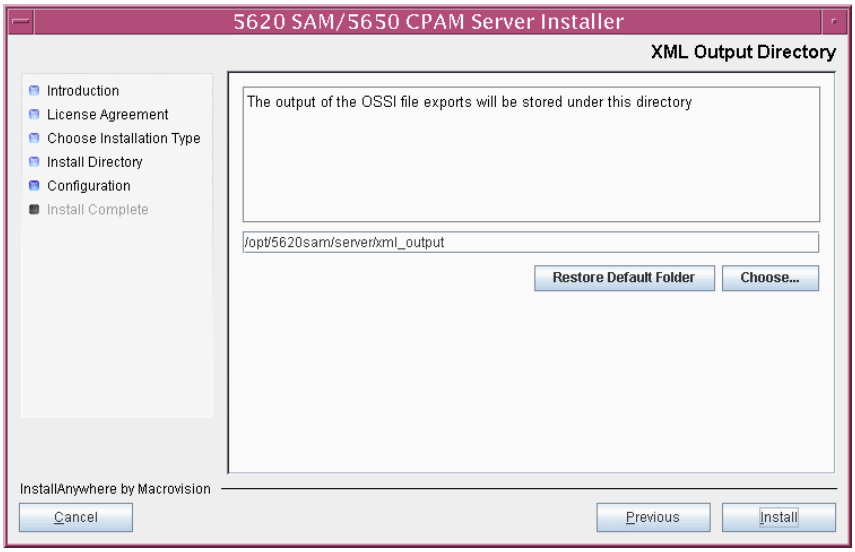
109 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 3-139 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 3-139 Navigation from External Systems



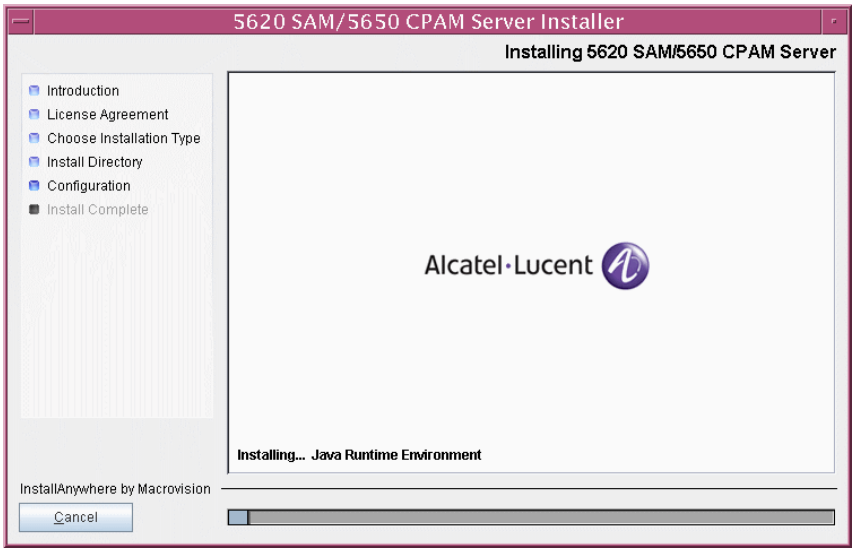
110 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 3-140. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 3-140 XML Output Directory



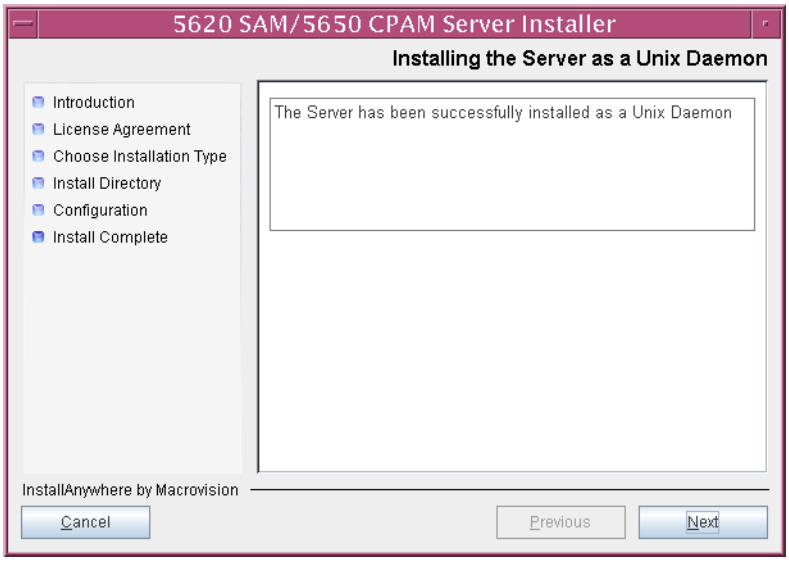
The next panel displays server installation progress, as shown in Figure 3-141.

Figure 3-141 Installing 5620 SAM/5650 CPAM Server



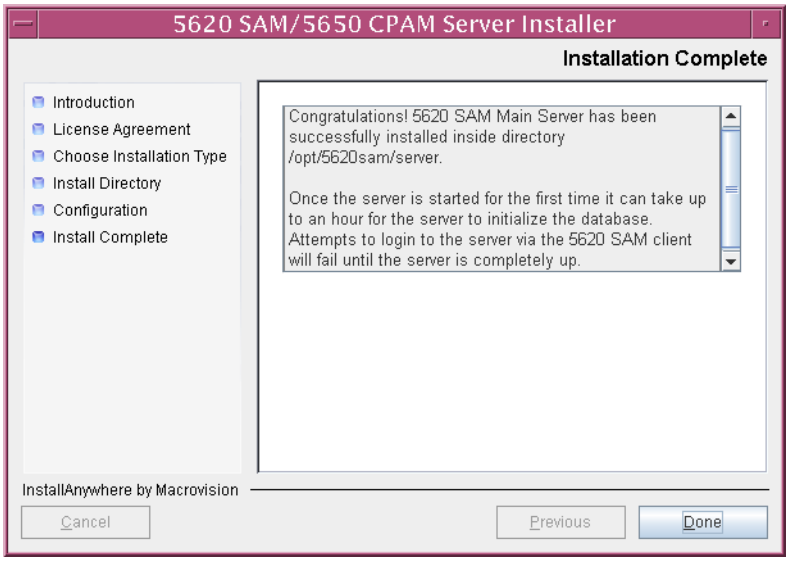
111 As shown in Figure 3-142, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 3-142 Installing the Server as a Unix Daemon



112 When the server installation is complete, as shown in Figure 3-143, click on the Done button to close the installer.

Figure 3-143 Installation Complete



Start primary server

113 Start the primary 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# nmsserver.bash start ↵
```

The primary 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

114 Verify that the primary 5620 SAM server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 114 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 114 i. Do not proceed unless the console displays the above text.

The next section of the procedure describes the reinstantiation of the database on the standby database station.

Reinstantiate database on standby station

115 Log in to a 5620 SAM client as the admin user.

116 Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.

117 Click on the Re-Instantiate Standby button. A dialog box appears.

118 Click on the Yes button. The database reinstantiation begins.

You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.

119 When the reinstantiation is complete, close the System Information form.

The next section of the procedure describes the installation of the standby 5620 SAM server. You can install the standby server on the same station that contains the standby database, or on another station. Server installation requires root-equivalent privileges.

Install standby server

120 Log in as a user with root-equivalent privileges on the station that is to be the standby server station.

121 Open a console window.

122 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

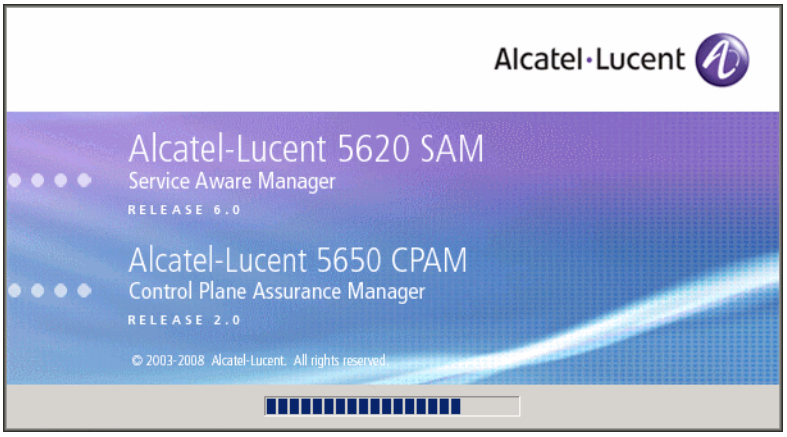
123 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

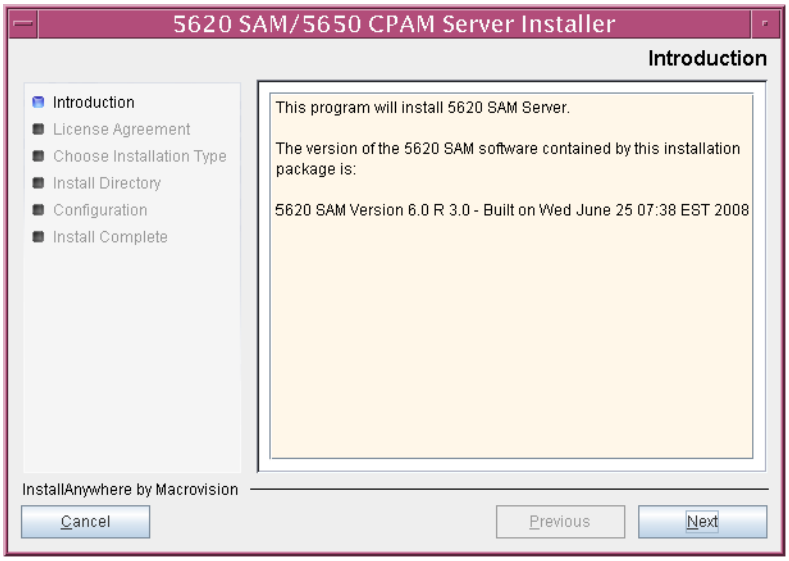
The splash screen in Figure 3-144 appears and the installation process begins.

Figure 3-144 5620 SAM Installer



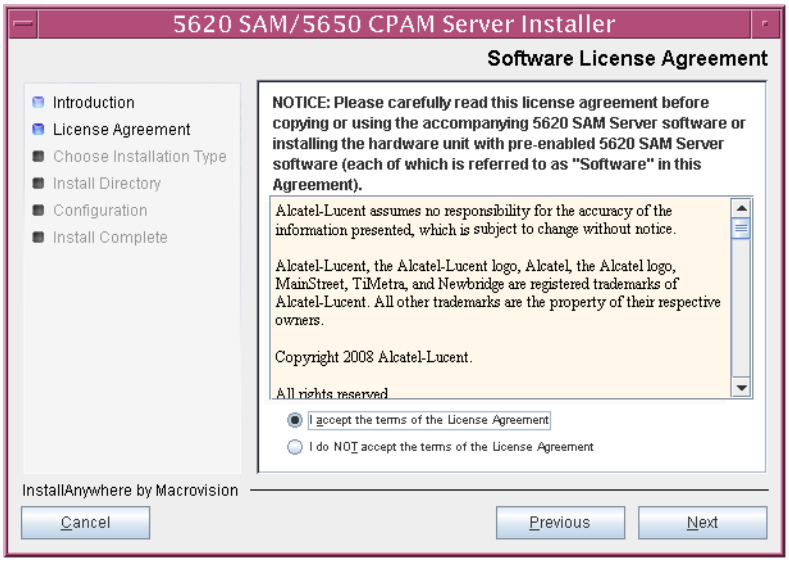
124 The 5620 SAM installer opens, as shown in Figure 3-145. The left pane indicates the installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-145 Introduction



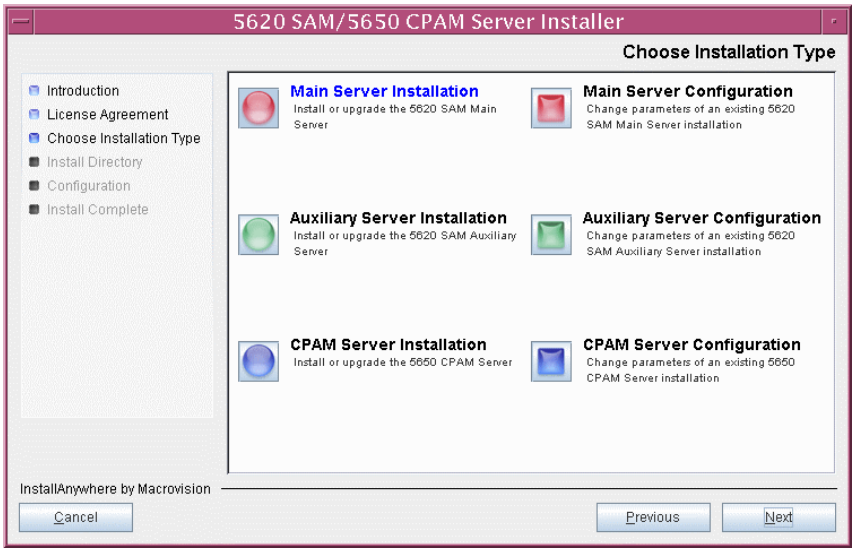
125 Review and accept the terms of the license agreement shown in Figure 3-146, then click on the Next button.

Figure 3-146 Software License Agreement



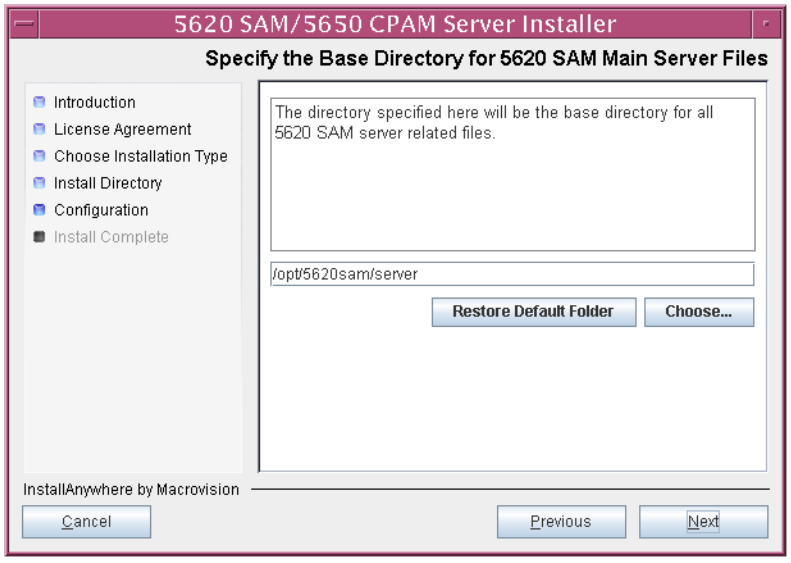
126 Select Main Server Installation, as shown in Figure 3-147, then click on the Next button.

Figure 3-147 Choose Installation Type



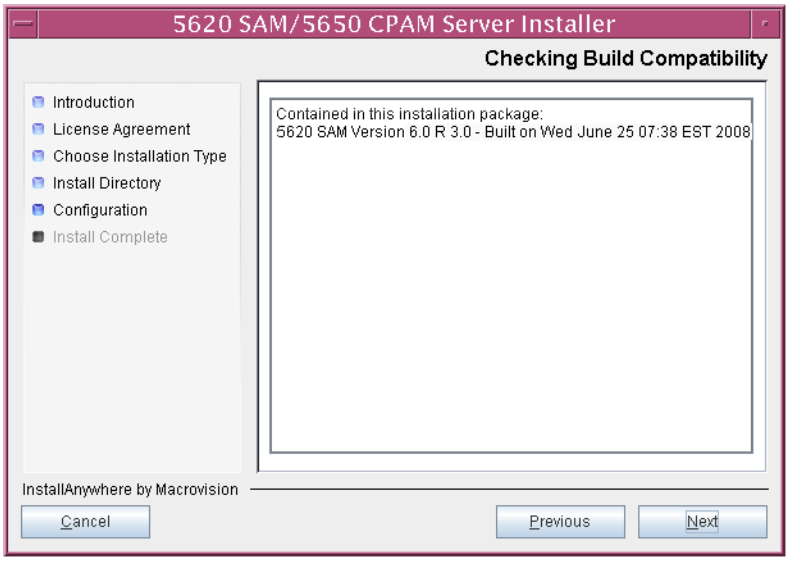
127 Specify a base directory in which to install the standby 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 3-148. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-148 Specify the Base Directory for 5620 SAM Main Server Files



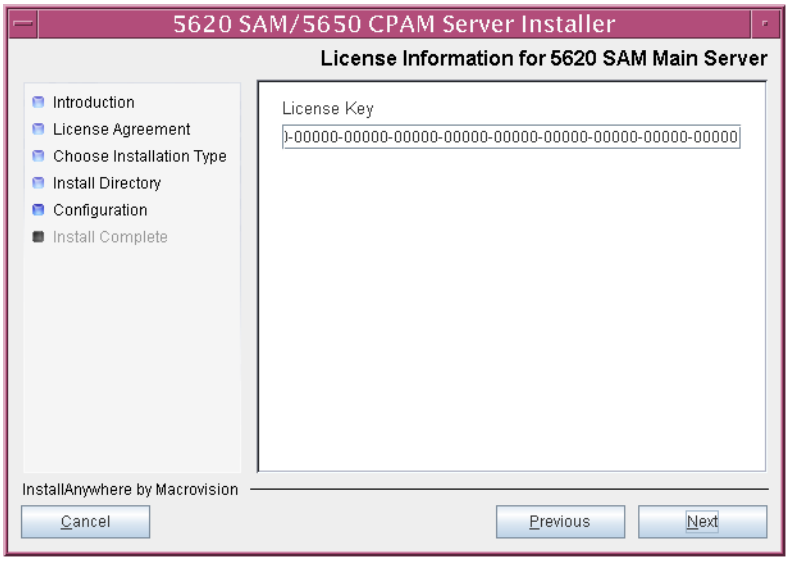
128 As shown in Figure 3-149, the installer displays the version of the 5620 SAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 3-149 Checking Build Compatibility



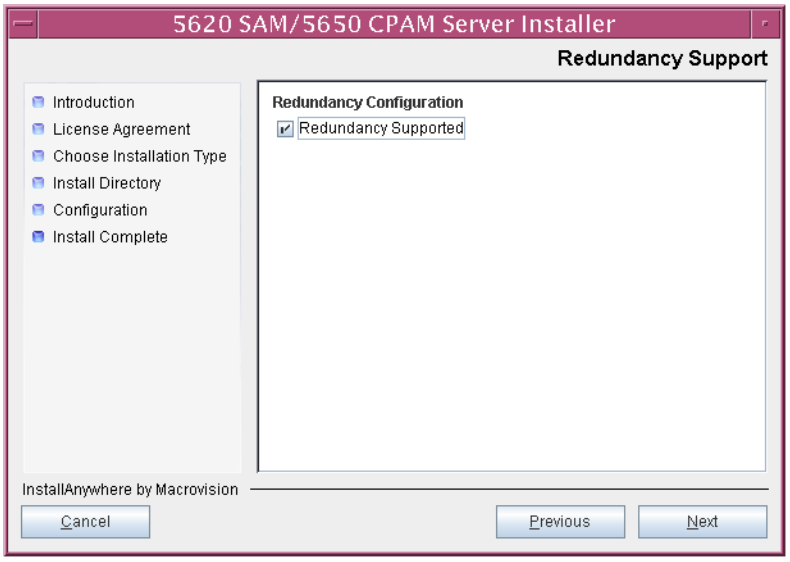
129 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 3-150. Click on the Next button to continue.

Figure 3-150 License Information for 5620 SAM Main Server



130 Enable the “Redundancy Supported” parameter, as shown in Figure 3-151, then click on the Next button.

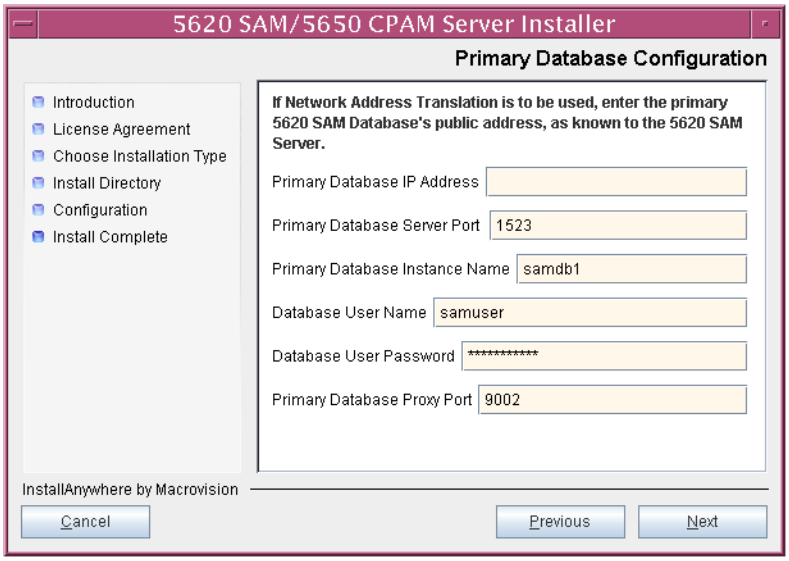
Figure 3-151 Redundancy Support



131 Configure the following parameters, shown in Figure 3-152, using the recorded values from the primary database installation. Click on the Next button to continue.

- Primary Database IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

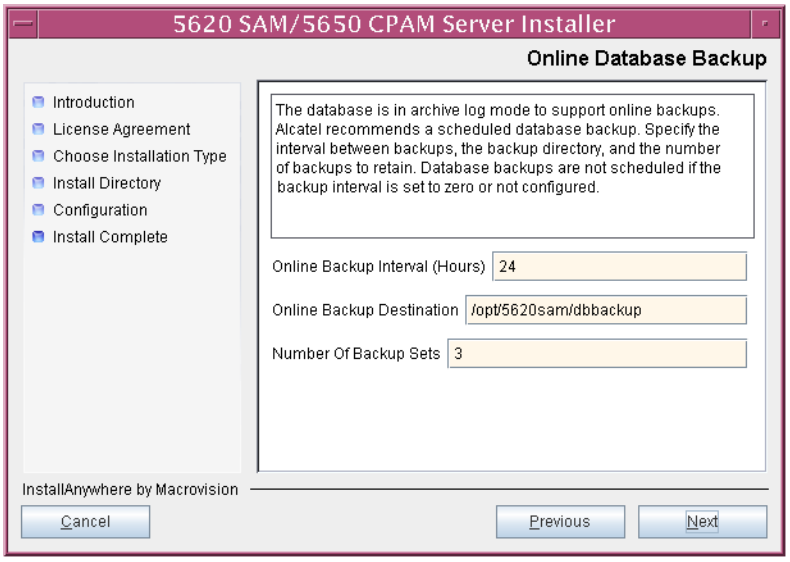
Figure 3-152 Primary Database Configuration



132 Configure the following database backup parameters shown in Figure 3-153, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

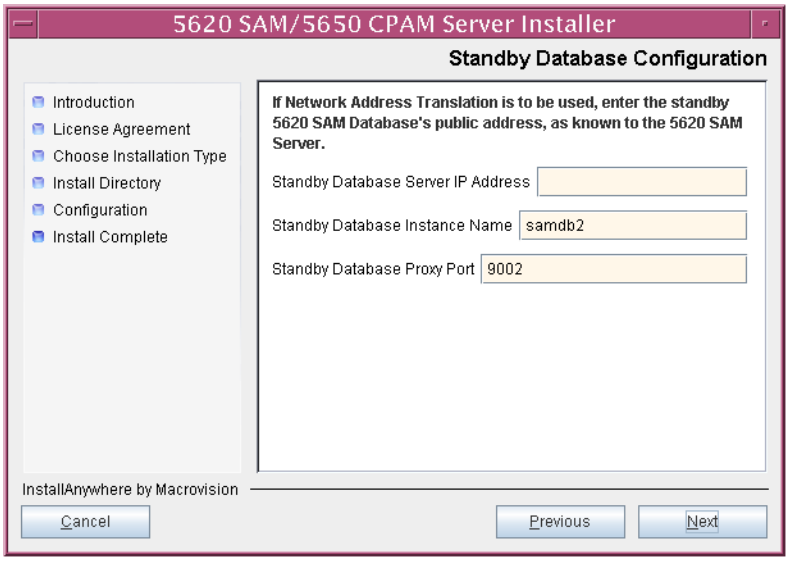
Figure 3-153 Online Database Backup



133 Configure the following parameters shown in Figure 3-154, then click on the Next button:

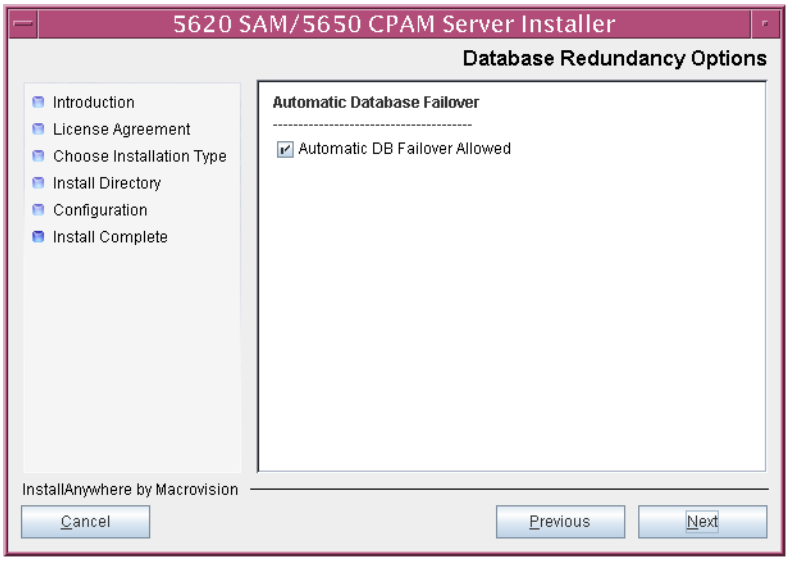
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 3-154 Standby Database Configuration



134 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 3-155, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 3-155 Database Redundancy Options

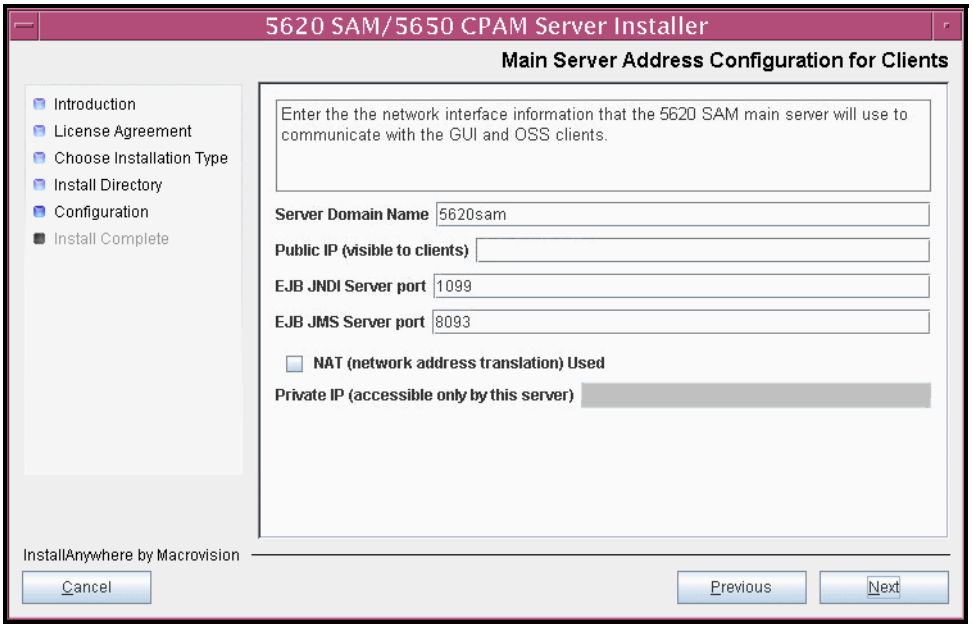


135 Configure the parameters shown in Figure 3-156:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 3-156 Main Server Address Configuration for Clients

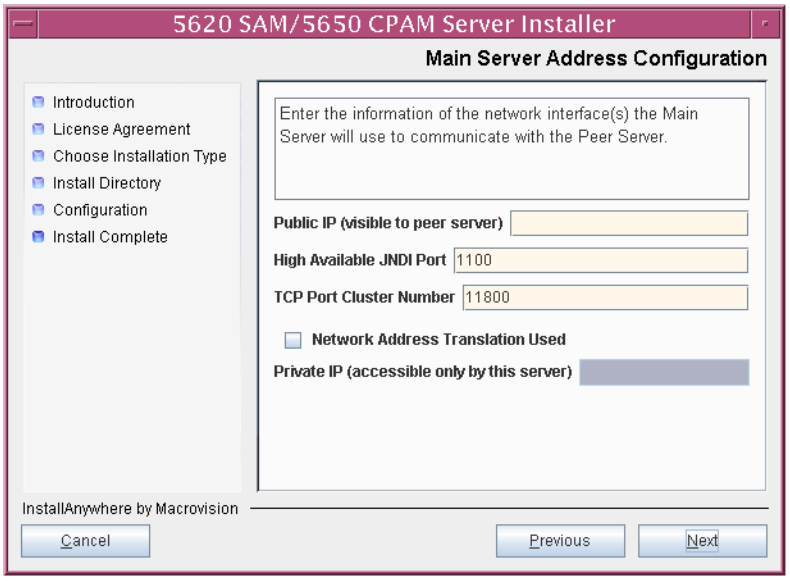


136 Configure the parameters shown in Figure 3-157:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 3-157 Main Server Address Configuration



137 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

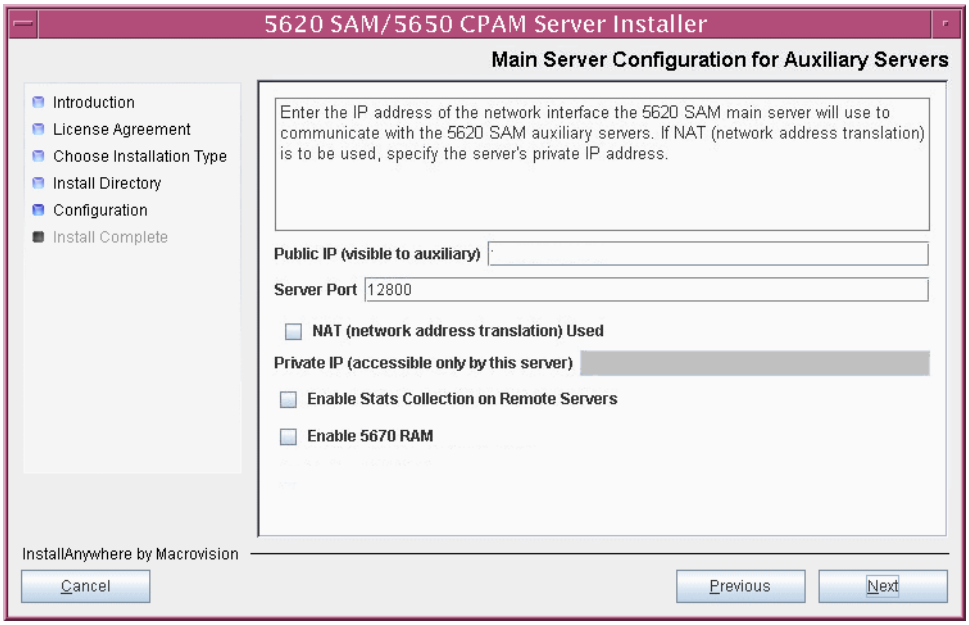
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 3-158:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the "Enable Stats Collection on Remote Servers" parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 3-158 Main Server Configuration for Auxiliary Servers



ii If NAT is to be used between this 5620 SAM server and the auxiliary servers, enable the "NAT (network address translation) Used" parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 3-159 to specify an auxiliary server. The form shown in Figure 3-160 opens.

Figure 3-159 Auxiliary Servers

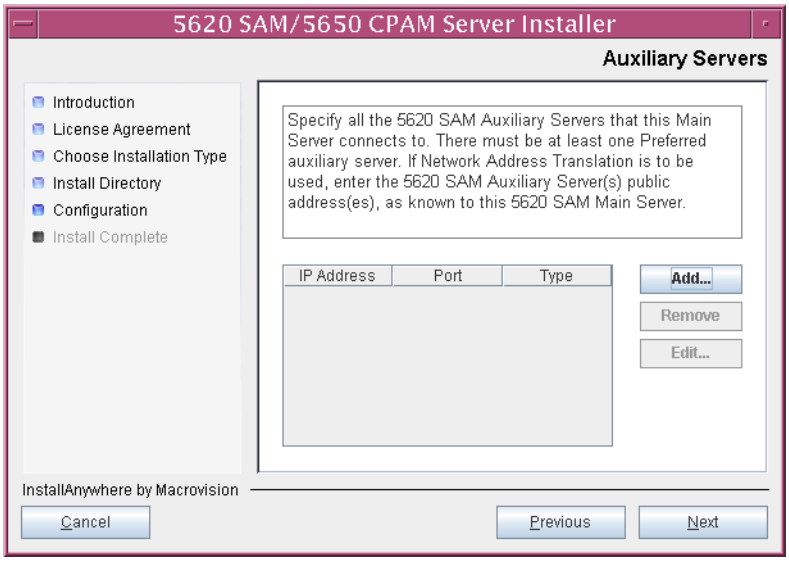
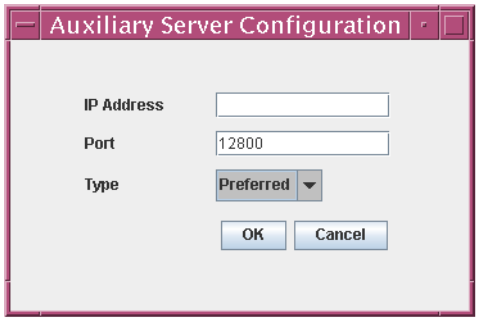


Figure 3-160 Auxiliary Server Configuration



v Configure the following parameters shown in Figure 3-160:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 137 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

138 Click on the Next button to continue.

139 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 3-161.

ii If you want to accept the default user documentation location that is displayed, go to step 140.

Note — If NAT is to be used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

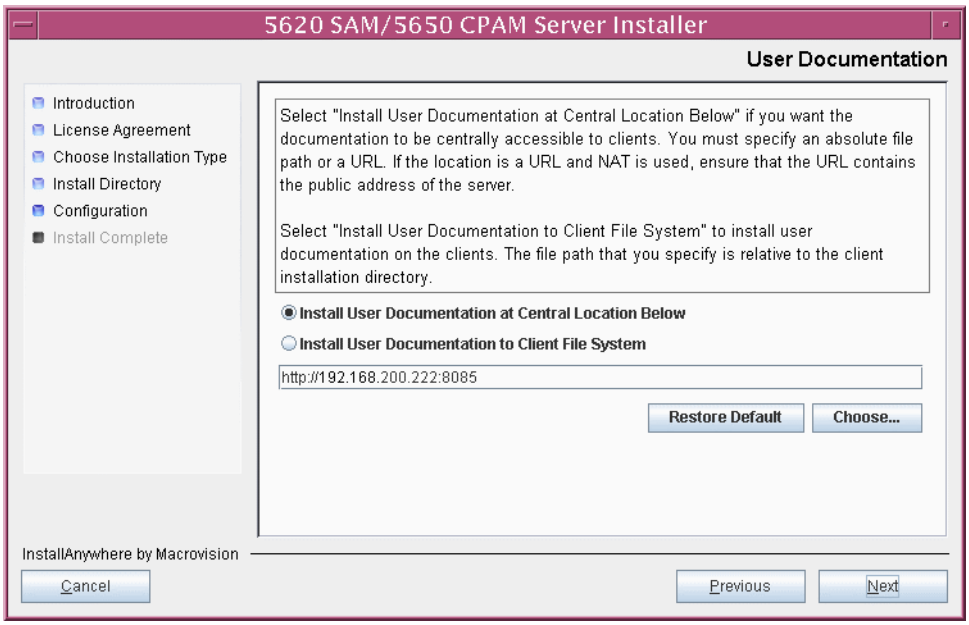
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 3-161.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

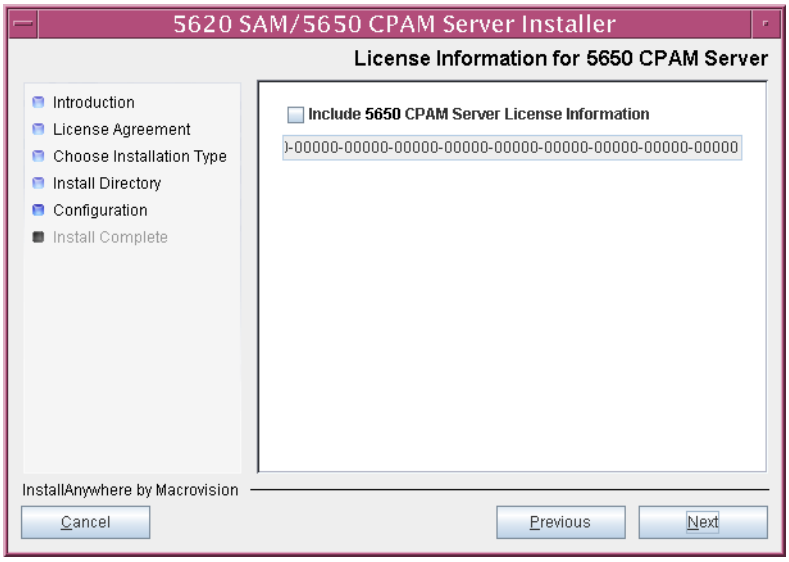
Figure 3-161 User Documentation



140 Click on the Next button to continue.

141 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 3-162. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

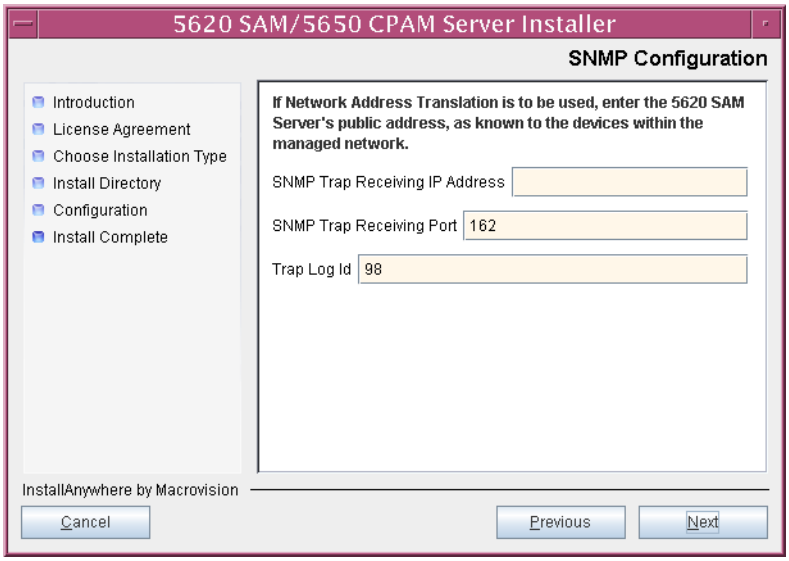
Figure 3-162 License Information for 5650 CPAM Server



142 Configure the following parameters shown in Figure 3-163, then click on the Next button:

- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

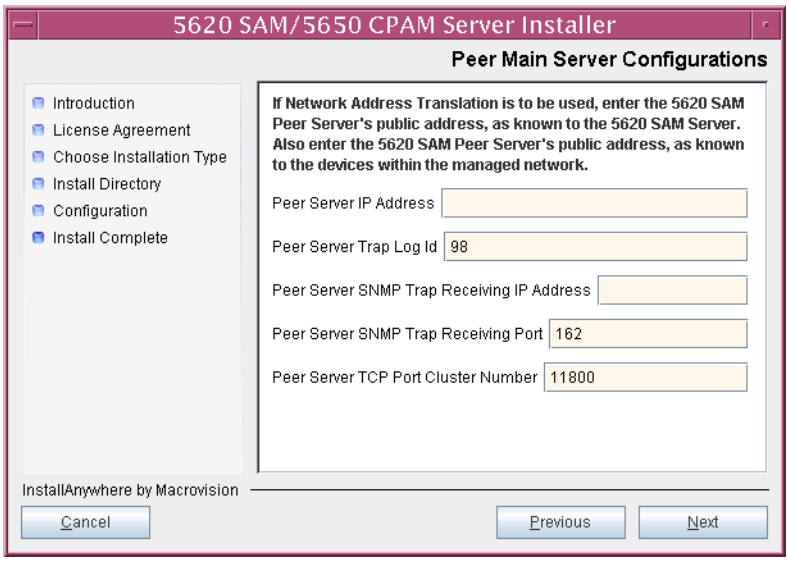
Figure 3-163 SNMP Configuration



143 Configure the following parameters shown in Figure 3-164, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

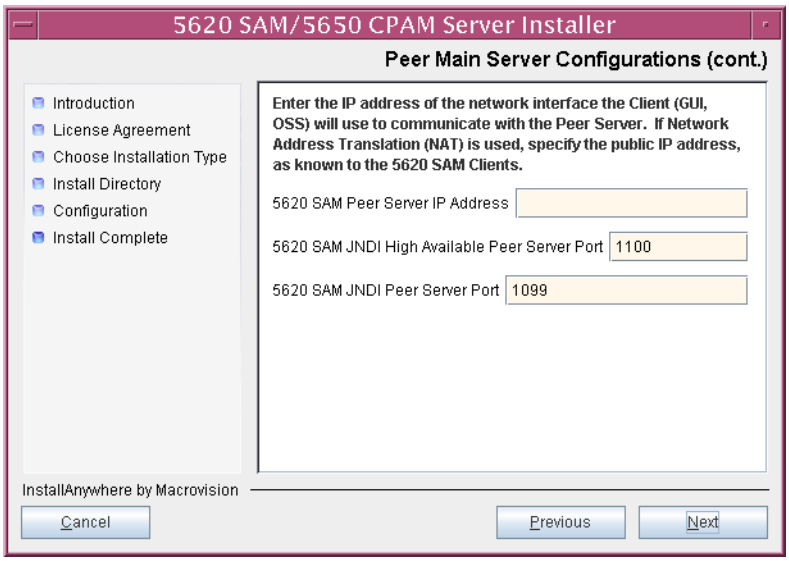
Figure 3-164 Peer Main Server Configurations



144 Configure the following parameters shown in Figure 3-165, then click on the Next button:

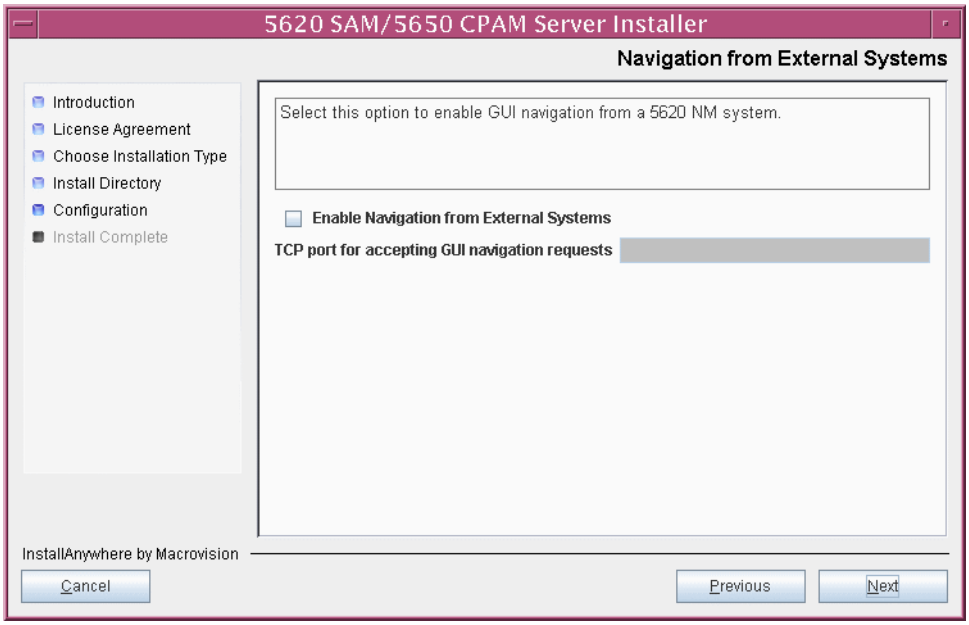
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 3-165 Peer Main Server Configurations (continued)



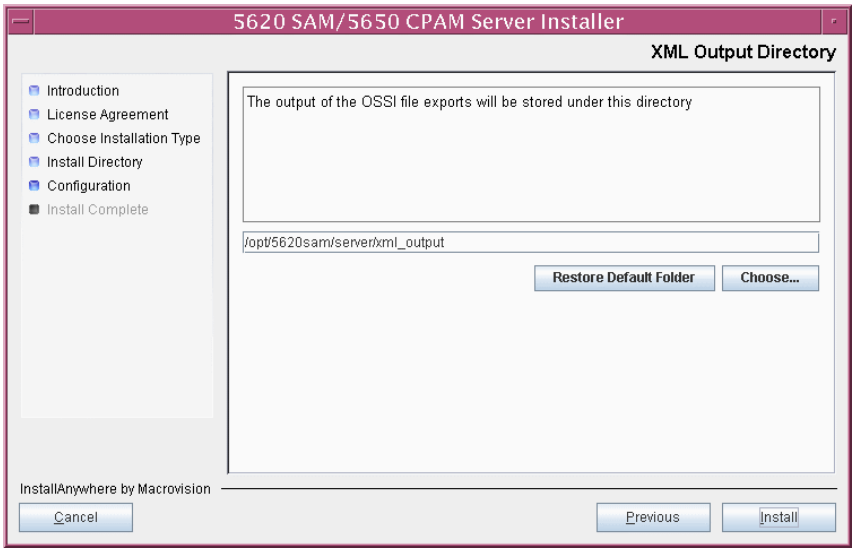
145 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 3-166 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 3-166 Navigation from External Systems



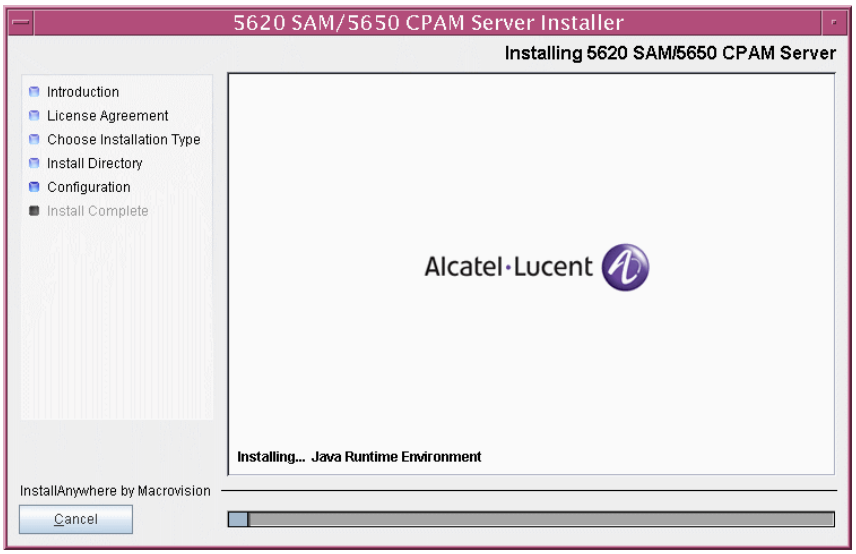
146 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 3-167. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 3-167 XML Output Directory



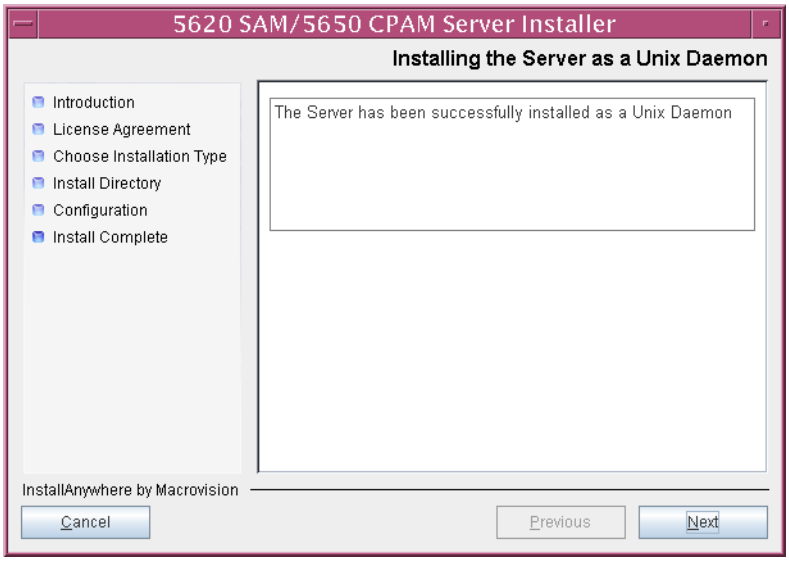
The next panel displays server installation progress, as shown in Figure 3-168.

Figure 3-168 Installing 5620 SAM/5650 CPAM Server



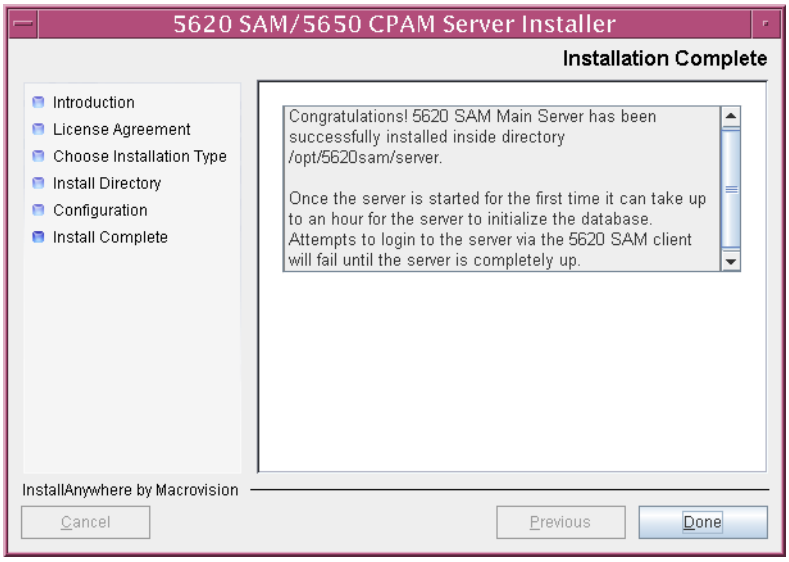
147 As shown in Figure 3-169, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 3-169 Installing the Server as a Unix Daemon



148 When the server installation is complete, as shown in Figure 3-170, click on the Done button to close the installer.

Figure 3-170 Installation Complete



Start standby server

149 Start the standby 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# nmsserver.bash start ↵
```

The standby 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

150 Verify that the standby 5620 SAM server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 150 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 150 i.

Install client

151 Install a 5620 SAM client. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

Procedure 3-4 To install a client delegate

A client delegate is a 5620 SAM client that shares a Solaris or Linux station with another 5620 SAM client and whose display is redirected to another station. Consider the following before you install a client delegate.

- Another station or terminal using X.11 or native X can display a 5620 SAM client GUI.
- You cannot use X emulation software to display a 5620 SAM client GUI.
- Each intended 5620 SAM client GUI user on a client delegate station requires a separate installation of the 5620 SAM client software.

1 Define a directory structure for each user that is to run a 5620 SAM client GUI from the client delegate station.

For example:

- /users/username_1/5620sam/client
- /users/username_2/5620sam/client
- /users/username_3/5620sam/client

2 Perform Procedure 3-2 once for each user directory defined in step 1. Specify the user directory as the installation directory.

3 Perform the following steps for each installed client to ensure that anti-aliasing is disabled.

i Open the *path*/nms/config/nms-client.xml file with a plain-text editor such as vi

where *path* is the 5620 SAM client installation location, for example, /users/username_1/5620sam/client

ii Search for the following XML tag that marks the beginning of the topologyMaps section:

```
<topologyMaps
```

iii Edit the antiAliasActive entry in the topologyMaps section to read “false” as shown below.

```
<topologyMaps

     iconReductionThreshold="40"

     labelHideThreshold="35"

        snapToGridInterval="25"

        antiAliasActive="false"      />
```

3.7 5620 SAM auxiliary server installation

Procedure 3-5 describes how to install the 5620 SAM auxiliary server software on a Solaris station. You require root-equivalent user privileges to install an auxiliary server.

Procedure 3-6 describes how to add a new 5620 SAM auxiliary server to an existing 5620 SAM system, which involves installing the auxiliary server software on a Solaris station and reconfiguring the existing server and database components in the 5620 SAM to accept the new auxiliary server.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 3-5 To install a 5620 SAM auxiliary server

Perform this procedure to install the 5620 SAM auxiliary server software on a Solaris station. The auxiliary server can be joining a new or existing 5620 SAM cluster.

1 Log in as a user with local privileges on the station that is to be the auxiliary server station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

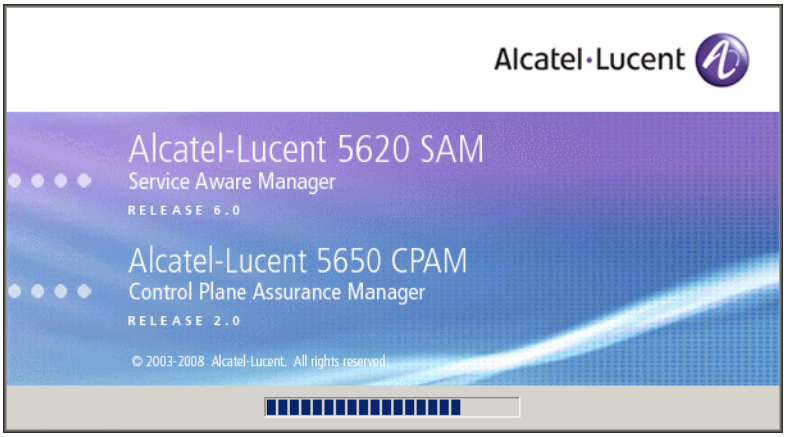
4 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

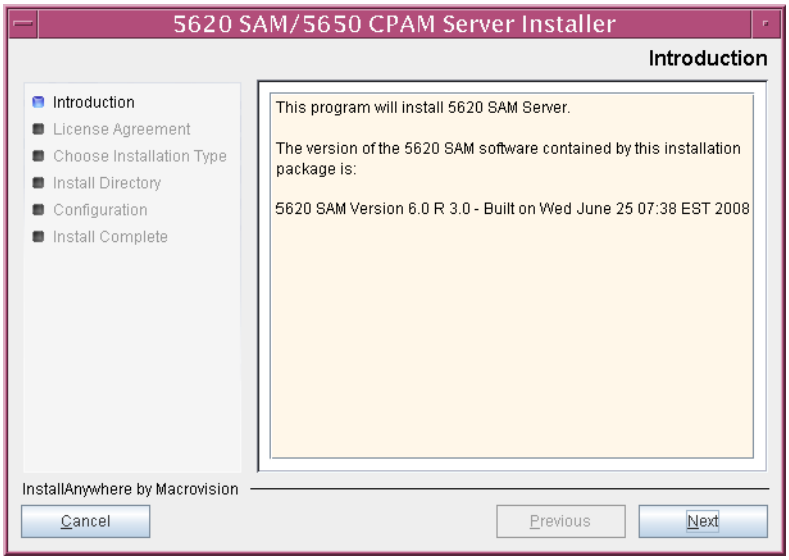
The splash screen in Figure 3-171 appears and the installation process begins.

Figure 3-171 5620 SAM Installer



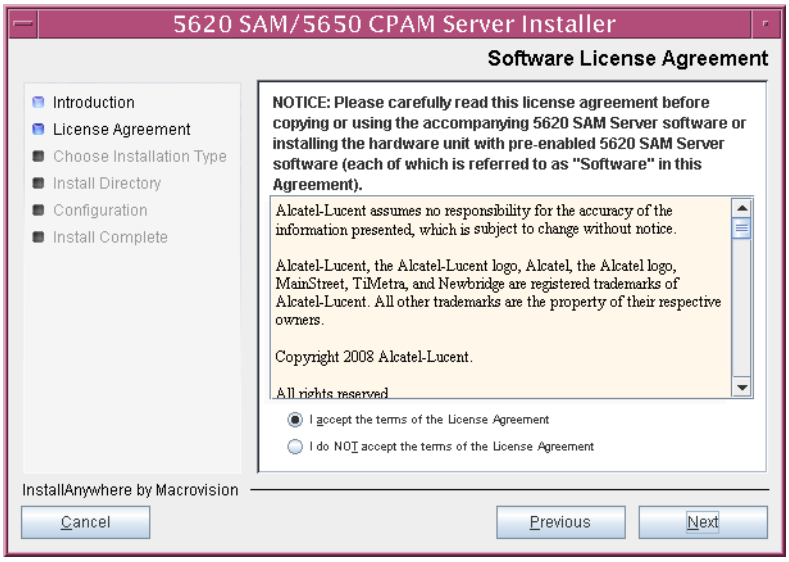
5 The 5620 SAM installer opens, as shown in Figure 3-172. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 3-172 Introduction



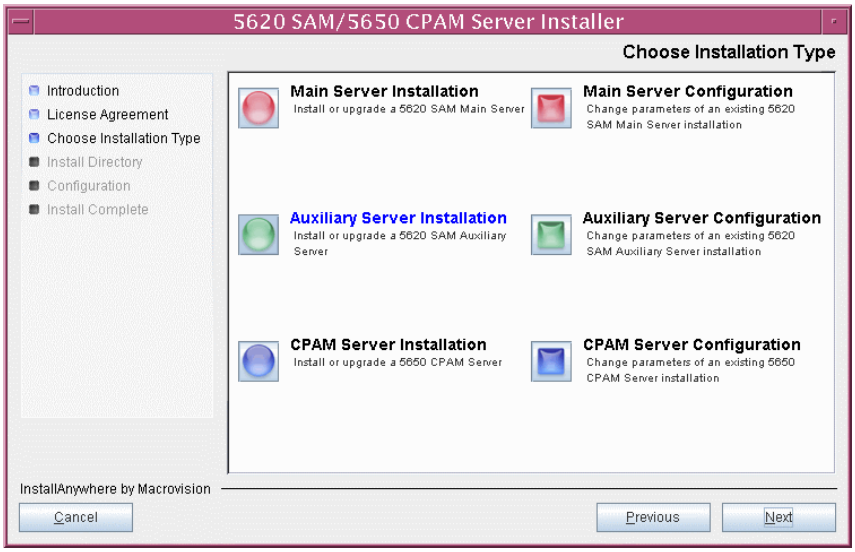
6 Review and accept the terms of the license agreement shown in Figure 3-173, then click on the Next button.

Figure 3-173 Software License Agreement



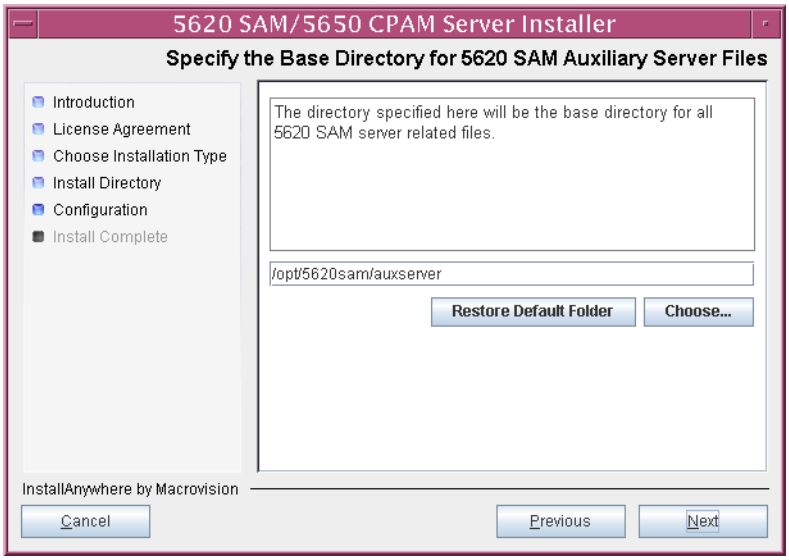
7 Select Auxiliary Server Installation, as shown in Figure 3-174, then click on the Next button.

Figure 3-174 Choose Installation Type



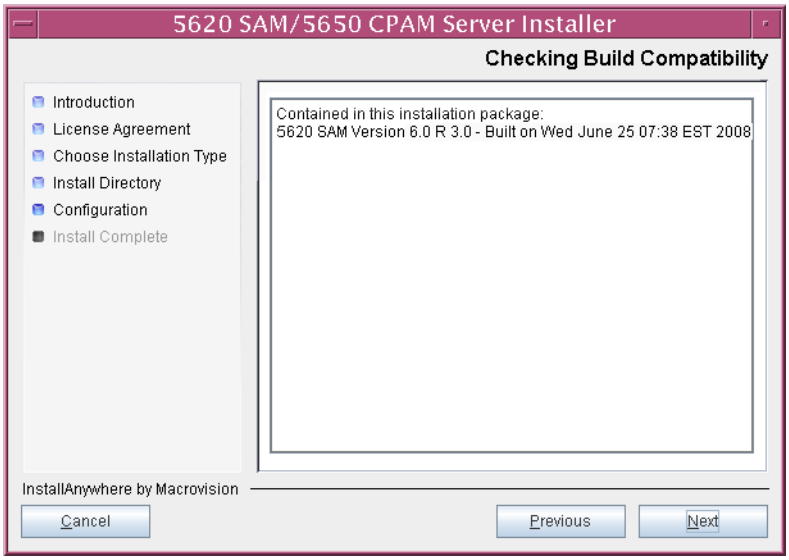
8 Specify a base directory in which to install the 5620 SAM auxiliary server software (typically /opt/5620sam/auxserver), as shown in Figure 3-175. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 3-175 Specify the Base Directory for 5620 SAM Auxiliary Server Files



9 As shown in Figure 3-176, the installer displays the version of the 5620 SAM auxiliary server software that is to be installed. Verify the information, then click on the Next button.

Figure 3-176 Checking Build Compatibility



10 Configure the parameters shown in Figure 3-177:

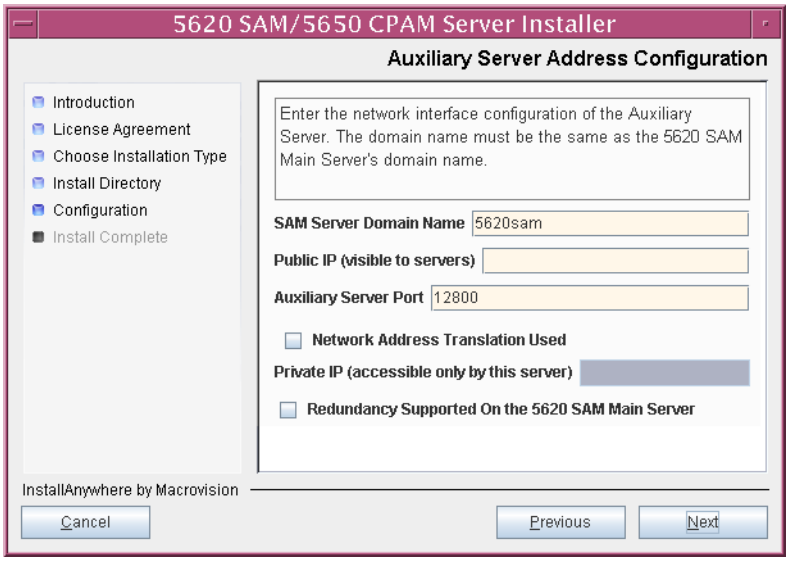
- SAM Server Domain Name (typically 5620sam)
- Public IP (visible to servers)
- Auxiliary Server Port (typically 12800)

i If NAT is used between this 5620 SAM auxiliary server and the main 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of this auxiliary server.

ii Enable the “Redundancy Supported On the 5620 SAM Main Server” parameter to specify whether this auxiliary server is joining a redundant 5620 SAM configuration.

iii Click on the Next button to continue.

Figure 3-177 Auxiliary Server Address Configuration

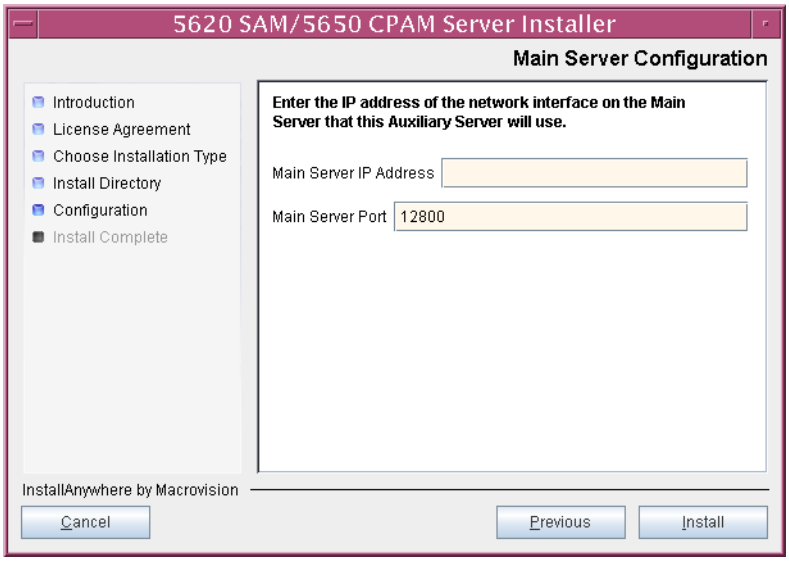


11 Perform one of the following actions.

a If the “Redundancy Supported On the 5620 SAM Main Server” parameter shown in step 10 is disabled, configure the following parameters shown in Figure 3-178:

- Main Server IP Address
- Main Server Port (typically 12800)

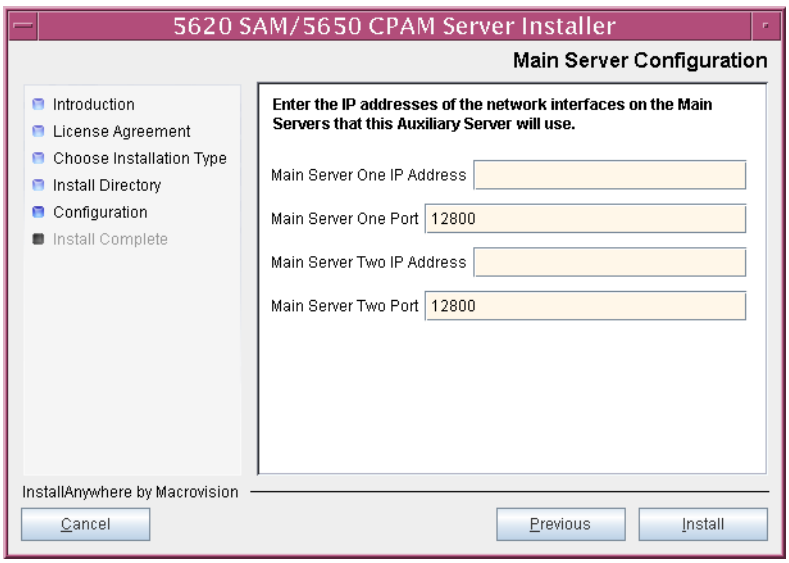
Figure 3-178 Main Server Configuration



b If redundancy is enabled, configure the following parameters shown in Figure 3-179:

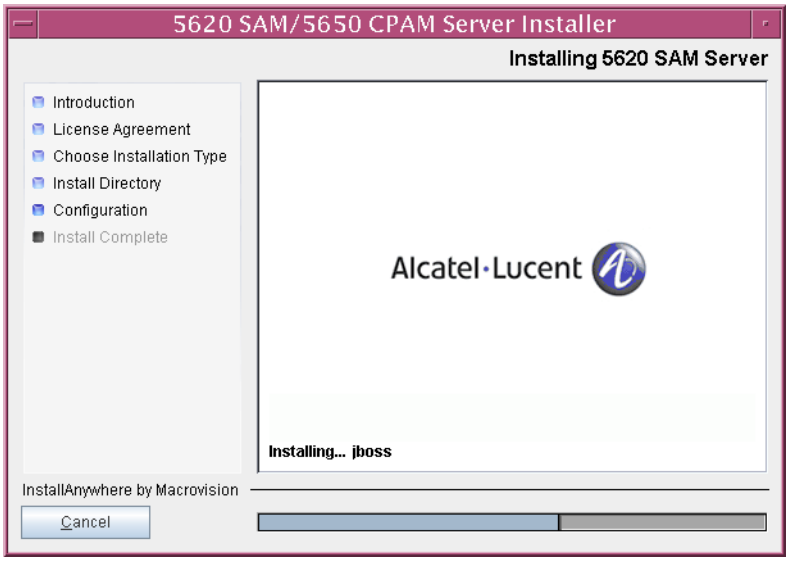
- Main Server One IP Address
- Main Server One Port (typically 12800)
- Main Server Two IP Address
- Main Server Two Port (typically 12800)

Figure 3-179 Main Server Configuration



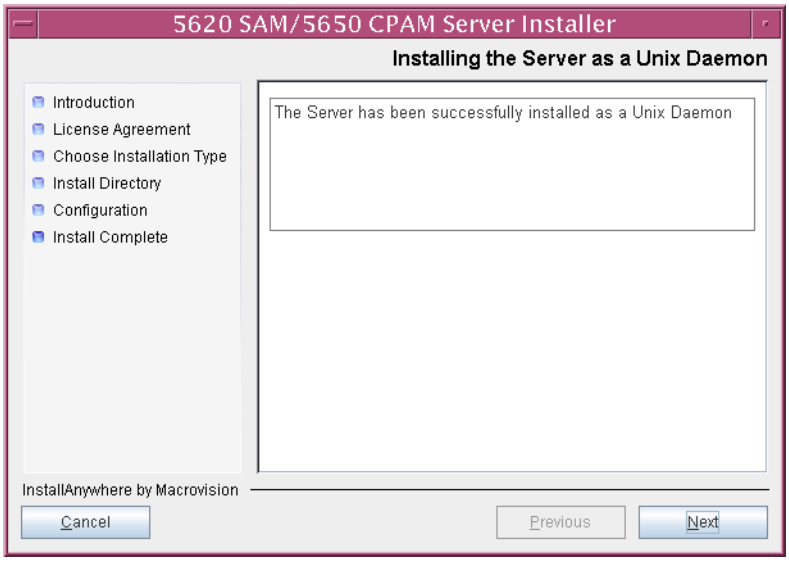
12 Click on the Install button to proceed with the server installation. The next panel displays server installation progress, as shown in Figure 3-180.

Figure 3-180 Installing 5620 SAM Server



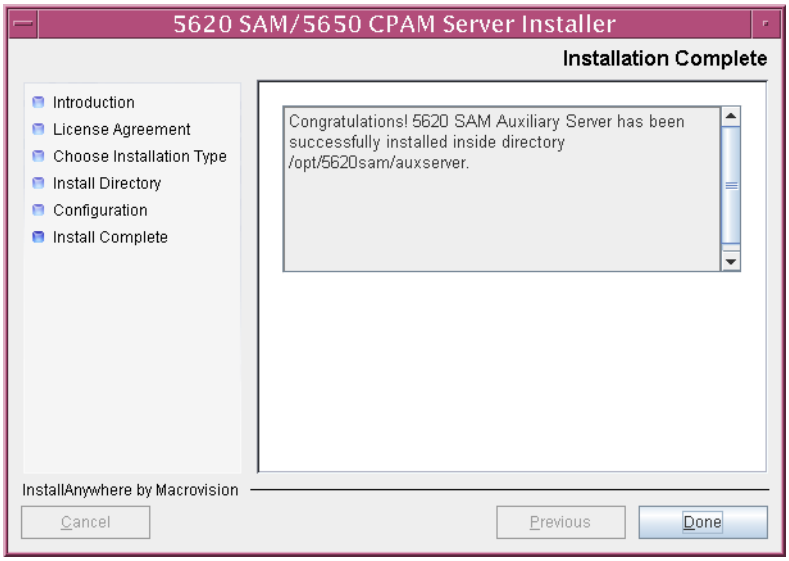
13 As shown in Figure 3-181, the 5620 SAM auxiliary server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 3-181 Installing the Server as a Unix Daemon



14 When the auxiliary server installation is complete, as shown in Figure 3-182, click on the Done button to close the installer.

Figure 3-182 Installation Complete



15 Start the 5620 SAM auxiliary server, if required. As the same user that installed the auxiliary server, enter the following at the CLI prompt:

```
# path/nms/bin/nmsserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

Note — The order in which a 5620 SAM auxiliary server and the primary 5620 SAM server initialize is unimportant. The primary 5620 SAM server synchronizes with an auxiliary server as soon as it is able to communicate with the auxiliary server.

The 5620 SAM auxiliary server starts. Initial server startup may take twenty minutes or more to complete.

Procedure 3-6 To add an auxiliary server to an existing 5620 SAM system

Perform this procedure to install an additional 5620 SAM auxiliary server to an existing 5620 SAM system.

Caution — This procedure requires that the 5620 SAM main server application is stopped, which is service-affecting. Ensure that you perform this procedure only during a scheduled maintenance window.

In a redundant 5620 SAM deployment, both main servers must be stopped, and the primary server application must be configured before the standby server is configured.

Note 1 — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

Note 2 — In a redundant 5620 SAM deployment, you must configure the primary main server first, then the standby main server.

1 If the 5620 SAM main server is a standalone main server, go to step 4.

2 Perform steps 4 and 5 on the primary main server.

Note — After you stop the primary main server in step 4, a server activity switch occurs and the standby main server becomes the new primary main server.

3 Perform steps 4 and 5 on the former standby (new primary) main server.

4 Stop the 5620 SAM main server application.

i Log in as a user with root-equivalent privileges on the server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server application:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server application is stopped when the command in step 4 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 4 v. Do not proceed unless the console displays the above text.

5 Perform the following steps to add the new auxiliary server to the main server configuration.

i Log in as a user with root-equivalent privileges on the main server station.

ii Open a console window.

iii Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

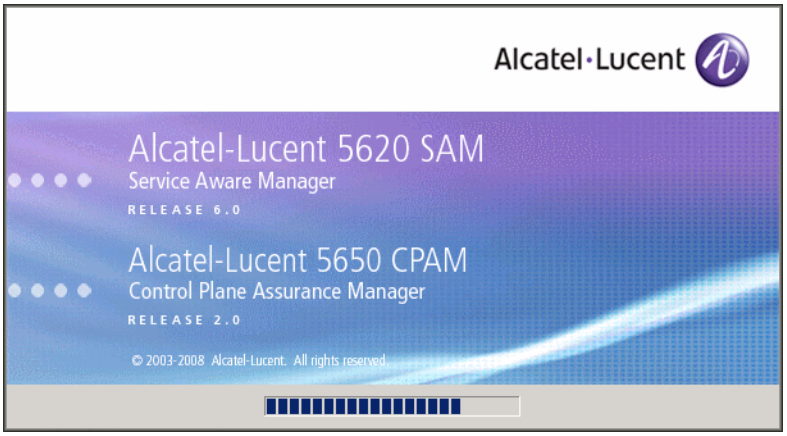
iv Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 3-183 appears and the configuration process begins.

Figure 3-183 5620 SAM Installer



v Accept the terms of the license agreement in the Software License Agreement panel, then click on the Next button.

vi Choose Main Server Configuration in the Choose Installation Type panel, then click on the Next button.

vii Click on the Next button on each successive panel until the second Main Server Address Configuration panel is displayed.

viii Select the "Enable Stats Collection on Remote Servers" parameter.

ix Click on the Next button.

x Click on the Add button.

xi Configure the following parameters:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

xii Click on the OK button to save the information and close the form.

xiii Click on the Next button in each successive panel until the main server configuration is complete.

xiv Click on the Done button to close the installer.

6 Perform the following steps on each 5620 SAM main server to start the server application.

Caution — In a redundant 5620 SAM deployment, you must start the former primary main server first, then the former standby main server. This ensures that the primary and standby designations are the same as when you began this procedure.

i Navigate to the 5620 SAM server binary directory, typically /opt/5620sam/server/nms/bin.

ii Enter the following at the CLI prompt:

```
# ./nmsserver.bash start ↵
```

The main server starts and adds the new auxiliary server to the 5620 SAM cluster.

7 If IP validation is enabled for database access, perform the following steps on each database station in the 5620 SAM system to enable validation of the auxiliary server.

Caution — In a redundant 5620 SAM deployment, you must perform this step on the primary database station first, then on the standby database station.

i Log in as the Oracle management user on the database station.

ii Open a console window.

iii Navigate to the Oracle network configuration directory. Enter the following at the CLI prompt:

```
bash$ cd path/network/admin ↵
```

where *path* is the Oracle base installation location, typically /opt/5620sam/oracle10r2

iv Create a backup copy of the sqlnet.ora file.

v Open the sqlnet.ora file with a text editor, for example, vi.

vi In the section labeled IP Validation, edit the TCP.VALIDNODE_CHECKING line to read:

```
TCP.VALIDNODE_CHECKING = yes
```

vii In the same section, edit the TCP.INVITED_NODES line to read:

```
TCP.INVITED_NODES = (host|IP_address)
```

where
host is the hostname of the new auxiliary server
IP_address is the IP address of the new auxiliary server

Note — You can specify multiple auxiliary servers by using a comma to separate entries, as follows:

```
TCP.INVITED_NODES = (host_1|IP_address_1,host_2|IP_address_2)
```

viii Save the file.

ix Close the file.

x Enter the following commands in sequence at the CLI prompt to restart the Oracle database listener:

```
bash$ cd path/bin ↵
```

where *path* is the Oracle base installation location, typically /opt/5620sam/oracle10r2

```
bash$ lsnrctl stop ↵
```

```
bash$ lsnrctl start ↵
```

xi Close the console window.

8 Perform Procedure 3-5 to install the 5620 SAM auxiliary server software on the station that is to be the new 5620 SAM auxiliary server station.

4 — 5620 SAM upgrade on Solaris

4.1 5620 SAM upgrade on Solaris overview *4-2*

4.2 5620 SAM upgrade on Solaris procedures list *4-2*

4.3 5620 SAM system upgrade preparation *4-3*

4.4 Workflow for standalone 5620 SAM system upgrade on Solaris *4-9*

4.5 Standalone 5620 SAM system upgrade on Solaris procedures *4-10*

4.6 Workflow for redundant 5620 SAM system upgrade on Solaris *4-49*

4.7 Redundant 5620 SAM system upgrade on Solaris procedures *4-51*

4.8 5620 SAM auxiliary server upgrade *4-170*

4.1 5620 SAM upgrade on Solaris overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.

Caution 1 — An upgrade of the 5620 SAM software components in a network requires that you thoroughly understand the general and operating system-specific requirements of the task. It is essential that the upgrade procedure be planned, documented and tested in advance on a lab system that is representative of the target live network.

Contact your Alcatel-Lucent support representative to assess the upgrade requirements for your network implementation of the 5620 SAM software. Alcatel-Lucent offers an upgrade service and strongly recommends that it be engaged for upgrades in larger or more complex networks.

Caution 2 — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

4.2 5620 SAM upgrade on Solaris procedures list

Table 4-1 lists the procedures required to perform 5620 SAM software upgrade activities on a Solaris platform.

Table 4-1 5620 SAM upgrade on Solaris procedures list

Procedure	Purpose
To perform the pre-upgrade tasks	Prepare a standalone or redundant 5620 SAM system on Solaris for a software upgrade by ensuring the correct conditions are in place, backing up the database and configuration files, and gathering the required system information.
To upgrade a standalone 5620 SAM system on Solaris	Upgrade the 5620 SAM database and server software in a collocated or distributed standalone configuration on a Solaris platform.
To upgrade a 5620 SAM Release 5.0 R3 or earlier client on Solaris or Linux	Upgrade the 5620 SAM client software on a Solaris or Linux station from Release 5.0 R3 or earlier.
To upgrade a 5620 SAM Release 5.0 R5 or later client on Solaris or Linux	Upgrade the 5620 SAM client software on a Solaris or Linux station from Release 5.0 R5 or later.
To upgrade a redundant 5620 SAM system on Solaris	Upgrade the 5620 SAM database and server software in a collocated or distributed redundant configuration on a Solaris platform.
To restore a 5620 SAM 4.0 database	Restore a backed-up 5620 SAM Release 4.0 database.

(1 of 2)

Procedure	Purpose
To restore a 5620 SAM 5.0 database	Restore a backed-up 5620 SAM Release 5.0 database.
To upgrade a 5620 SAM auxiliary server	Upgrade the 5620 SAM auxiliary server software on a Solaris station that is part of a standalone or redundant 5620 SAM system.

(2 of 2)

4.3 5620 SAM system upgrade preparation

Before you attempt a 5620 SAM system upgrade, you must collect the required information and ensure that the proper upgrade conditions are in place. To do this, perform Procedure 4-1.

Procedure 4-1 To perform the pre-upgrade tasks

Perform this procedure to prepare a standalone or redundant 5620 SAM system on a Solaris platform for a 5620 SAM software upgrade.

General preparation

1 Ensure that the required versions of 5620 SAM software are available.

- A standalone upgrade requires only the DVD-ROM that contains the new version of 5620 SAM software.
- A redundant upgrade requires the DVD-ROM that contains the new version of 5620 SAM software and the DVD-ROM that contains the currently installed version of 5620 SAM software.

2 Remove all outstanding failed deployments. See the *5620 SAM User Guide* for information about deleting a failed deployment.

Back up database

3 Alcatel-Lucent strongly recommends that you back up the currently active 5620 SAM database in advance of a 5620 SAM server and database system upgrade.

Caution — When backing up a 5620 SAM database, specify a backup directory that does not include the 5620 SAM database installation directory, or data loss may occur. A typical 5620 SAM database installation directory is /opt/5620sam/samdb.

Perform one of the following actions.

a Use a 5620 SAM client GUI to back up the database. See the *5620 SAM User Guide* for information about performing database backups using the client GUI.

b Use a CLI script to back up the database.

i Log in as a user with root-equivalent privileges on the appropriate station.

- In a standalone 5620 SAM system, this is the standalone database station.
- In a redundant 5620 SAM system, this is the primary database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Enter the following at the CLI prompt to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

4 Copy the database backup files from the backup directory specified in step 3 b iv to a secure location, such as a non-5620 SAM station, for safekeeping.

Verify managed-device compatibility

5 Ensure that the new 5620 SAM software version supports the software version of each 5620 SAM-managed device. Perform one of the following actions for each unsupported device before you attempt the upgrade, or a service disruption may occur. See the *5620 SAM NE Compatibility Guide* for information about managed-device release and 5620 SAM release compatibility.

a Upgrade the device to a software version that the new 5620 SAM software supports. See the appropriate device documentation for information about device software upgrades.

b Remove the device from the 5620 SAM managed network. See the *5620 SAM User Guide* for information about performing the following steps.

i Use a 5620 SAM client to unmanage the device.

ii When the device is unmanaged, use the 5620 SAM client to remove the device from the 5620 SAM network.

Note 1 — If you have a Release 5.0 R4 or earlier 5620 SAM system that manages one or more 7250 SAS-ES, Release 2.0 devices, you must unmanage the 7250 SAS-ES, Release 2.0 devices in your network before you attempt to upgrade the 5620 SAM software.

You can resume management of the devices when the 5620 SAM upgrade is complete.

You do not need to unmanage a 7250 SAS-STD device before you upgrade the 5620 SAM software.

Note 2 — If you have a 5620 SAM system that manages one or more OS 6850 devices as generic NEs, you must unmanage and delete the OS 6850 generic NEs before you upgrade the 5620 SAM software.

You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

Open port for client/server communication

6 Ensure that the firewalls between the 5620 SAM main server and client allow traffic to the HTTP or HTTPS port used for performing automatic client updates. Otherwise, you cannot perform a client installation. By default, the auto-update utility uses HTTP. See the SSL configuration for secure messaging chapter of the *5620 SAM User Guide* for information about configuring HTTP and HTTPS for client/server communication.

Back up configuration files

7 Make a backup copy of the *path*/nms/config/nms-server.xml configuration file on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the file in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station.

8 Make a copy of any custom XML configuration files in the *path*/nms/jboss directory on each server station

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Note — The upgrade process re-installs and potentially modifies the format of the XML files in the jboss directory. You can use the copy of the pre-upgrade XML files as a reference for restoring your custom configuration, but you cannot use the files as part of the upgraded server installation. Copying the files into the new jboss directory after the upgrade does not restore the configuration specified in the XML files.

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station.

9 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device backup files collected by the 5620 SAM in the *path*/nms/sr-backup directory on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device backup files to the 5620 SAM database.

10 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device software image files stored by the 5620 SAM in the *path*/nms/sr-images directory on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device software image files to the 5620 SAM database.

Gather required information

11 Obtain the following information for each server and database station in the 5620 SAM system and record it for use during the upgrade:

- hostname
- IP addresses
  - server IP addresses used by 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
  - server IP address used by 5620 SAM GUI and OSS clients to reach the server (public IP address, if NAT is used)
  - server IP address used by 5620 SAM auxiliary servers to reach the server (public IP address, if NAT is used)
  - private server IP address (if NAT is used)
- root user password

12 Obtain the redundancy information for each server and database in the 5620 SAM system.

i Open a 5620 SAM client.

ii Choose Administration→System Information from the 5620 SAM main menu. The System Information window is displayed.

iii Record the following information for use during the upgrade:

- Domain Name
- **In the Primary Server panel:**
  - IP Address
  - Host Name
  - Status
- **In the Primary Database Server panel:**
  - Database Name
  - Instance Name
  - IP Address
  - Host Name

iv If the 5620 SAM system is deployed in a redundant configuration, record the following information for use during the upgrade:

- **In the Secondary Server panel:**
  - IP Address
  - Host Name
  - Status
- **In the Secondary Database Server panel:**
  - Database Name
  - Instance Name
  - IP Address
  - Host Name

v If the 5620 SAM system is a redundant system, view the configuration in the <db section of the *path*/nms/config/nms-server.xml file on the primary main server

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that the database that is defined as the primary database in the file is currently acting as the primary database. If it is currently in the standby role, you must perform a server activity switch or database switchover to align the redundancy roles as defined in the server configuration. See the *5620 SAM User Guide* for more information about performing redundancy activity switches and switchovers.

For example, in a collocated redundant 5620 SAM system, the primary main server and the primary database must be on the same station, or the upgrade fails.

Similarly, in a distributed redundant 5620 SAM configuration, the primary main server and primary database roles must currently be as defined in the primary main server configuration, or the upgrade fails.

13 Obtain the following information for each database in the 5620 SAM system and record it for use during the upgrade:

- hostname
- IP addresses
  - database IP addresses used by 5620 SAM servers to reach the database (public IP addresses, if NAT is used)
  - database IP address used by 5620 SAM auxiliary servers to reach the database (public IP address, if NAT is used)
  - private database IP address (if NAT is used)
- root user password
- Oracle management user information:
  - UNIX user name (default value at installation is oracle)
  - UNIX group name (default value at installation is oracle)
  - UNIX home directory (default value at installation is /opt/5620sam/oracle)
- Oracle database user ID (default value at installation is samuser)
- Oracle database user password
- Oracle SYS password
- Oracle base installation directory name (default value at installation is /opt/5620sam/oracle)
- 5620 SAM database installation directory name (default value at installation is /opt/5620sam/samdb)

14 Close all unrequired open 5620 SAM client sessions.

i Open a 5620 SAM client session using an account with security management privileges, such as admin.

ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.

iii Click on the Sessions tab button.

iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.

v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.

vi Close the client sessions as required by selecting them and clicking on the Close Session button. A dialog box appears.

- If you are performing a standalone upgrade, you must close all open 5620 SAM client sessions.
- If you are performing a redundant upgrade, you must close all open 5620 SAM client sessions except for those required for monitoring the network during the upgrade.

Note — One of the listed sessions is the session that you are using. Do not attempt to close this session.

vii Click on the Yes button to confirm the action.

viii Click on the Search button to refresh the list of open client sessions.

15 If the 5620 SAM client that you are using is not required for network monitoring during the upgrade, close the 5620 SAM client by choosing Application→Exit from the 5620 SAM main menu.

4.4 Workflow for standalone 5620 SAM system upgrade on Solaris

The following is an overview of the steps required to upgrade a 5620 SAM standalone system on Solaris. A section heading in quotation marks refers to a section in Procedure 4-2.

1 Perform the pre-upgrade tasks. See Procedure 4-1 for more information.

2 Back up the 5620 SAM database, if not done as a pre-upgrade task. See "Back up database" for more information.

3 Stop the 5620 SAM server application. See "Shut down server" for more information.

4 Disable the 5620 SAM server startup daemon. See "Disable server daemon" for more information.

5 Prepare the 5620 SAM database for the upgrade. See "Prepare database for upgrade" for more information.

6 Disable the 5620 SAM database and Oracle proxy startup daemons. See "Disable database daemons" for more information.

7 Upgrade the database. See "Upgrade database" for more information.

8 Upgrade the server. See "Upgrade server" for more information.

9 Start the server. See "Start server" for more information.

10 Upgrade or install one or more 5620 SAM clients. See "Upgrade or install clients" for more information.

11 Upgrade or install a client delegate, if required. See Procedure 3-4 for more information.

4.5 Standalone 5620 SAM system upgrade on Solaris procedures

Procedure 4-2 describes how to upgrade the 5620 SAM server and database components in a standalone 5620 SAM system on Solaris. Procedure 4-3 and 4-4 describe how to upgrade the 5620 SAM client component in a standalone or redundant 5620 SAM system on Solaris or Linux.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 4-2 To upgrade a standalone 5620 SAM system on Solaris

Perform this procedure to upgrade the 5620 SAM software on the main server and database components, and one or more client components in a standalone 5620 SAM system on a Solaris platform.

1 Open at least one 5620 SAM client to monitor the network before the first server/database pair is upgraded.

Back up database

2 Alcatel-Lucent strongly recommends that you perform a database backup before you perform a 5620 SAM system upgrade. If you did not perform a database backup as part of the pre-upgrade preparation in Procedure 4-1, back up the database at this point using a CLI script. Perform the following actions.

i Log in as a user with root-equivalent privileges on the database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Enter the following at the CLI prompt to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

Shut down server

3 Stop the 5620 SAM server application.

i Log in as a user with root-equivalent privileges on the server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server application:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server application is stopped when the command in step 3 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 3 v. Do not proceed unless the console displays the above text.

Disable server daemon

4 Disable the 5620 SAM server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the upgrade.

i Log in to the server station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Disable the 5620 SAM server daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

Prepare database for upgrade

5 Before you perform a 5620 SAM database upgrade on Solaris, you must run a pre-installation script. This script configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database upgrade to fail.

Log in as a user with root-equivalent privileges on the database station.

6 Open a console window.

7 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

8 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh upgrade ↵
```

9 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — Running the script may generate messages that are similar to the following; these are not error messages and can be ignored.

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle10R2"

Disable database daemons

10 After the script execution completes, disable the 5620 SAM Oracle proxy and database startup daemons. This ensures that the 5620 SAM database does not automatically start in the event of a power disruption during the upgrade.

i Log in to the server station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Disable the 5620 SAM database startup daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S95db5620sam inactive.S95db5620sam ↵
```

v Disable the 5620 SAM Oracle proxy daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S965620SAMOracleProxyWrapper

inactive.S965620SAMOracleProxyWrapper ↵
```

11 After the script execution completes, reboot the database station to put the system update into effect. Enter the following at the CLI prompt:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

Upgrade database

12 After the database station reboots, log in to the database station as a user with root-equivalent privileges.

13 Open a console window.

14 Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

15 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

16 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

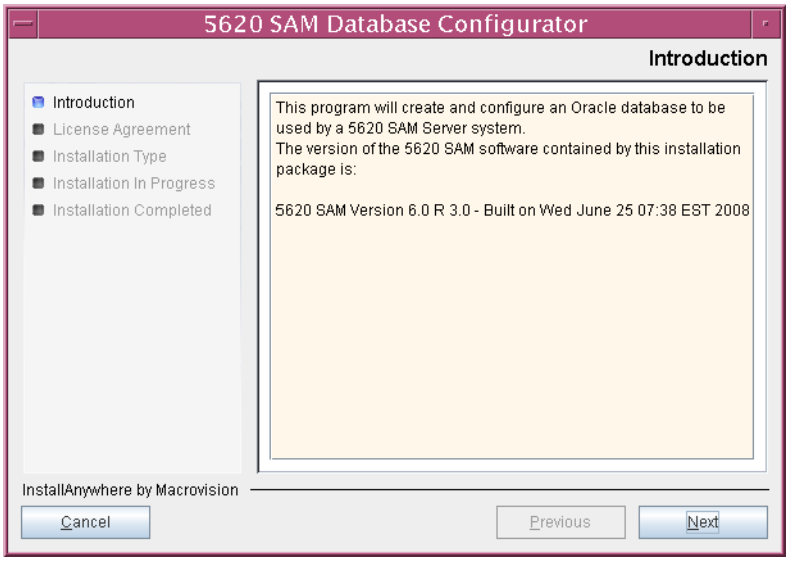
where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 4-1 appears and the upgrade process begins.

Figure 4-1 5620 SAM Installer

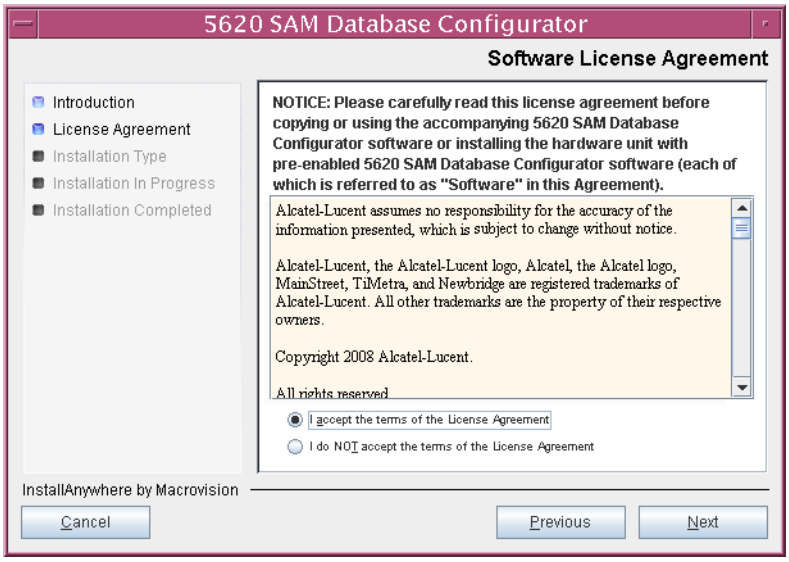
17 The 5620 SAM installer opens, as shown in Figure 4-2. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-2 Introduction



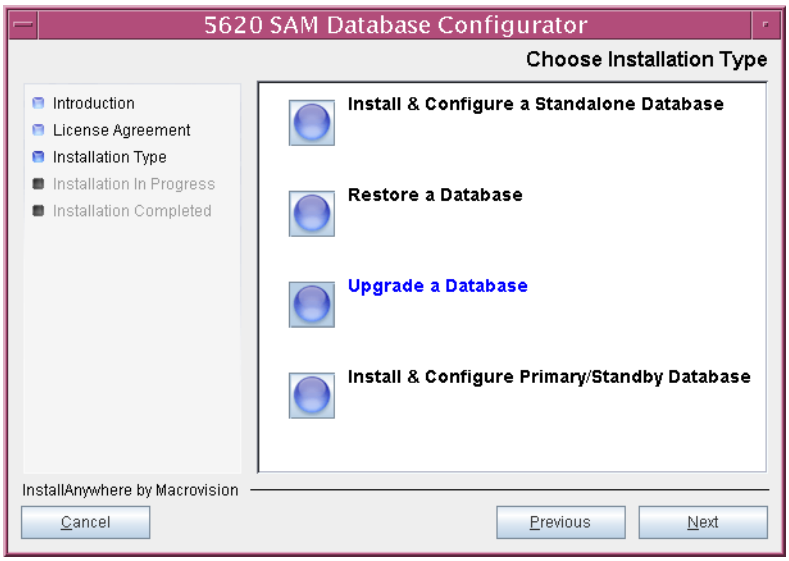
18 Review and accept the terms of the license agreement shown in Figure 4-3, then click on the Next button.

Figure 4-3 Software License Agreement



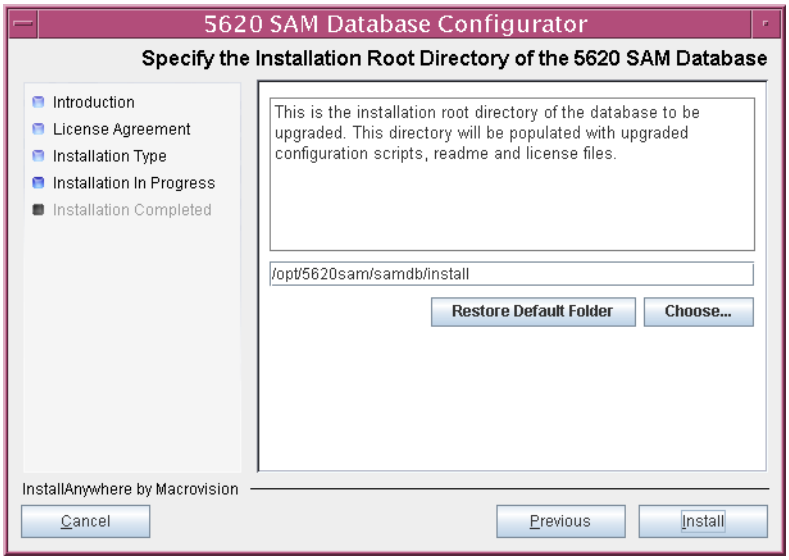
19 Select Upgrade a Database, as shown in Figure 4-4, then click on the Next button.

Figure 4-4 Choose Installation Type



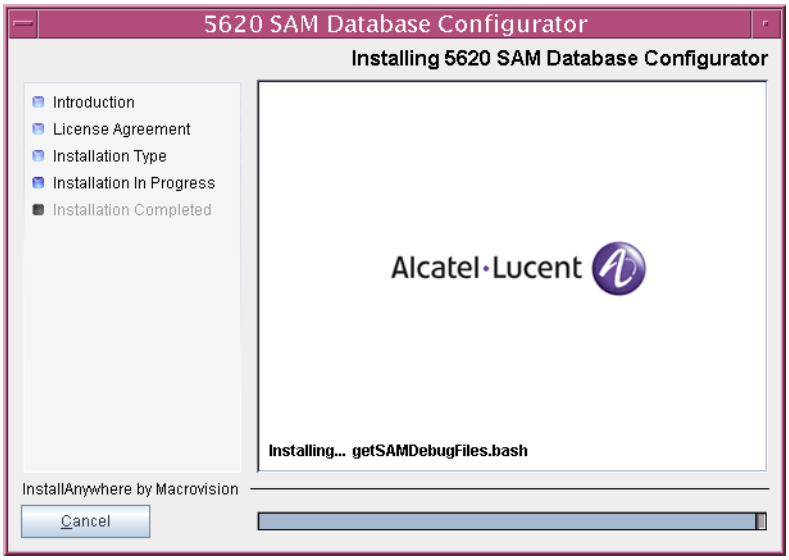
20 Specify the directory in which the 5620 SAM database files are installed (typically /opt/5620sam/samdb/install), as shown in Figure 4-5, then click on the Install button to proceed.

Figure 4-5 Specify the Installation Root Directory of the 5620 SAM Database



The next panel displays database software installation progress, as shown in Figure 4-6.

Figure 4-6 Installing 5620 SAM Database Configurator

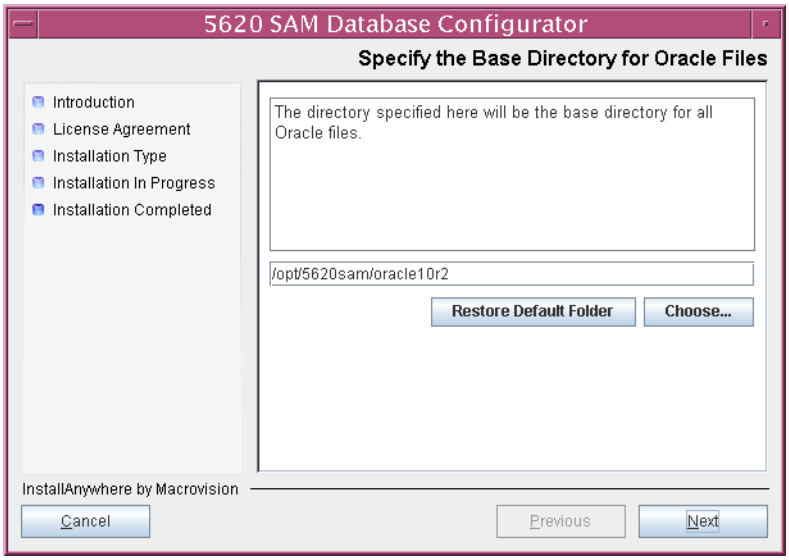


21 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 4-7, then click on the Next button.

Note 1 — If you are upgrading the 5620 SAM from a version earlier than Release 5.0 R1, a new Oracle software directory is chosen for you. You can specify an alternate directory.

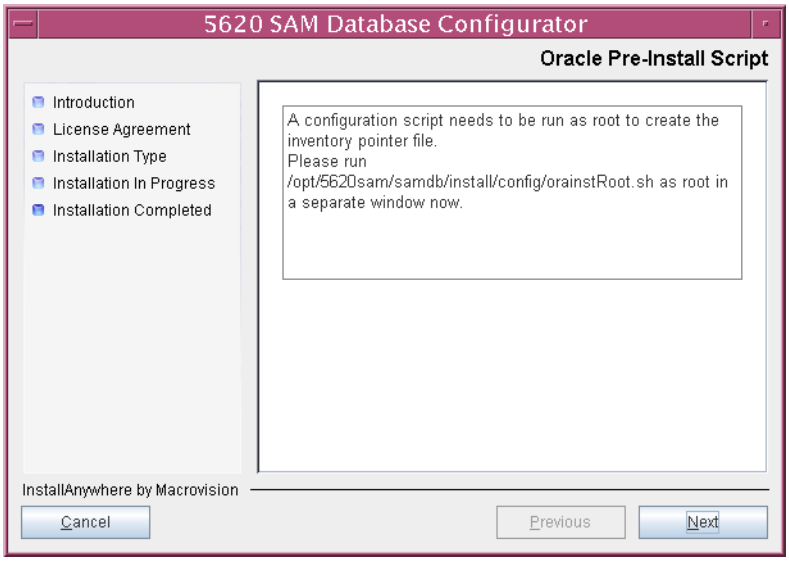
Note 2 — If you are upgrading the 5620 SAM from a version later than Release 5.0 R1, the existing Oracle software directory is chosen for you and cannot be changed.

Figure 4-7 Specify the Base Directory for Oracle Files



22 You may be prompted to run an Oracle pre-installation script, as shown in Figure 4-8. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

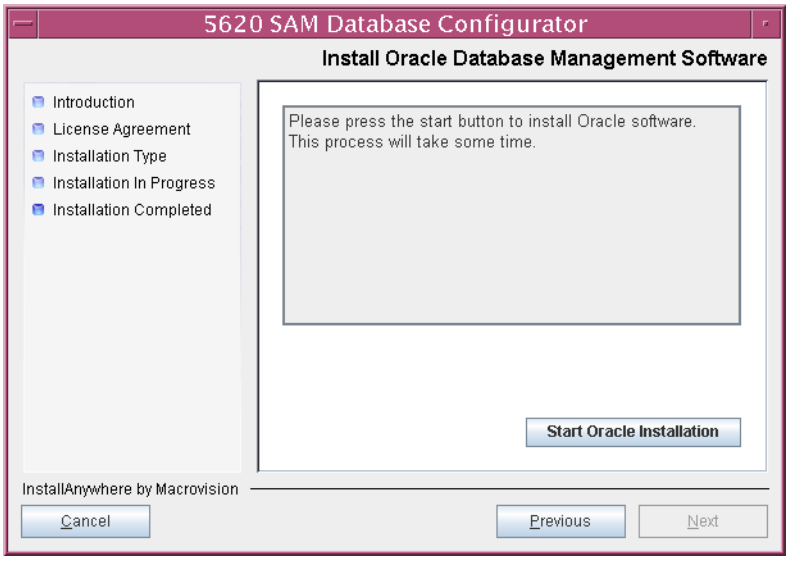
Figure 4-8 Oracle Pre-Install Script



23 You may be prompted to perform one of the following.

a If the panel in Figure 4-9 is displayed, perform the following steps.

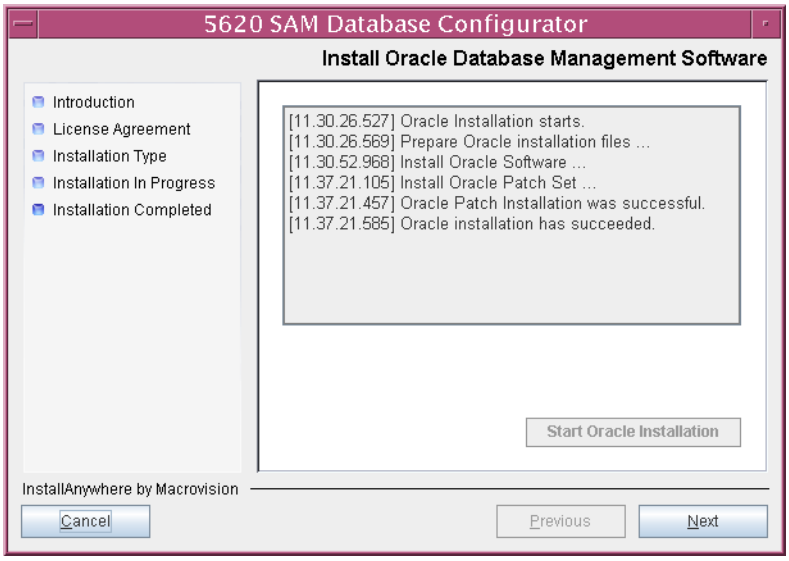
Figure 4-9 Install Oracle Database Management Software



i Click on the “Start Oracle Installation” button to begin the Oracle software installation. Oracle installation can take an hour or more to complete.

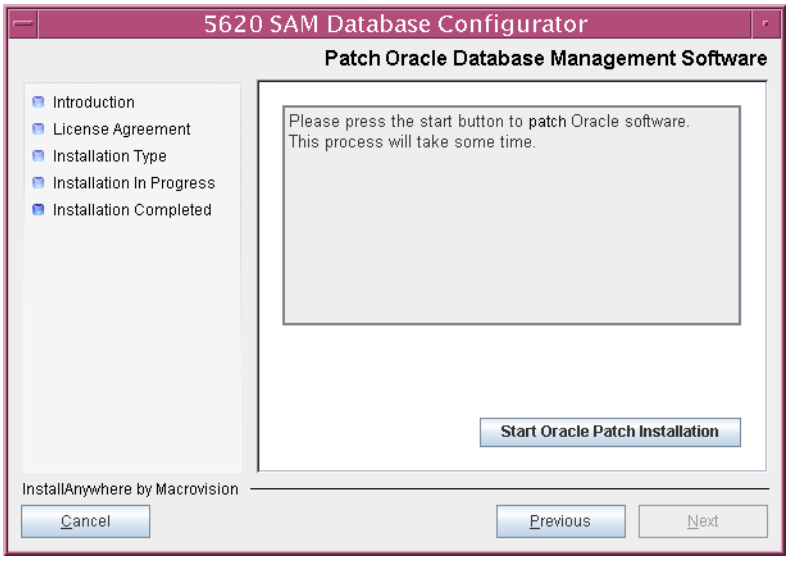
ii Oracle installation details are displayed as the installation progresses. When the installation is complete, as shown in Figure 4-10, click on the Next button to continue.

Figure 4-10 Install Oracle Database Management Software



b If the panel in Figure 4-11 is displayed, perform the following steps.

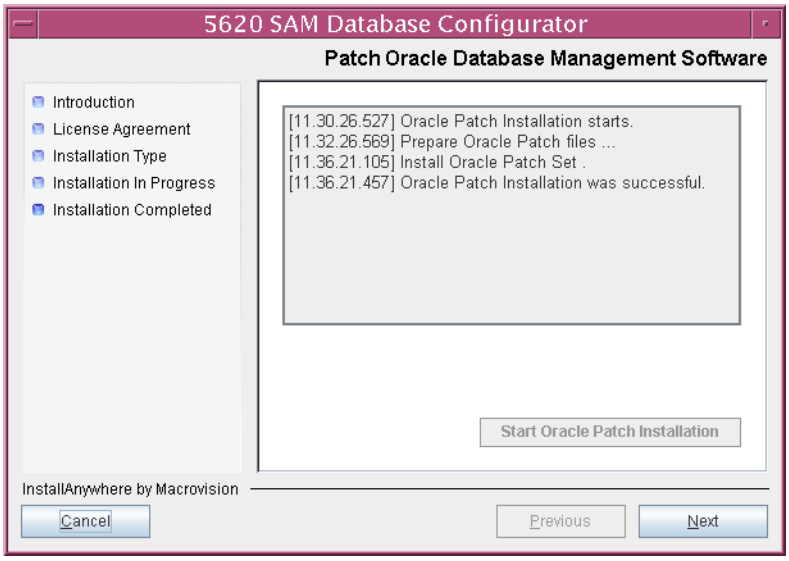
Figure 4-11 Patch Oracle Database Management Software



i Click on the “Start Oracle Patch Installation” button to begin installing the Oracle patch. Oracle patch installation can take an hour or more to complete.

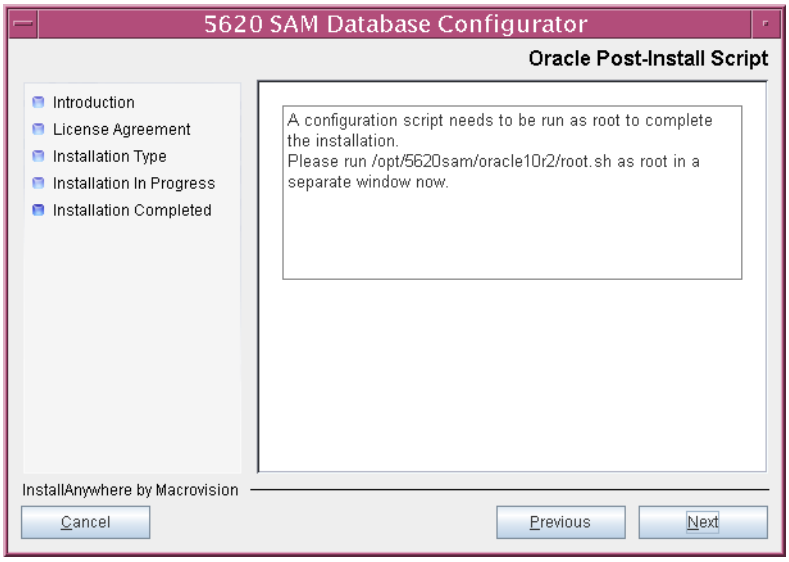
ii Oracle patch installation details are displayed as the patch installation progresses. When the patch installation is complete, as shown in Figure 4-12, click on the Next button to continue.

Figure 4-12 Patch Oracle Database Management Software



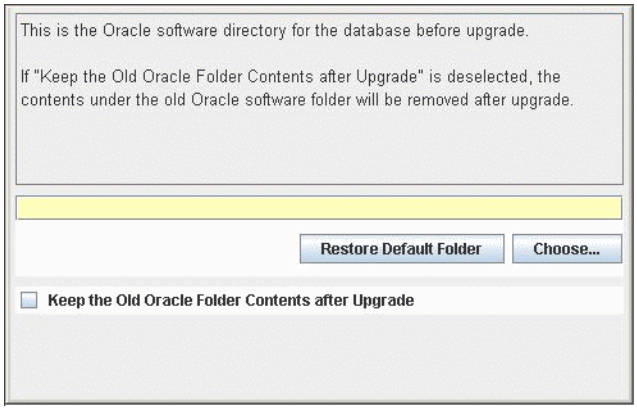
24 You may be prompted to run an Oracle post-installation script, as shown in Figure 4-13. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

Figure 4-13 Oracle Post-Install Script



25 The panel shown in Figure 4-14 is displayed if a new version of Oracle is being installed, such as when you upgrade from 5620 SAM Release 4.0. If you do not want the existing Oracle installation deleted by the installer, enable the "Keep the Old Oracle Folder Contents after Upgrade" parameter and specify the base directory in which the existing Oracle software is installed (typically /opt/5620sam/oracle). Click on the Next button to continue.

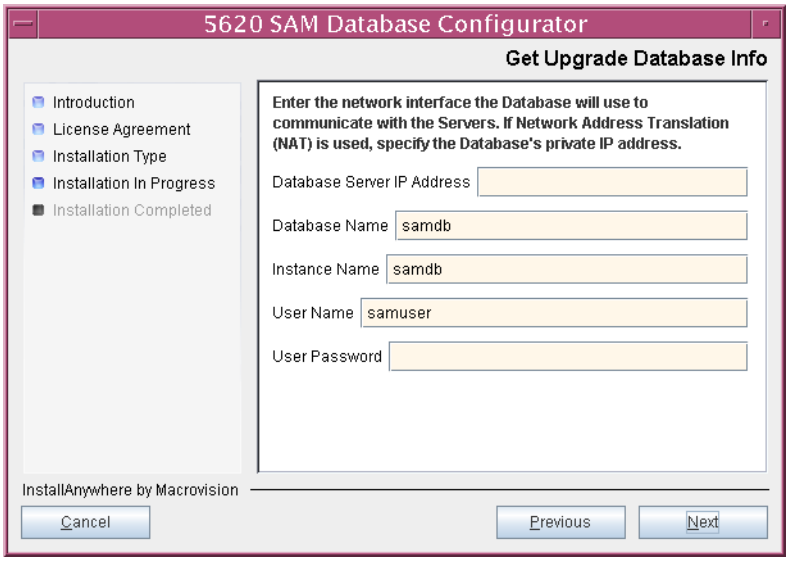
Figure 4-14 Specify existing Oracle location



26 Configure the following parameters shown in Figure 4-15 using information from the existing 5620 SAM installation, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password

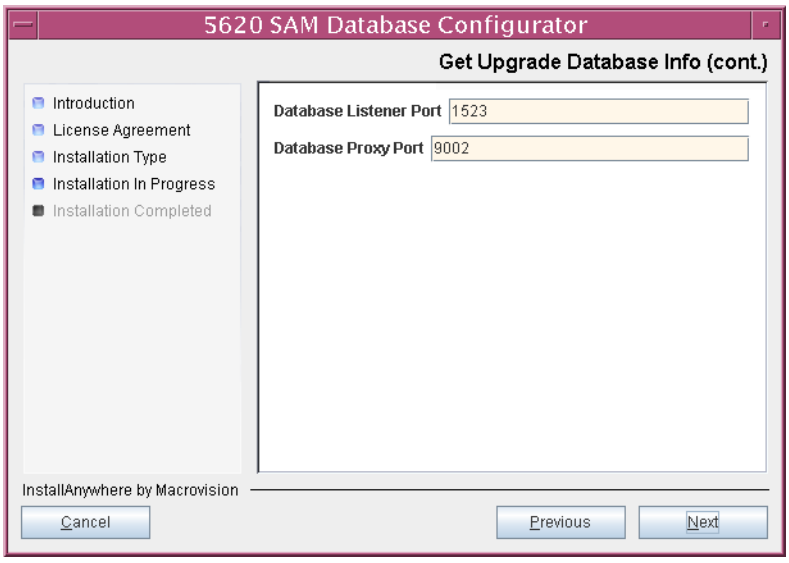
Figure 4-15 Get Upgrade Database Info



27 Configure the following parameters shown in Figure 4-16 using information from the existing 5620 SAM installation, then click on the Next button:

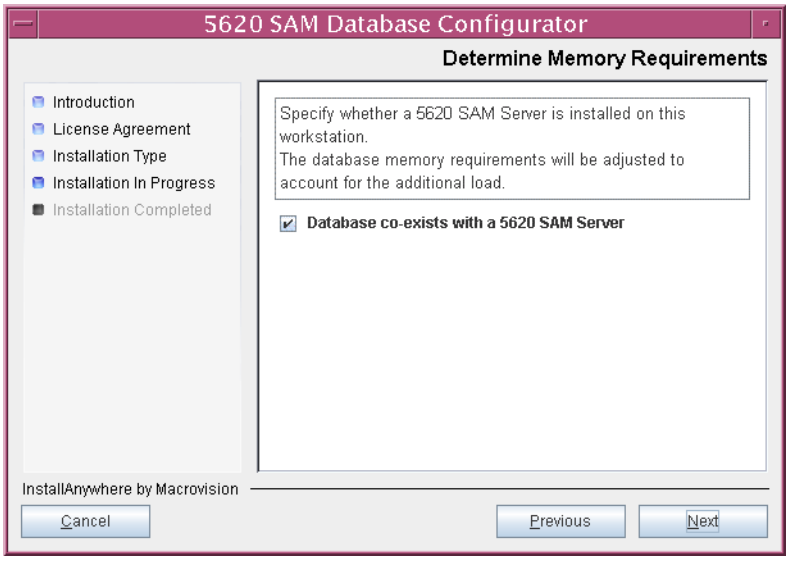
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)

Figure 4-16 Get Upgrade Database Info (continued)



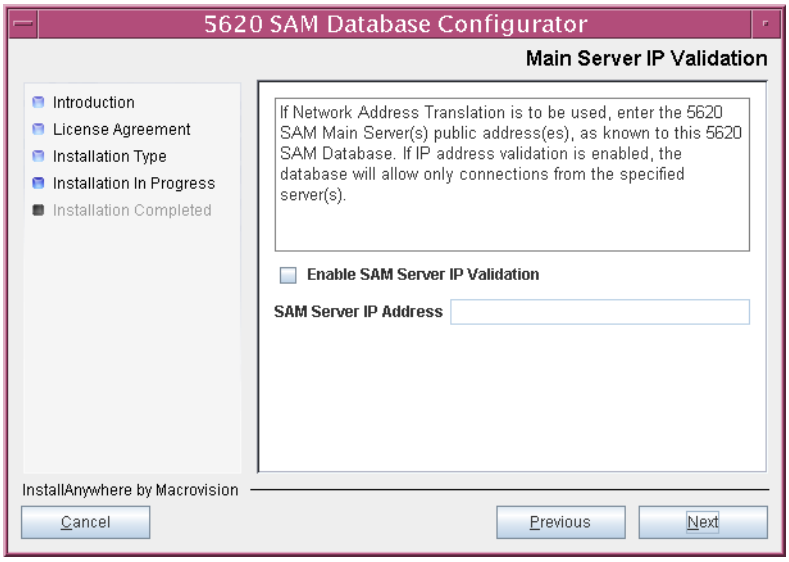
28 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 4-17. Click on the Next button to continue.

Figure 4-17 Determine Memory Requirements



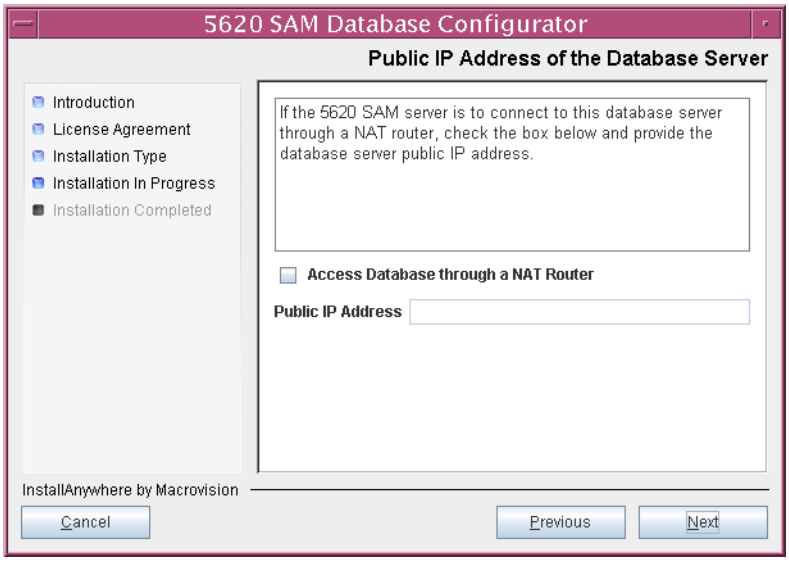
29 If the “Enable SAM Server IP Validation” parameter shown in Figure 4-18 is enabled, only the specified server can connect to the database. If required, enable this parameter and enter the IP address of the 5620 SAM server. Click on the Next button to continue.

Figure 4-18 Main Server IP Validation



30 If NAT is used between the 5620 SAM server and database, enable the “Access Database through a NAT Router” parameter shown in Figure 4-19 and enter the public IP address of the database. Click on the Next button to continue.

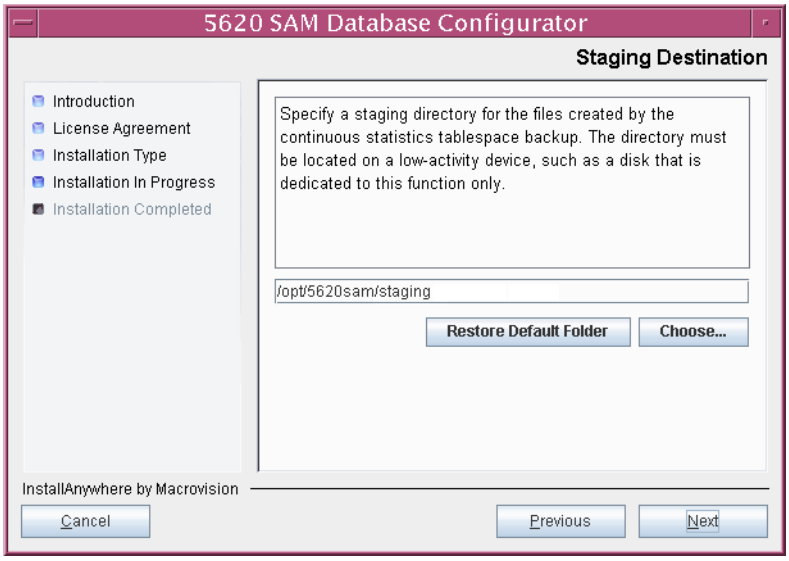
Figure 4-19 Public IP Address of the Database Server



31 If the panel in Figure 4-20 is displayed, specify a directory for the continuous statistics tablespace backup. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

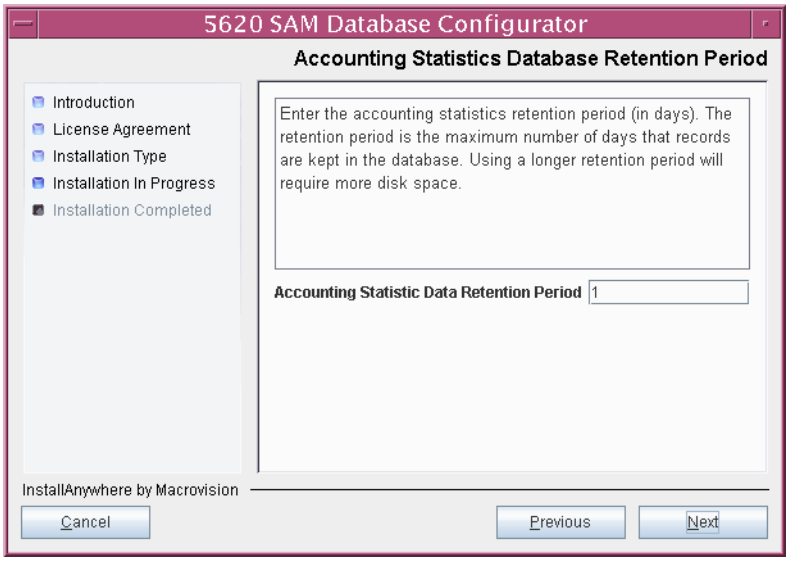
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/dbbackup partition, such as /opt/5620sam/dbbackup/staging.

Figure 4-20 Staging Destination



32 Configure the "Accounting Statistic Database Retention Period" parameter shown in Figure 4-21. Click on the Next button to continue.

Figure 4-21 Accounting Statistics Database Retention Period



33 Choose the tablespace directories.

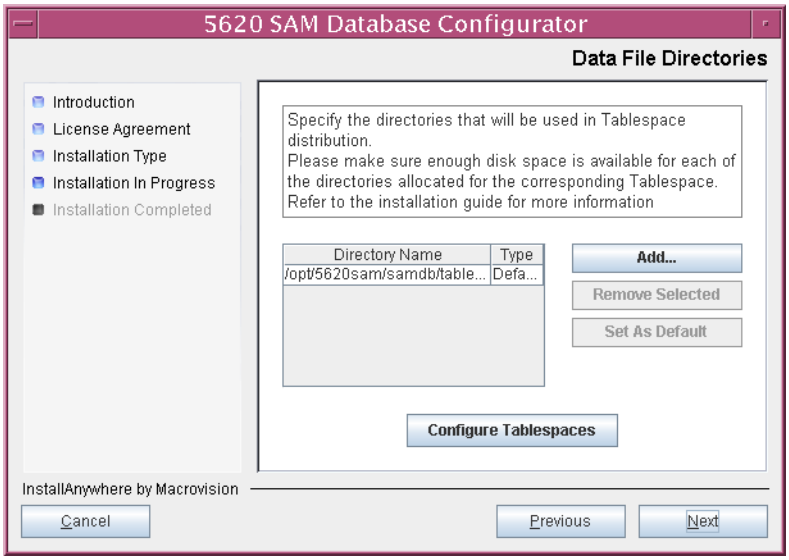
i Click on the Add button shown in Figure 4-22. A file browser form opens.

ii Use the browser form to choose a tablespace directory.

iii If you are configuring the database to use a single tablespace, go to step 35.

iv Repeat steps 33 i and ii as required to specify additional tablespace directories.

Figure 4-22 Data File Directories



34 Associate tablespaces with the directories specified in step 33.

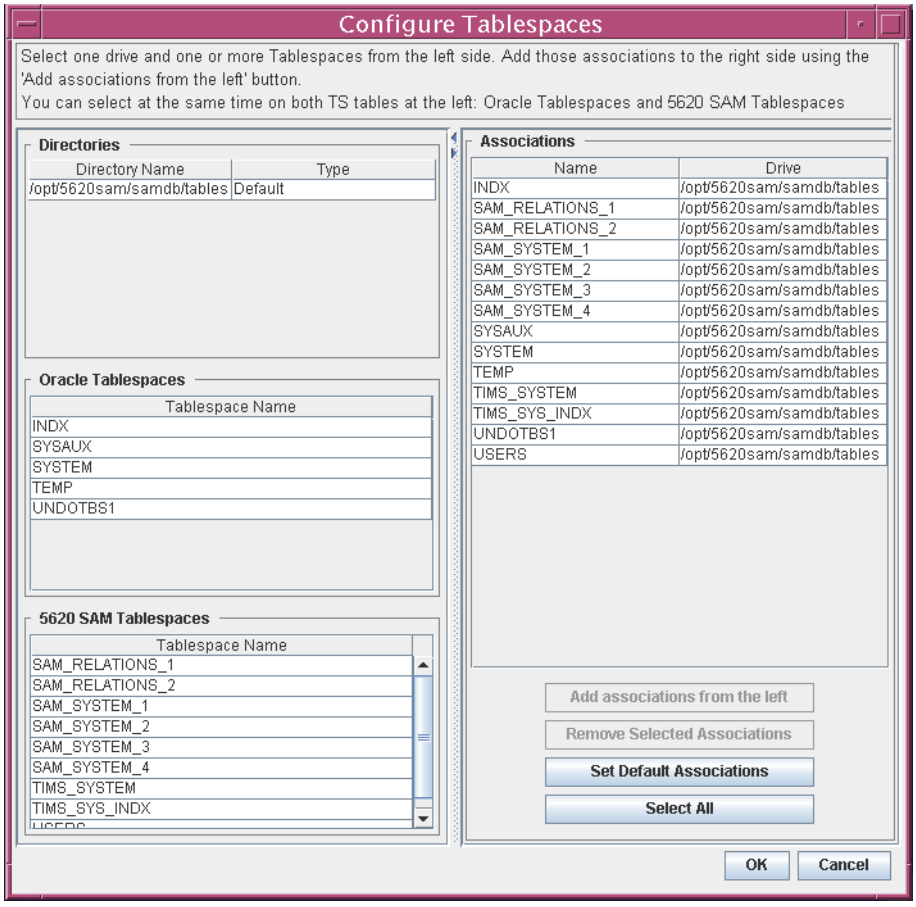
i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 4-23.

Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with the directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 4-22 is again displayed.

Figure 4-23 Configure Tablespaces

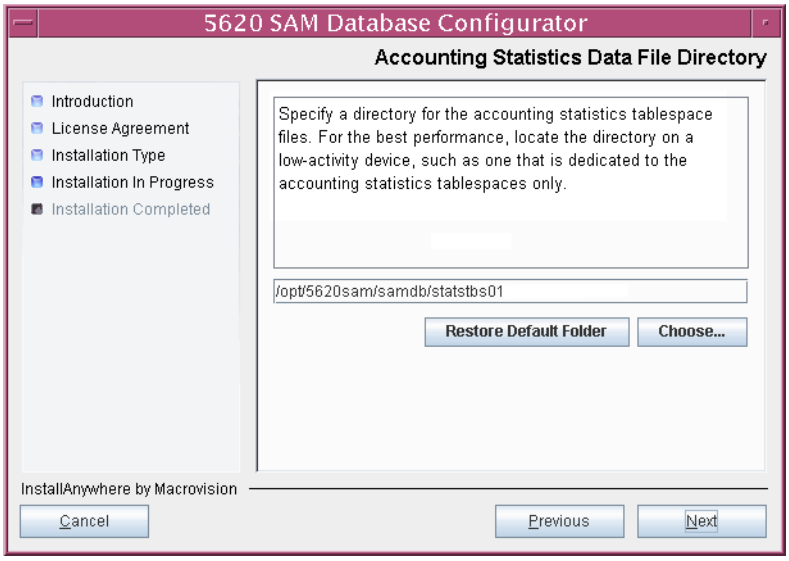


35 Click on the Next button to continue.

36 If the panel in Figure 4-24 is displayed, specify a directory for the accounting statistics tablespace files. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

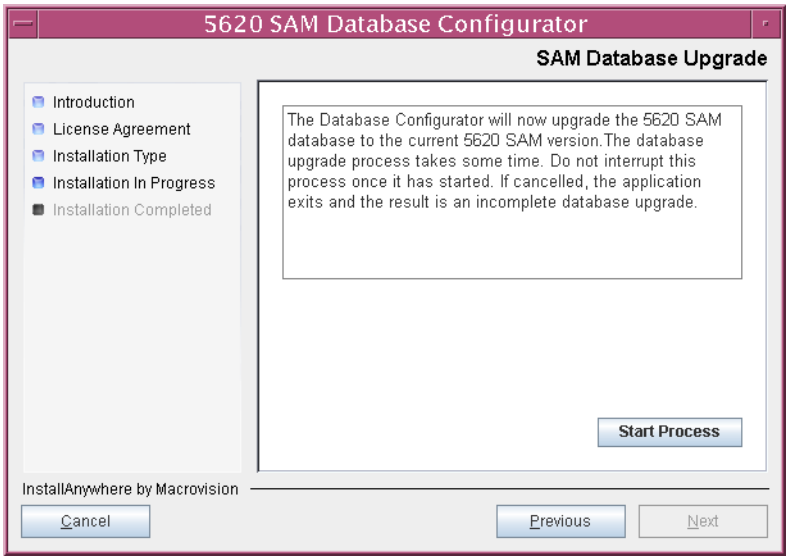
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/samdb/tablespace partition, such as /opt/5620sam/samdb/tablespace/statstbs01.

Figure 4-24 Accounting Statistics Data File Directory



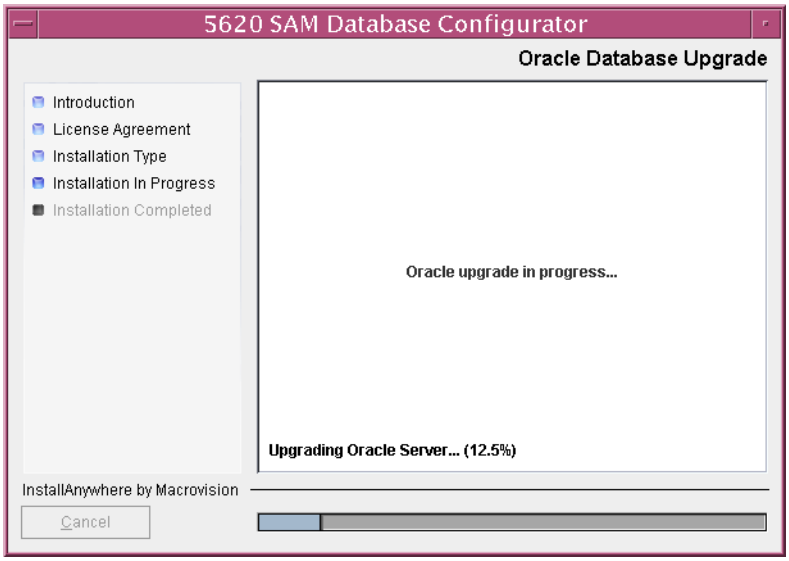
37 You are prompted to begin the database upgrade, as shown in Figure 4-25. A database upgrade can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 4-25 SAM Database Upgrade



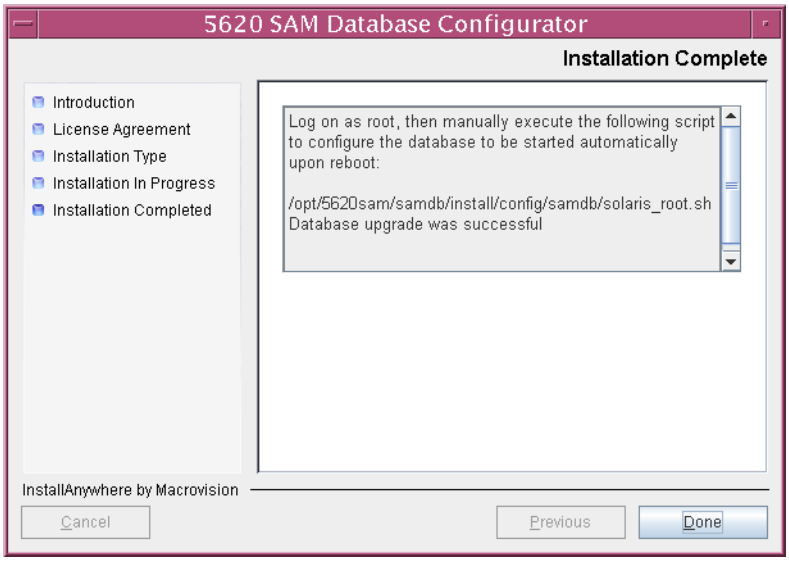
The next panel displays database upgrade progress, as shown in Figure 4-26.

Figure 4-26 Oracle Database Upgrade



38 When the database installation is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 4-27. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 4-27 Installation Complete



Upgrade server

39 Log into the server station as a user with root-equivalent privileges.

40 Open a console window.

41 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

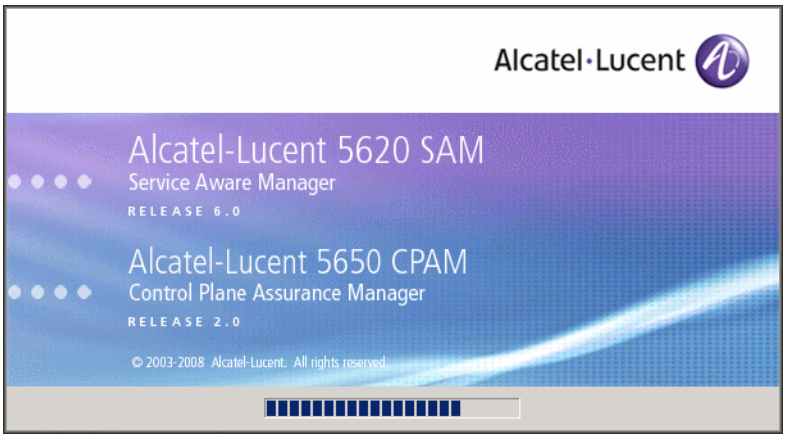
42 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

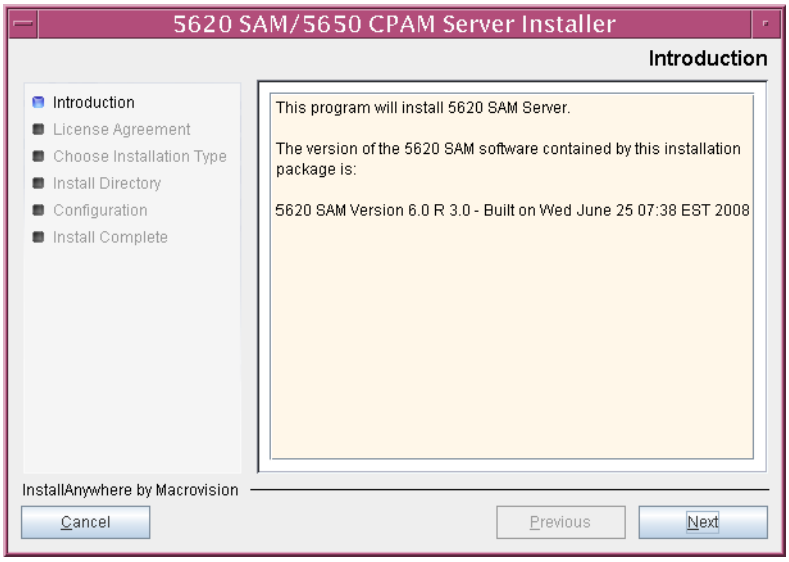
The splash screen in Figure 4-28 appears and the upgrade process begins.

Figure 4-28 5620 SAM Installer



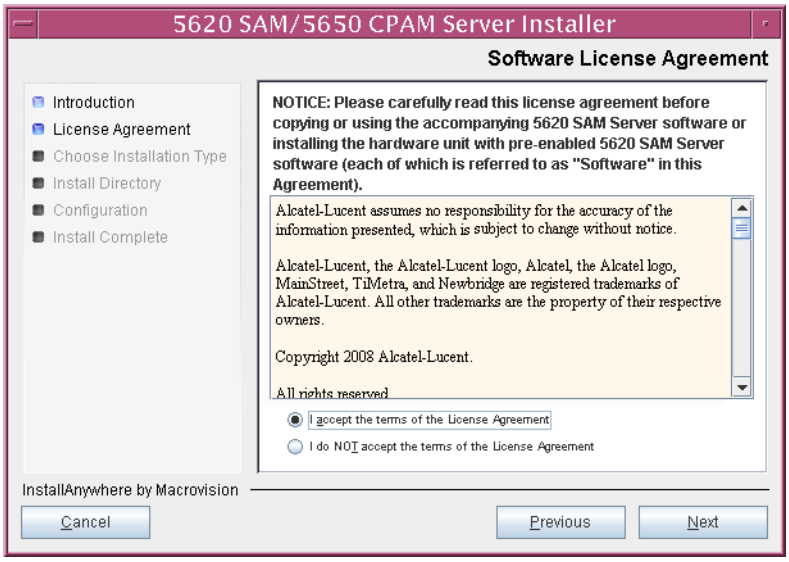
43 The 5620 SAM installer opens, as shown in Figure 4-29. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-29 Introduction



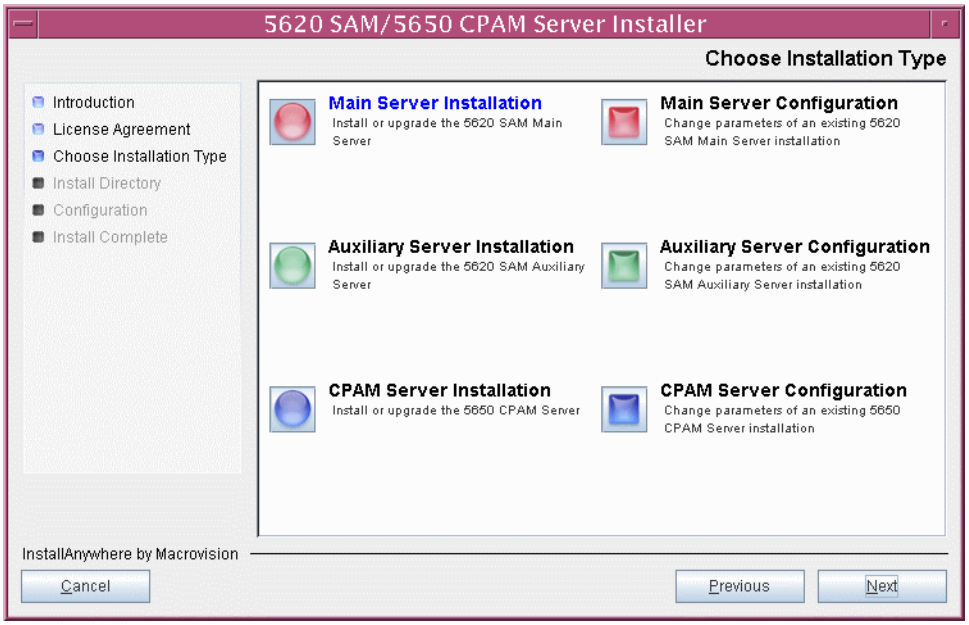
44 Review and accept the terms of the license agreement shown in Figure 4-30, then click on the Next button.

Figure 4-30 Software License Agreement



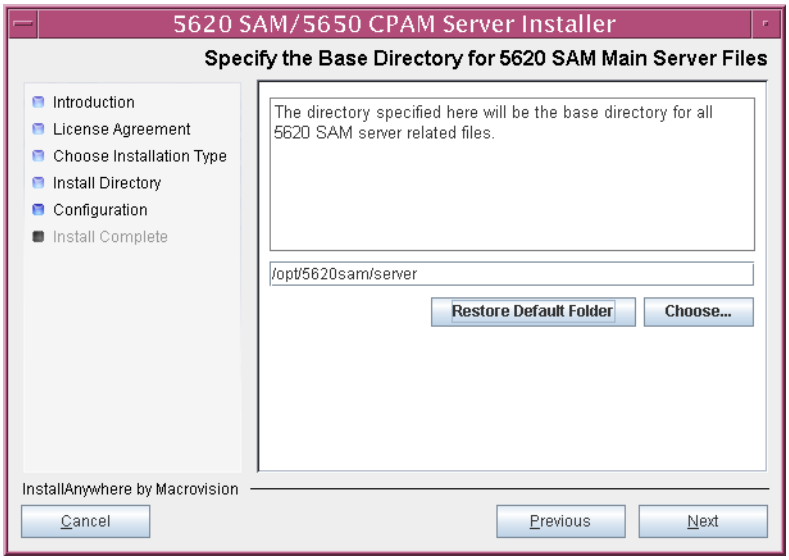
45 Select Main Server Installation, as shown in Figure 4-31, then click on the Next button.

Figure 4-31 Choose Installation Type



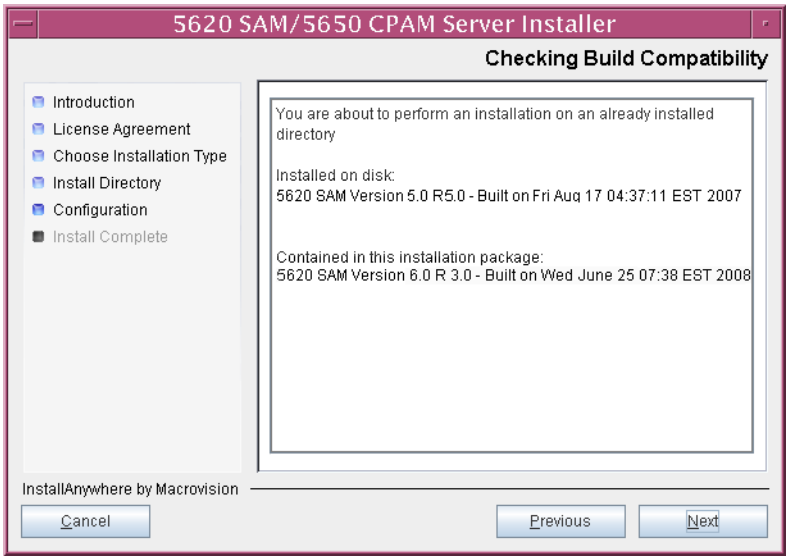
46 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 4-32. Click on the Next button to continue.

Figure 4-32 Specify the Base Directory for 5620 SAM Main Server Files



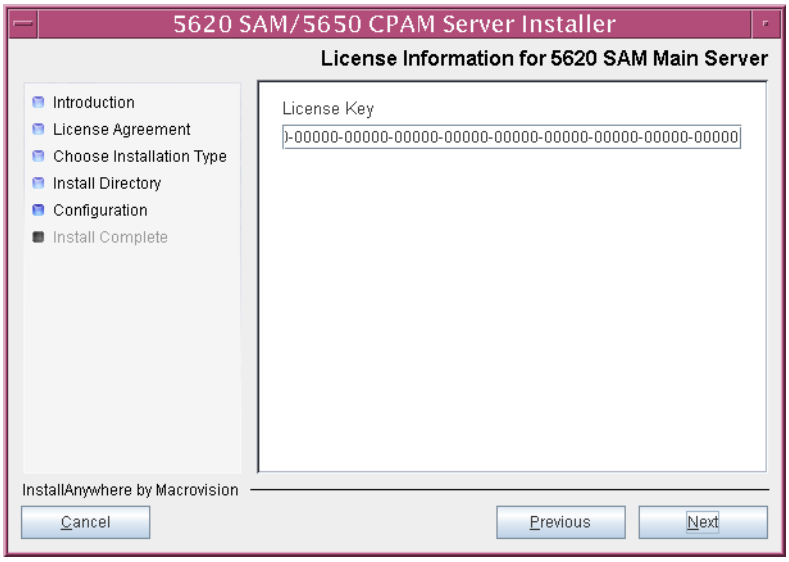
47 As shown in Figure 4-33, the installer displays the version of the 5620 SAM server software that is currently installed and the version to which it is being upgraded. Verify the information, then click on the Next button.

Figure 4-33 Checking Build Compatibility



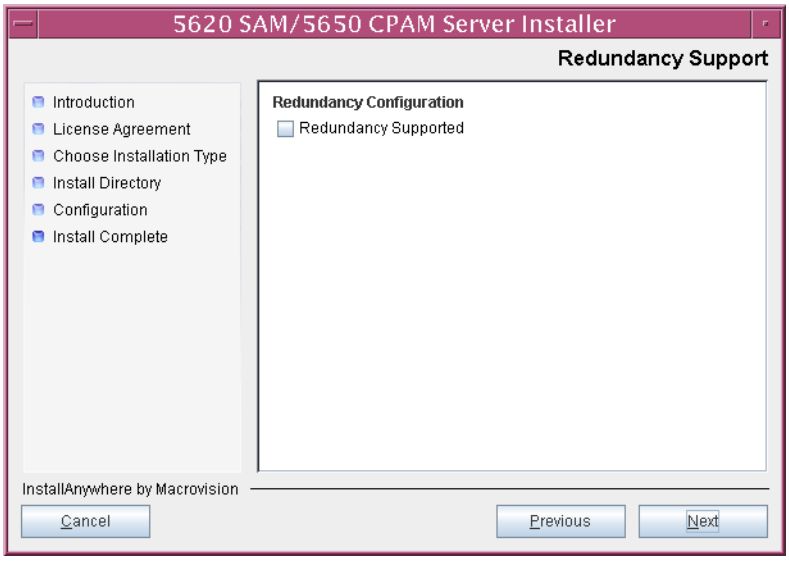
48 The 5620 SAM Installer displays the License Key specified during the existing installation. Enter the License Key information for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 4-34. Click on the Next button to continue.

Figure 4-34 License Information for 5620 SAM Main Server



49 Ensure that the “Redundancy Supported” parameter is disabled, as shown in Figure 4-35, then click on the Next button.

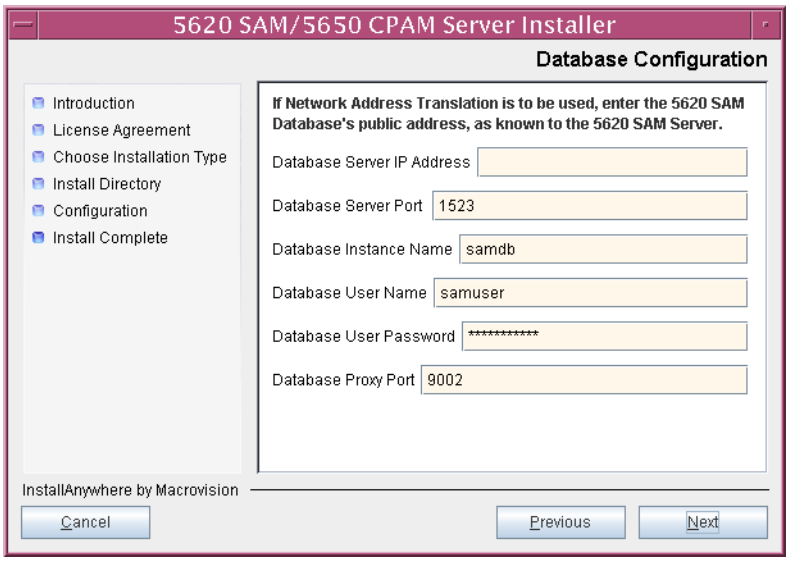
Figure 4-35 Redundancy Support



50 Configure the following parameters, shown in Figure 4-36, using the recorded values from the database installation. Click on the Next button to continue.

- Database Server IP address
- Database Server Port (typically 1523)
- Database Instance Name (typically samdb)
- Database User Name (typically samuser)
- Database User Password
- Database Proxy Port (typically 9002)

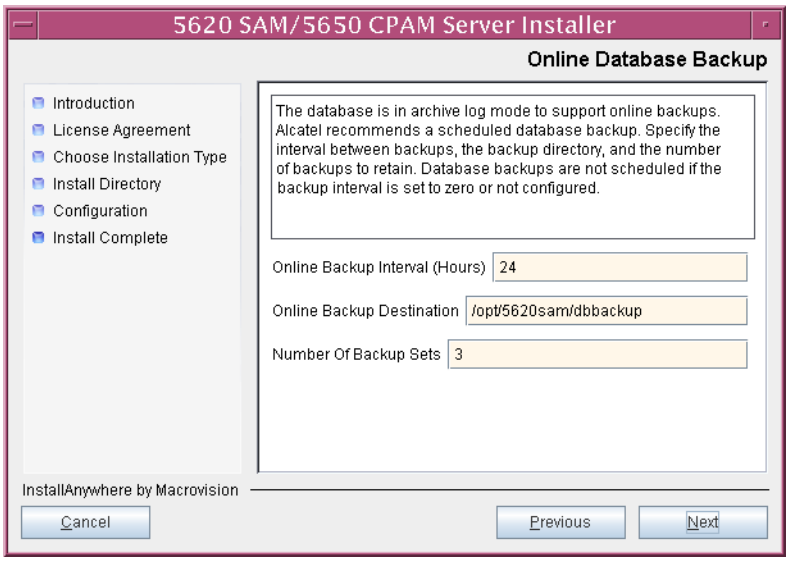
Figure 4-36 Database Configuration



51 Depending on the existing configuration. the panel shown in Figure 4-37 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

Figure 4-37 Online Database Backup

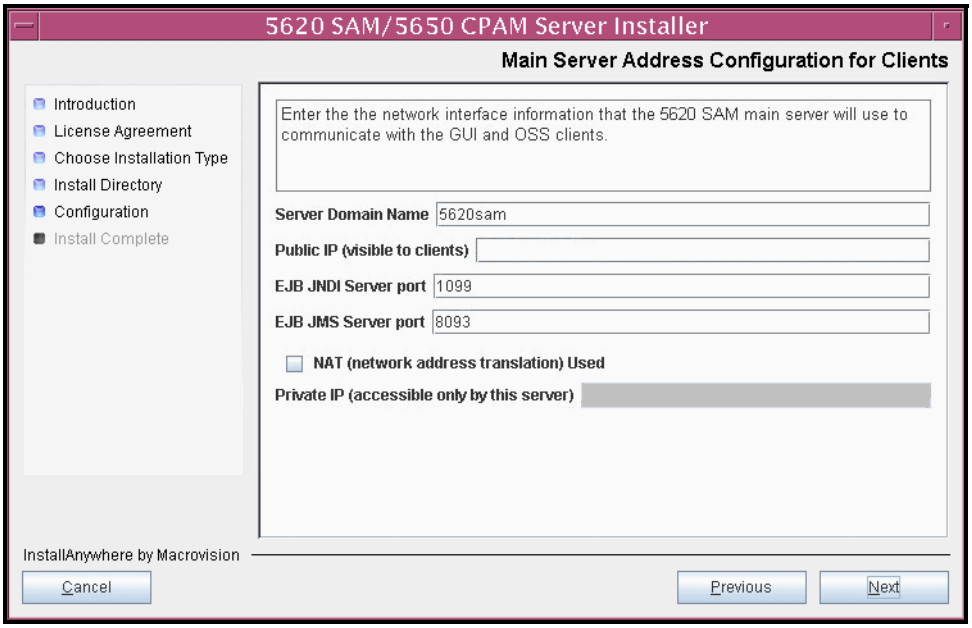


52 Configure the following parameters shown in Figure 4-38:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 4-38 Main Server Address Configuration for Clients



53 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

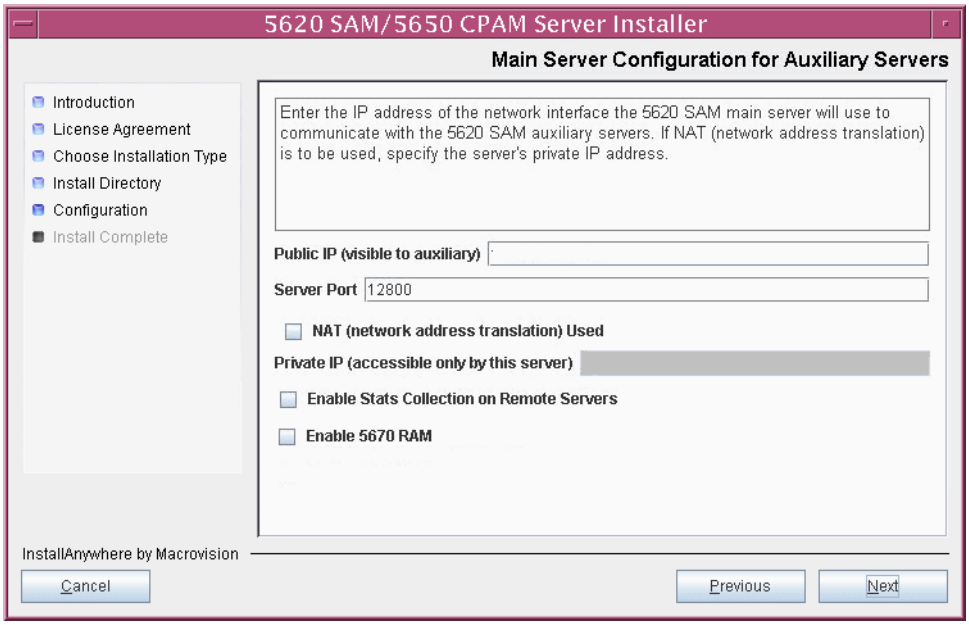
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 4-39:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the “Enable Stats Collection on Remote Servers” parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 4-39 Main Server Configuration for Auxiliary Servers



ii If NAT is used between the 5620 SAM main server and the auxiliary servers, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 4-40 to specify an auxiliary server. The form shown in Figure 4-41 opens.

Figure 4-40 Auxiliary Servers

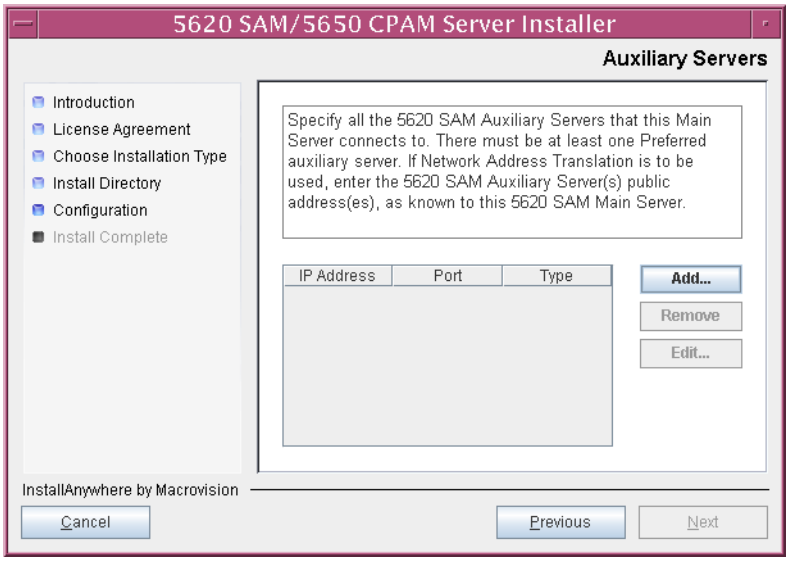
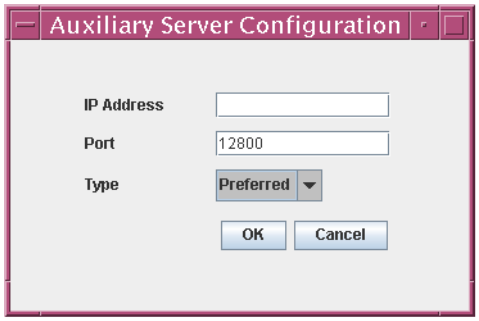


Figure 4-41 Auxiliary Server Configuration



v Configure the following parameters:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 53 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

54 Click on the Next button to continue.

55 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 4-42.

ii If you want to accept the default user documentation location that is displayed, go to step 56.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

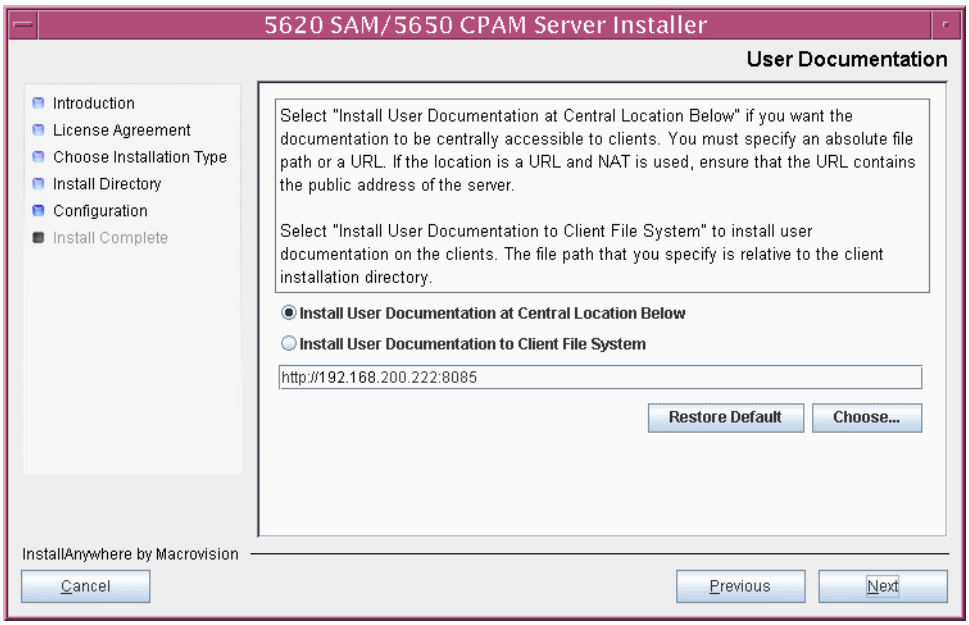
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 4-42.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

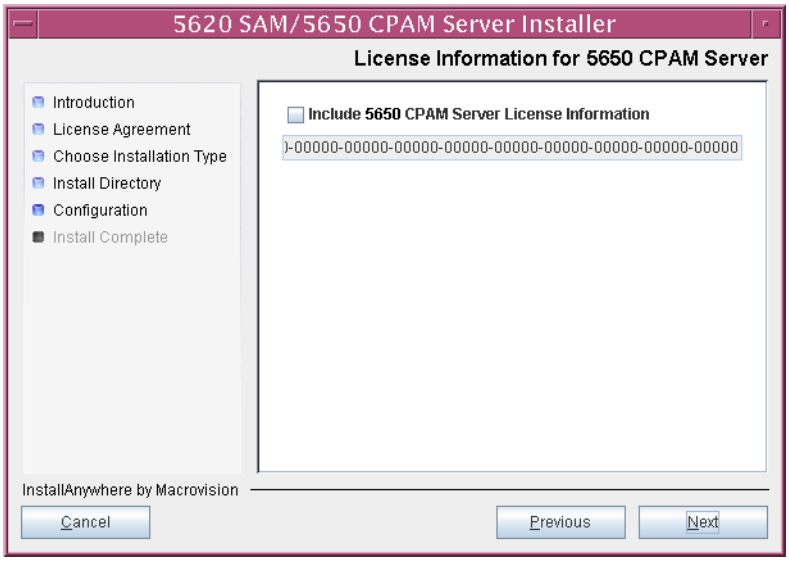
Figure 4-42 User Documentation



56 Click on the Next button to continue.

57 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 4-43. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

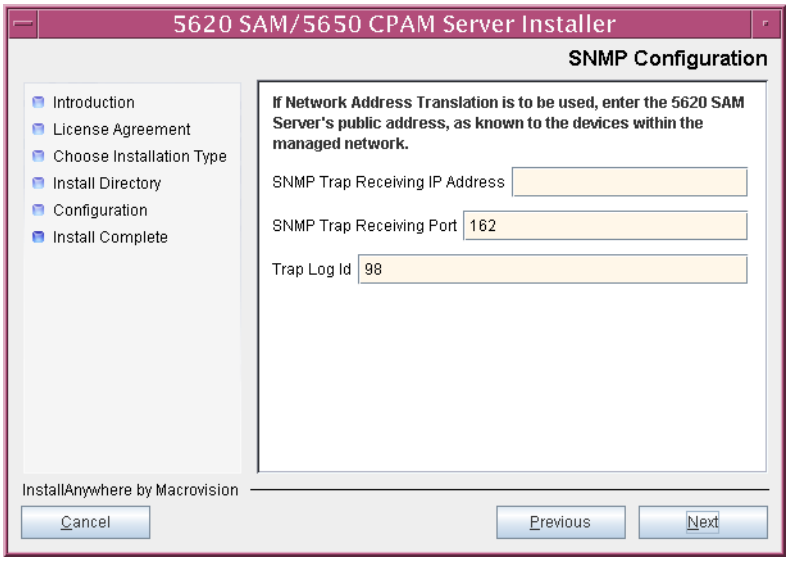
Figure 4-43 License Information for 5650 CPAM Server



58 Configure the following parameters shown in Figure 4-44, then click on the Next button:

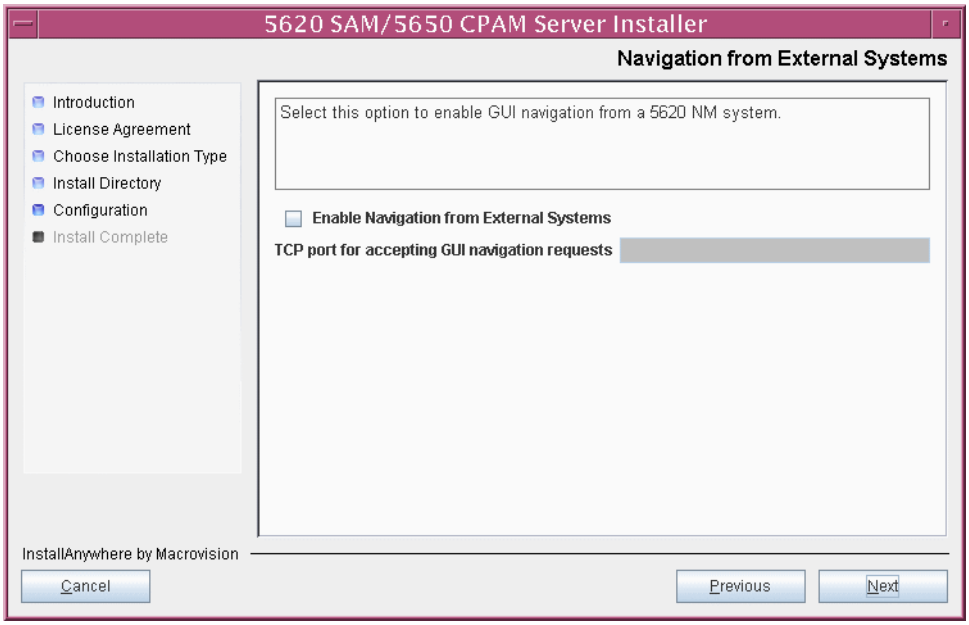
- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

Figure 4-44 SNMP Configuration



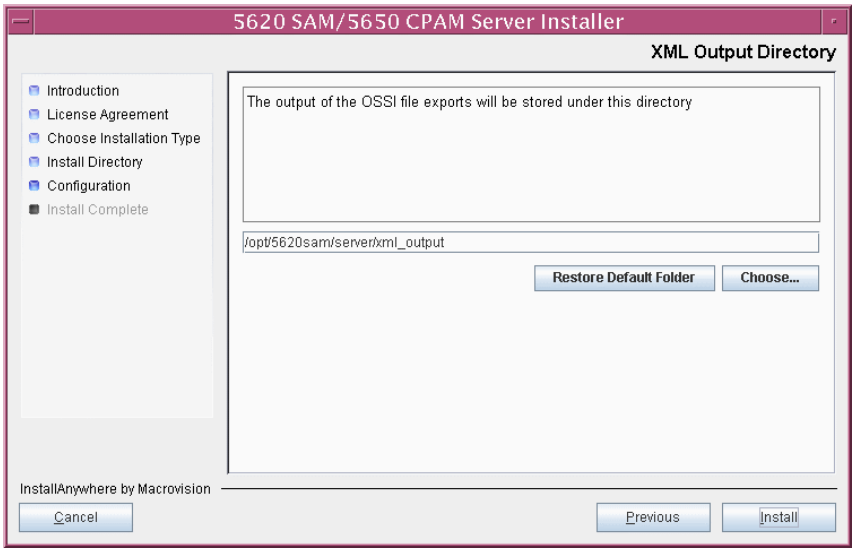
59 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 4-45 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 4-45 Navigation from External Systems



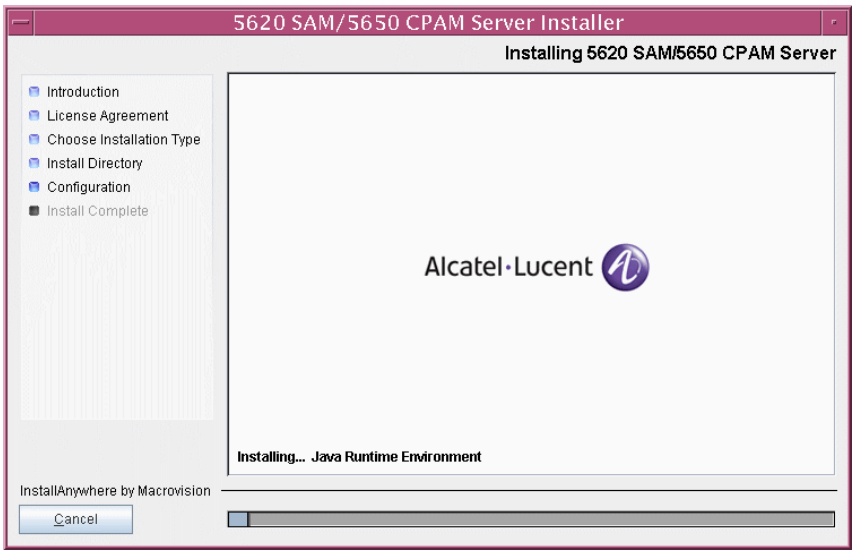
60 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 4-46. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 4-46 XML Output Directory



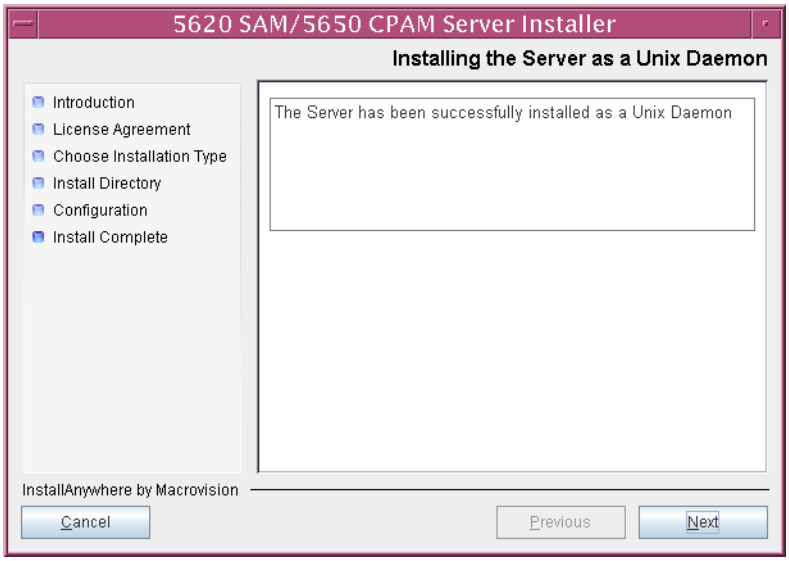
The next panel displays server installation progress, as shown in Figure 4-47.

Figure 4-47 Installing 5620 SAM/5650 CPAM Server



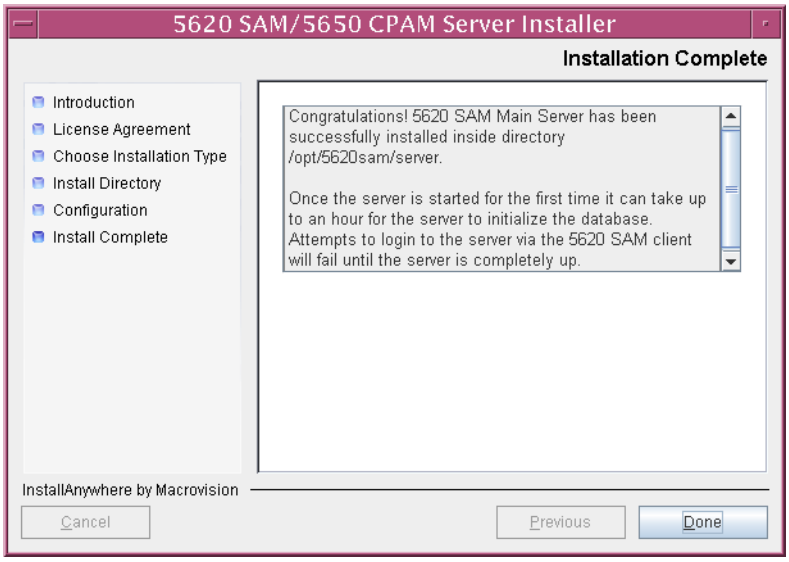
61 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 4-48. Click on the Next button to continue.

Figure 4-48 Installing the Server as a Unix Daemon



62 When the server installation is complete, as shown in Figure 4-49, click on the Done button to close the installer.

Figure 4-49 Installation Complete



Start server

63 Start the 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# ./nmsserver.bash start ↵
```

The 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

Upgrade or install clients

64 Upgrade an existing 5620 SAM client, or install a new 5620 SAM client, for sanity testing and network monitoring after the 5620 SAM server and database are upgraded to the new version. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 2-7 to upgrade a 5620 SAM client on a Windows station.

c Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

d Perform Procedure 4-3 or 4-4 to upgrade a 5620 SAM client on a Solaris or Linux station.

Note — The procedures listed in this step include a step that opens the 5620 SAM client. Do not perform the step that opens the 5620 SAM client; the 5620 SAM client is not to be started at this time.

Procedure 4-3 To upgrade a 5620 SAM Release 5.0 R3 or earlier client on Solaris or Linux

Procedure 4-3 describes how to upgrade the 5620 SAM client software on a Solaris or Linux station when the currently installed client software version is Release 5.0 R3 or earlier.

A 5620 SAM client software upgrade from Release 5.0 R3 or earlier to Release 5.0 R5 or later consists of a client uninstallation and subsequent client installation because of the introduction of the auto-client update functionality in Release 5.0 R5.

Note — The 5620 SAM server to which the 5620 SAM client connects must be upgraded before you can upgrade the client.

1 Close the 5620 SAM client if it is running.

i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.

ii Click on the Yes button. The 5620 SAM client closes.

2 Perform Procedure 7-1 to uninstall the existing 5620 SAM client software.

3 Perform Procedure 3-2 to install the new 5620 SAM client software.

Procedure 4-4 To upgrade a 5620 SAM Release 5.0 R5 or later client on Solaris or Linux

Procedure 4-4 describes how to upgrade the 5620 SAM client software on a Solaris or Linux station when the currently installed client software version is Release 5.0 R5 or later. You cannot use this procedure to upgrade an older version of the client software.

A 5620 SAM client software upgrade happens automatically when the client and the server to which it connects are running different versions of the 5620 SAM software.

Note — The 5620 SAM server to which the 5620 SAM client connects must be upgraded before you can upgrade the client.

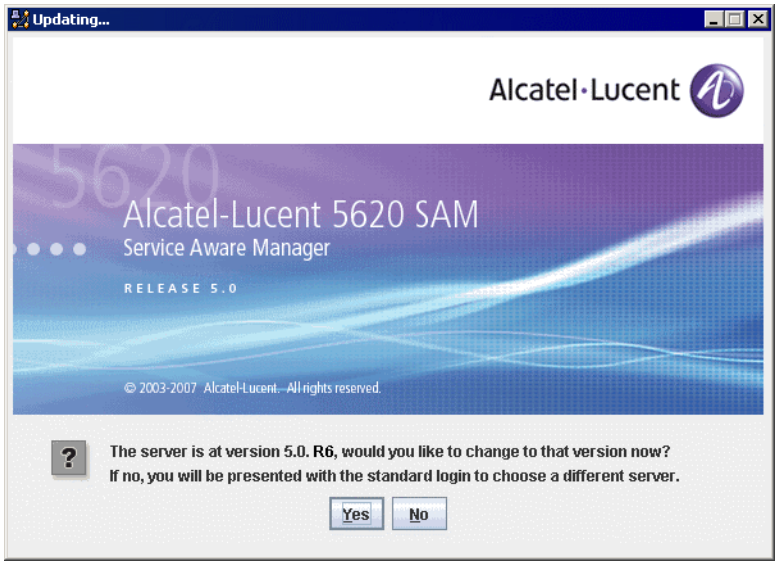
1 Close the 5620 SAM client if it is running.

i Choose Application→Exit from the 5620 SAM main menu. A dialog box appears.

ii Click on the Yes button. The 5620 SAM client closes.

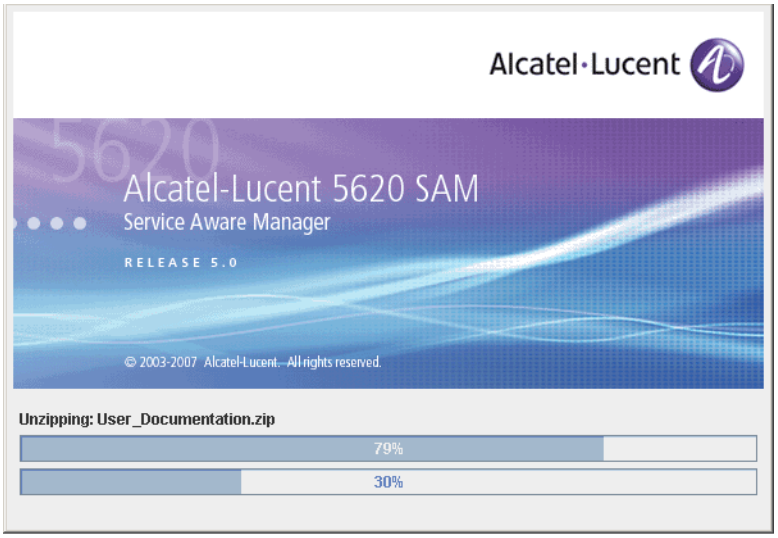
2 Start the 5620 SAM auto-client update utility by double-clicking on the 5620 SAM Client App desktop icon. The utility detects the available client software on the 5620 SAM server and presents the panel shown in Figure 4-50.

Figure 4-50 Upgrade prompt



3 Click on the Yes button to proceed with the 5620 SAM client software upgrade. As shown in Figure 4-51, the next panel displays the upgrade progress using separate indicators for overall progress and current task progress.

Figure 4-51 Installation progress

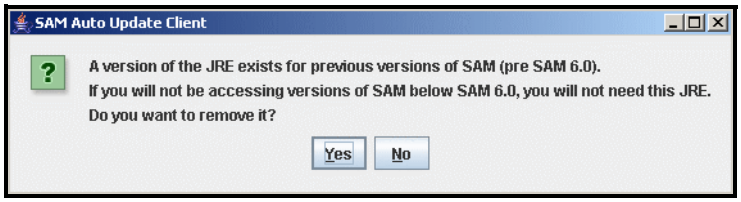


When the upgrade is complete, the auto-client update utility closes and the 5620 SAM client login form is displayed.

4 Log in to the 5620 SAM client GUI.

5 If the 5620 SAM server is at Release 6.0 R1 or later, and the 5620 SAM client is being upgraded from a Release 5.0 maintenance release of R5 or greater, the auto-update functionality prompts you to keep or remove the older JRE version, as shown in Figure 4-52. Perform one of the following.

Figure 4-52 SAM Auto Update Client



a If there is no longer a need for the client to connect to a 5620 SAM Release 5.0 server, click on the Yes button. The older JRE version is removed.

b If the client is to be used later to connect to a Release 5.0 server, click on the No button. The older JRE version is retained.

If you have trouble opening the GUI, see the Troubleshooting 5620 SAM clients chapter of the *5620 SAM Troubleshooting Guide*.

4.6 Workflow for redundant 5620 SAM system upgrade on Solaris

Note — A redundant 5620 SAM system upgrade involves a network-management outage and must be performed only during a scheduled maintenance window of sufficient duration for the upgrade.

The following assumptions are made regarding the 5620 SAM redundant upgrade:

- The four 5620 SAM application components (primary server, standby server, primary database, and standby database) are operational.
- Each database station is to be associated with the same database instance name after the upgrade as before the upgrade.
- 5620 SAM down time is to be kept to a minimum.
- No 5620 SAM-related hardware modifications occur during the upgrade.

If these assumptions do not align with the conditions under which the redundant upgrade is to be performed, consult an Alcatel-Lucent support representative before you proceed with the redundant upgrade.

The following is an overview of the steps required to upgrade a 5620 SAM redundant 5620 SAM system on Solaris. A section heading in quotation marks refers to a section in Procedure 4-5.

1 Perform the pre-upgrade tasks. See Procedure 4-1 for more information.

2 Open at least one 5620 SAM client to monitor the network before the first server/database pair is upgraded.

3 Back up the primary database and copy the backup files to the standby database station. See "Back up and copy primary database" for more information.

4 Shut down the standby main server. See "Shut down standby main server" for more information.

5 Disable the standby 5620 SAM main server startup daemon. See "Disable standby server daemon" for more information.

6 If the 5620 SAM deployment contains auxiliary servers, shut down the preferred and reserved auxiliary servers of the standby main server. See "Shut down standby auxiliary servers" for more information.

7 Disable database redundancy functionality on the primary 5620 SAM main server. See "Disable redundancy on primary main server" for more information.

8 Shut down the standby database. See "Shut down standby database" for more information.

9 Disable the standby 5620 SAM database startup daemons. See "Disable standby database daemons" for more information.

10 Uninstall the standby database. See "Uninstall standby database" for more information.

11 Restore the primary database backup to the standby database station using the currently installed version of the 5620 SAM software. See "Restore primary database backup to standby database station" for more information.

12 Upgrade the restored database on the original standby database station using the new version of the 5620 SAM software. This database becomes the new primary database. See "Upgrade database on original standby station" for more information.

13 Upgrade the original standby main server to become the new primary server. See "Upgrade original standby main server" for more information.

14 If the 5620 SAM deployment contains auxiliary servers, upgrade the preferred and reserved auxiliary servers of the original standby main server. See Procedure 4-8 for more information.

15 Shut down the original primary 5620 SAM main server. See "Shut down original primary server" for more information.

Note — This is the beginning of the network management outage.

16 Shut down the original primary database. See "Shut down original primary database" for more information.

17 Disable the original primary 5620 SAM database startup daemons. See "Disable original primary database daemons" for more information.

18 Disable the original primary 5620 SAM server startup daemon. See "Disable original primary server daemon" for more information.

19 If the 5620 SAM deployment contains auxiliary servers, shut down the preferred and reserved auxiliary servers of the original primary main server. See "Shut down original primary auxiliary servers" for more information.

20 Start the new primary (original standby) 5620 SAM main server. See "Start new primary server" for more information.

21 Start the preferred and reserved auxiliary servers of the new primary main server. See "Start new primary auxiliary servers" for more information.

22 Upgrade or install 5620 SAM clients as required for 5620 SAM sanity testing and network monitoring after the first server/database pair is upgraded in case it is necessary to back out of the upgrade.

See "Upgrade or install client for testing upgraded system" for more information.

Note — This is the end of the network management outage.

23 Perform sanity testing on the upgraded server/database pair using the newly installed or upgraded 5620 SAM client. See "Test 5620 SAM system using new client" for more information.

24 Uninstall the original primary database. See "Uninstall original primary database" for more information.

25 Install the new standby database. See "Install new standby database" for more information.

26 Reinstantiate the database on the new standby station. See "Reinstantiate database on new standby station" for more information.

27 Upgrade the original primary server to become the new standby server. See "Upgrade new standby main server" for more information.

28 If the 5620 SAM deployment contains auxiliary servers, upgrade the preferred and reserved auxiliary servers of the new standby main server. See Procedure 4-8 for more information.

29 Start the new standby server. See "Start new standby main server" for more information.

30 Start the new reserved auxiliary servers. See "Start new standby auxiliary servers" for more information.

31 Upgrade or install additional 5620 SAM clients for the redundant 5620 SAM system, if required. See "Upgrade or install additional clients for redundant system" for more information.

32 Upgrade or install a client delegate, if required. See Procedure 3-4 for more information.

4.7 Redundant 5620 SAM system upgrade on Solaris procedures

Procedure 4-5 describes how to upgrade the 5620 SAM server and database components in a redundant 5620 SAM system on Solaris.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 4-5 To upgrade a redundant 5620 SAM system on Solaris

Perform this procedure to upgrade the 5620 SAM software on the primary and standby main server and database components, and one or more client components, in a redundant 5620 SAM system on a Solaris platform.

Note — This procedure requires the DVD-ROM used for the installation of the existing 5620 SAM system. The Solaris directory on this DVD-ROM may be in a high-level directory other than the root directory, depending on the 5620 SAM software DVD-ROM version.

1 Open an existing 5620 SAM client GUI for network monitoring purposes until the second 5620 SAM server/database pair is disabled in this procedure.

Back up and copy primary database

2 Back up the primary database using one of the following methods.

Caution — When backing up the primary database, specify a backup directory that does not include the 5620 SAM database installation directory, or data loss may occur. A typical 5620 SAM database installation directory is /opt/5620sam/samdb.

a Use the 5620 SAM client GUI. See the *5620 SAM User Guide* for information about performing database backups.

b Use a CLI script.

i Log in as a user with root-equivalent privileges on the primary database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Enter the following at the CLI prompt to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

3 Record the database backup file name and directory location. This information is required in steps 5 and 10.

4 Log in as the Oracle management user on the station that is to be the new standby database station.

5 Copy the database backup created in step 2 from the primary database station to the same directory structure on the standby database station. The database backup paths and file names must be identical on both stations.

Shut down standby main server

6 Stop the standby 5620 SAM server application.

i Log in as a user with root-equivalent privileges on the standby server station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the server daemon. Enter the following at the CLI prompt:

```
# ./S975620SAMServerWrapper stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ps -ef | grep 5620SAMServer ↵
```

The command displays a list of processes that contain the term "5620SAMServer".

Note — One of the list entries is the "grep 5620SAMServer" command from this step. Disregard the "grep 5620SAMServer" entry, as it is not a 5620 SAM server process.

vi If the command in step 6 v returns lines of text other than "grep 5620SAMServer", the 5620 SAM server is not stopped. Repeat step 6 v.

Do not proceed until the command returns only the single "grep 5620SAMServer" entry.

Leave the console window open for use in the next step.

Disable standby server daemon

7 Disable the 5620 SAM server startup daemon on the standby server station. This ensures that the standby 5620 SAM server does not automatically start in the event of an electrical or network disruption during the upgrade.

Enter the following at the CLI prompt on the standby server station:

```
# mv S975620SAMServerWrapper inactive.S975620SAMServerWrapper ↵
```

Shut down standby auxiliary servers

8 If the 5620 SAM deployment contains auxiliary servers, perform the following steps on each preferred and reserved auxiliary server station of the standby main server to stop the auxiliary server software.

i Log in as the same user that installed the auxiliary server.

ii Enter the following at the CLI prompt:

```
# path/nms/bin/nmsserver.bash auxstop ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server stops.

Disable redundancy on primary main server

9 Disable the 5620 SAM failover and switchover functionality on the primary server.

i Log in to the primary server station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/config ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Make a backup copy of the server configuration file. Enter the following at a CLI prompt:

```
# cp nms-server.xml nms-server.xml.backup ↵
```

v Open the nms-server.xml file with a text editor, for example, vi.

vi Search for the <db tag.

vii Edit the line below the tag that reads:

```
redundancyEnabled="true"
```

to read:

```
redundancyEnabled="false"
```

viii Save the nms-server.xml file.

ix Close the text editor.

x Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

xi Enter the following at a CLI prompt to put the nms-server.xml file changes into effect:

```
# ./nmsserver.bash read_config ↵
```

The primary 5620 SAM server application is reconfigured with database redundancy disabled.

Shut down standby database

10 Stop the standby database application.

i Log in as a user with root-equivalent privileges on the standby database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

Leave the console window open for use in the next step.

Disable standby database daemons

11 Disable the standby 5620 SAM Oracle proxy and database startup daemons. This ensures that the standby 5620 SAM database does not automatically start in the event of an electrical or network disruption during the upgrade.

i Disable the Oracle database daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S95db5620sam inactive.S95db5620sam ↵
```

ii Disable the Oracle proxy daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S965620SAMOracleProxyWrapper
inactive.S965620SAMOracleProxyWrapper ↵
```

Uninstall standby database

12 Switch to the Oracle management user on the standby database station. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

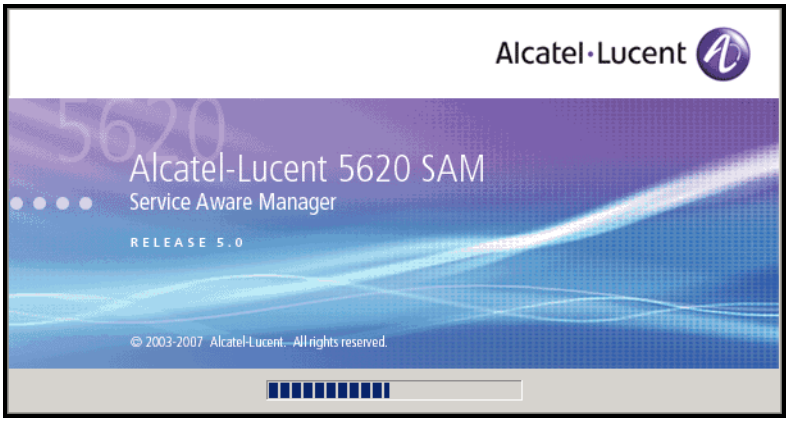
13 Enter the following at the CLI prompt to open the 5620 SAM uninstaller:

```
bash$
path/install/Uninstaller/Uninstall_5620_SAM_Database_Configurato
r ↵
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

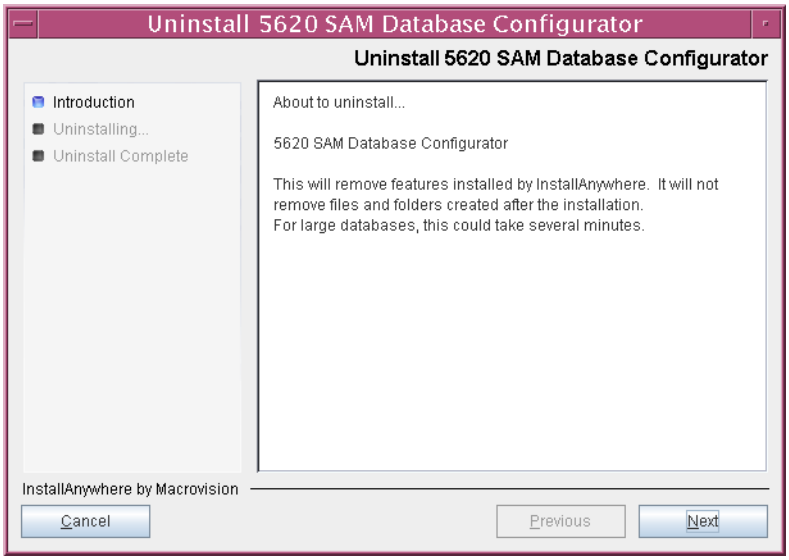
A splash screen appears, as shown in Figure 4-53, and the uninstallation process begins. The appearance of the splash screen depends on the version of the 5620 SAM uninstaller.

Figure 4-53 5620 SAM Uninstaller



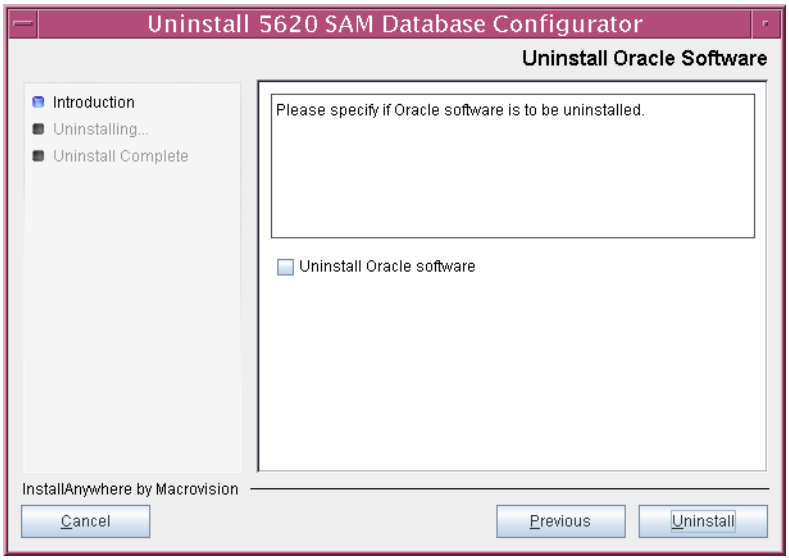
14 The 5620 SAM uninstaller opens, as shown in Figure 4-54. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Next button to continue.

Figure 4-54 Uninstall 5620 SAM Database Configurator



15 A 5620 SAM upgrade does not require the removal of the Oracle software. Ensure that the “Uninstall Oracle software” parameter is disabled, as shown in Figure 4-55, then click on the Uninstall button to continue.

Figure 4-55 Uninstall Oracle Software

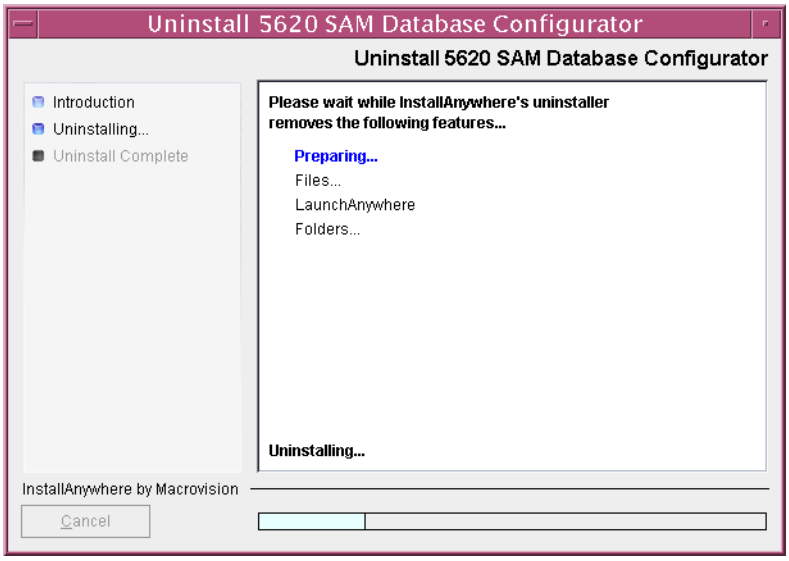


16 As shown in Figure 4-56, you are prompted to run a script that enables the uninstallation of the database daemons. Open a separate console window and run the script. After the script execution completes, click on the OK button to continue.

Figure 4-56 Warning

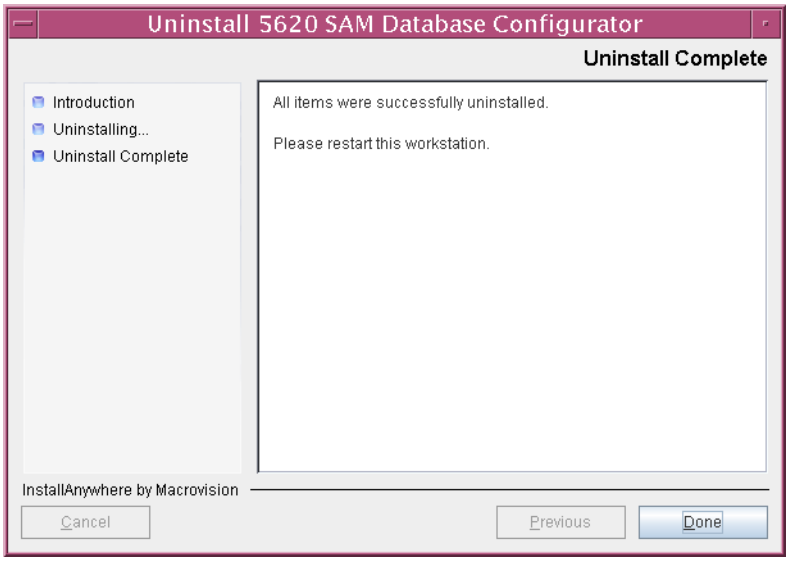
17 As shown in Figure 4-57, the uninstaller begins to remove files and directories from the standby database station.

Figure 4-57 Uninstall 5620 SAM Database Configurator



18 When database uninstallation is complete, as shown in Figure 4-58, click on the Done button to close the uninstaller.

Figure 4-58 Uninstall Complete



The next section of the procedure describes the restore of the primary 5620 SAM database backup on the standby database station. A database restore requires root-equivalent and Oracle management user-account privileges.

Restore primary database backup to standby database station

19 Perform one of the following on the standby database station.

a If you are upgrading from 5620 SAM Release 4.0, perform Procedure 4-6 to restore the primary database backup on the standby database station.

b If you are upgrading from 5620 SAM Release 5.0, perform Procedure 4-7 to restore the primary database backup on the standby database station.

The next section of the procedure describes the upgrade of the restored standby database. This database becomes the new primary database. You require root-equivalent and Oracle management user privileges to perform the upgrade.

Upgrade database on original standby station

20 Before you perform a 5620 SAM database upgrade on Solaris, you must run a pre-installation script. This script configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database upgrade to fail.

Switch to the root user. Enter the following at the CLI prompt:

```
bash$ su - ↵
```

21 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

22 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh upgrade ↵
```

23 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — Running the script may generate messages that are similar to the following; these are not error messages and can be ignored.

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle10R2"

24 After the script execution completes, reboot the original standby database station to put the system update into effect. Enter the following at the CLI prompt:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

25 After the original standby database station reboots, log in as the Oracle management user on the original standby database station.

26 Navigate to the Solaris directory on the new version of the 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

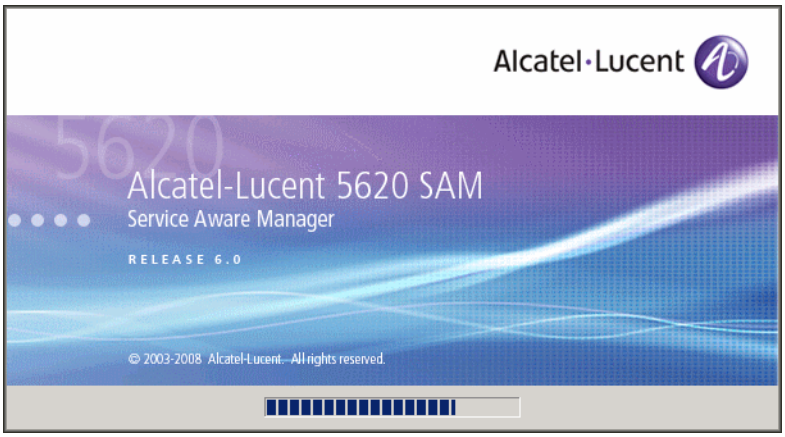
27 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

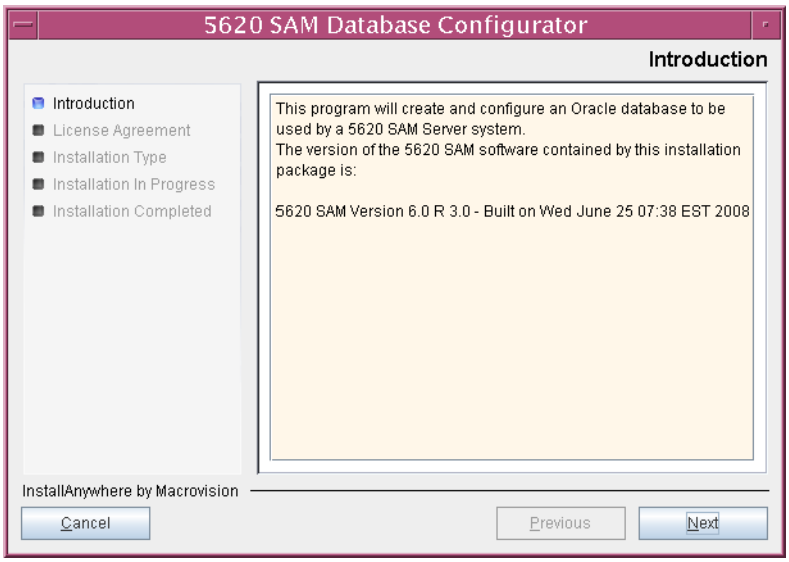
The splash screen shown in Figure 4-59 appears and the upgrade process begins.

Figure 4-59 5620 SAM Installer



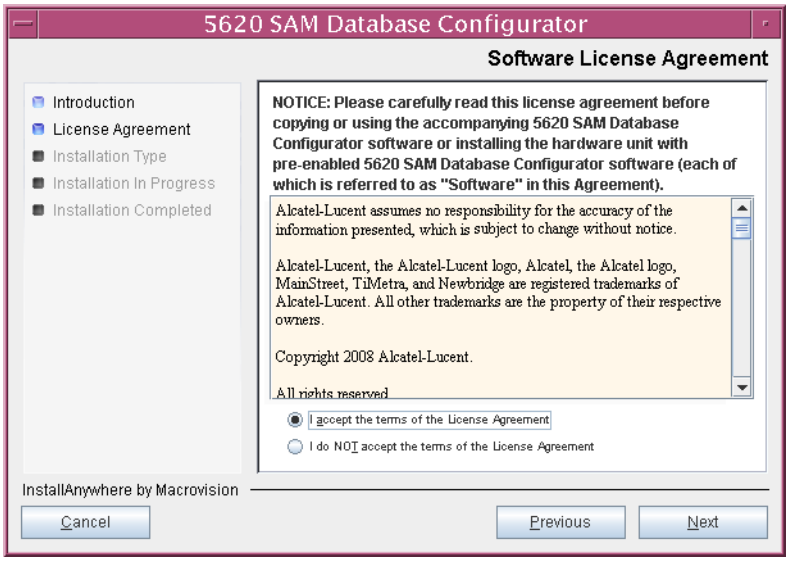
28 The 5620 SAM installer opens, as shown in Figure 4-60. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-60 Introduction



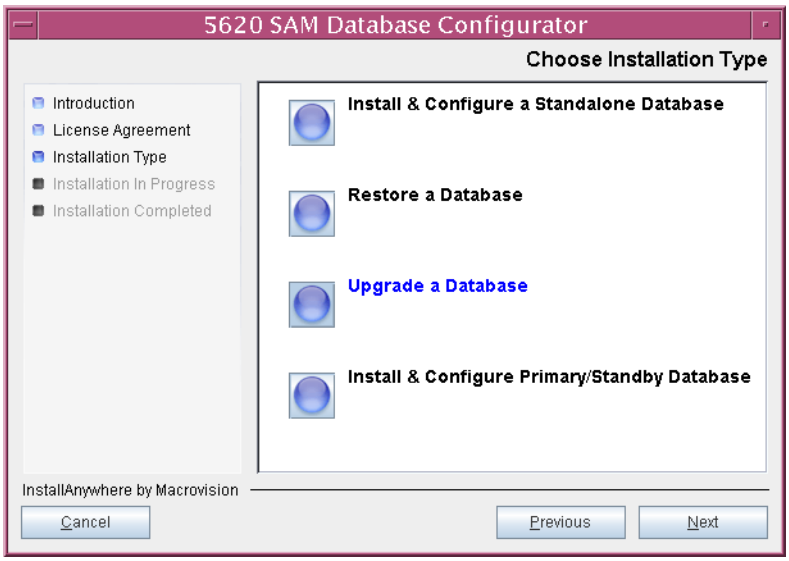
29 Review and accept the terms of the license agreement shown in Figure 4-61, then click on the Next button.

Figure 4-61 Software License Agreement



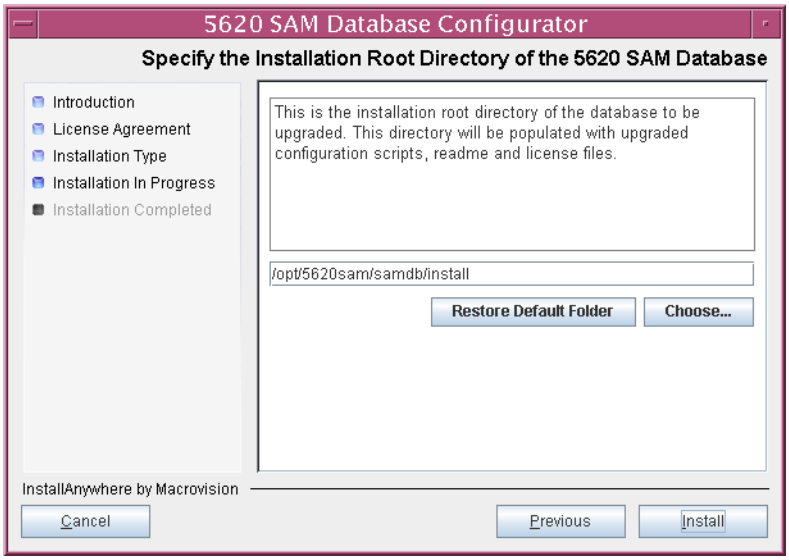
30 Select Upgrade a Database, as shown in Figure 4-62, then click on the Next button.

Figure 4-62 Choose Installation Type



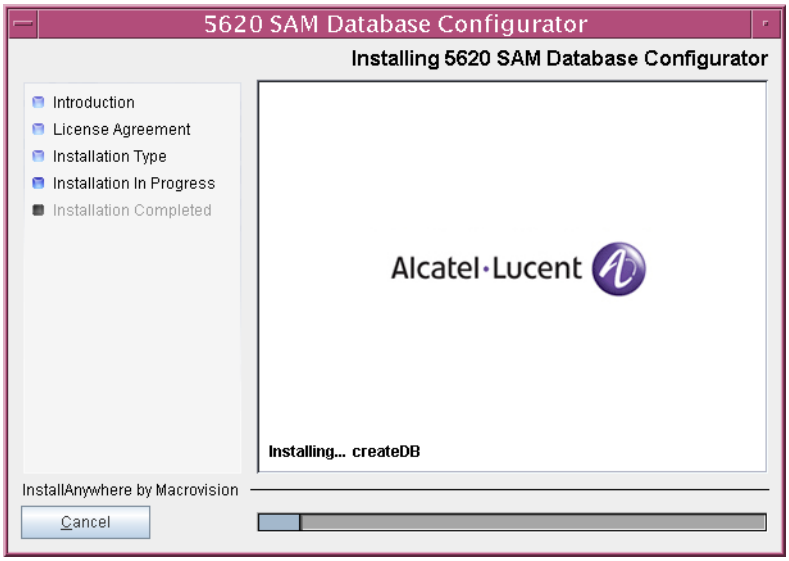
31 Specify the base directory in which the existing 5620 SAM database software is installed (typically /opt/5620sam/samdb/install), as shown in Figure 4-63. Click on the Install button to continue.

Figure 4-63 Specify the Installation Root Directory of the 5620 SAM Database



The 5620 SAM installer prepares to upgrade the database, as shown in Figure 4-64.

Figure 4-64 Installing 5620 SAM Database Configurator

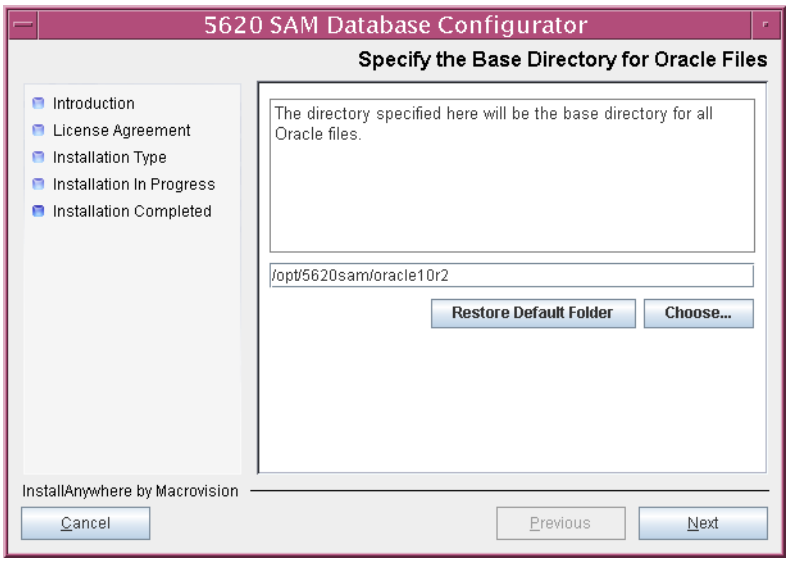


32 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 4-65. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note 1 — If you are upgrading the 5620 SAM from a version earlier than Release 5.0 R1, a new Oracle software directory is chosen for you. You can specify an alternate directory. The directory must be empty.

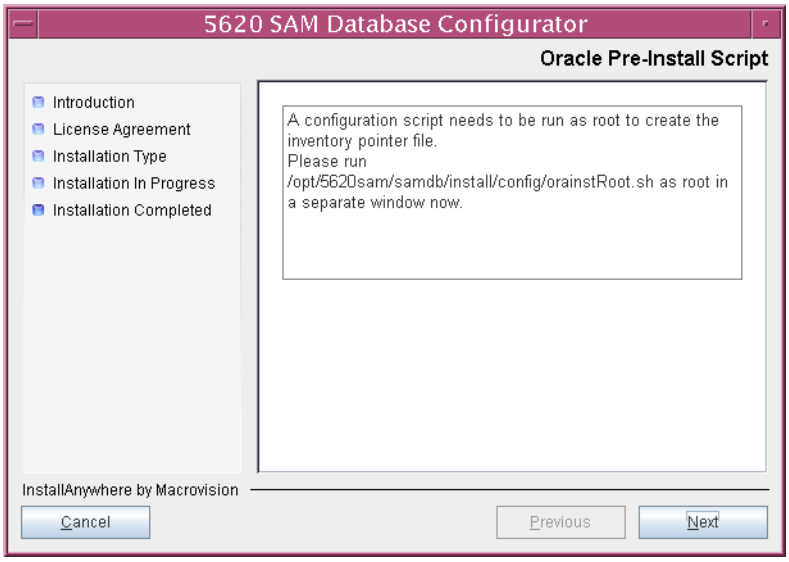
Note 2 — If you are upgrading the 5620 SAM from a version later than Release 5.0 R1, the existing Oracle software directory is chosen for you and cannot be changed.

Figure 4-65 Specify the Base Directory for Oracle Files



33 You may be prompted to run an Oracle pre-installation script, as shown in Figure 4-66. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

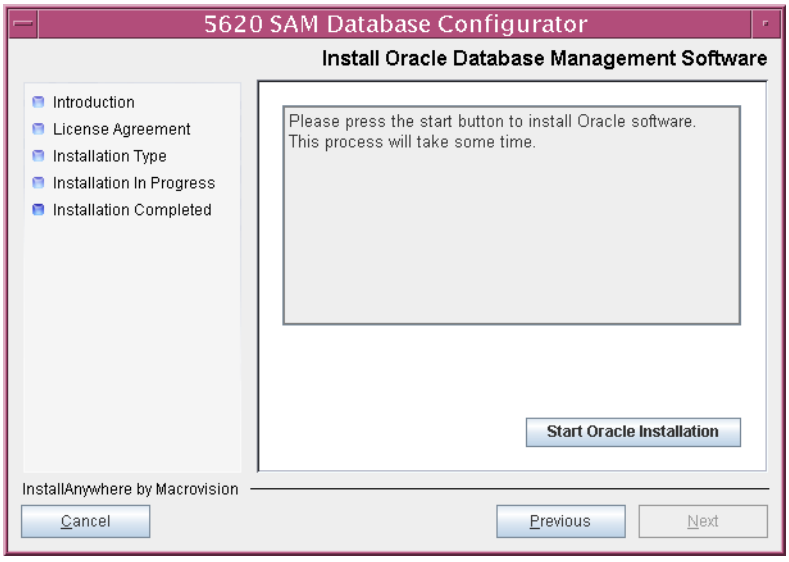
Figure 4-66 Oracle Pre-install Script



34 You may be prompted to perform one of the following.

a If the panel in Figure 4-67 is displayed, perform the following steps.

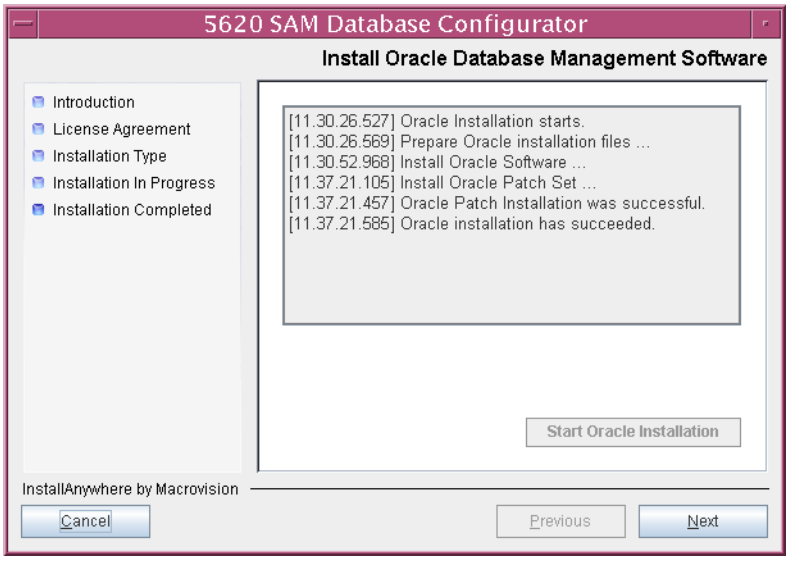
Figure 4-67 Install Oracle Database Management Software



i Click on the “Start Oracle Installation” button to begin the Oracle software installation. Oracle installation can take an hour or more to complete.

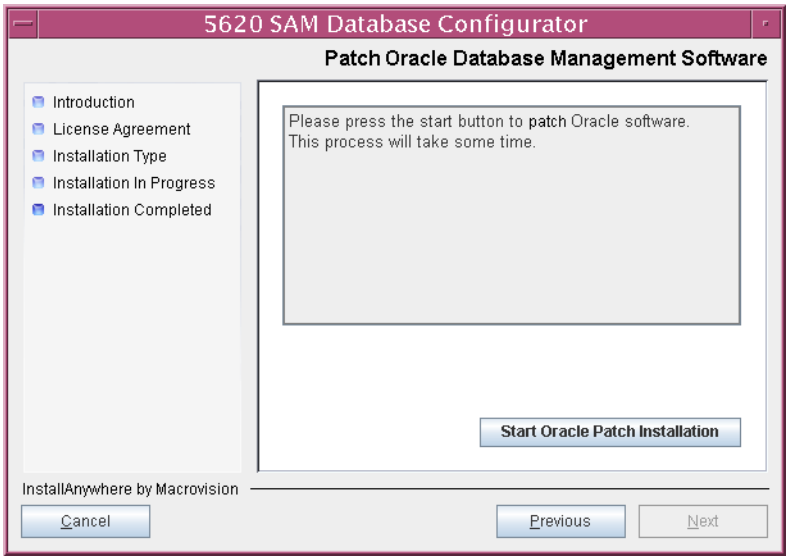
ii Oracle installation details are displayed as the installation progresses. When the installation is complete, as shown in Figure 4-68, click on the Next button to continue.

Figure 4-68 Install Oracle Database Management Software



b If the panel in Figure 4-69 is displayed, perform the following steps.

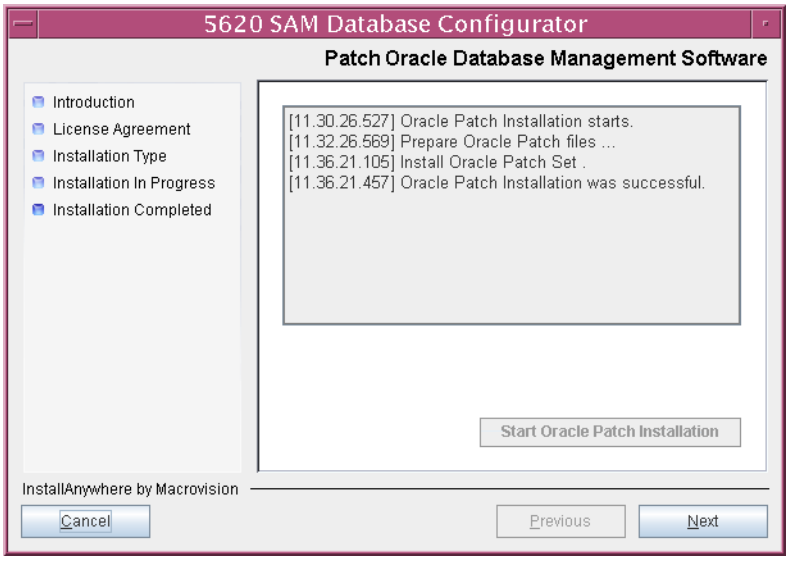
Figure 4-69 Patch Oracle Database Management Software



i Click on the “Start Oracle Patch Installation” button to begin installing the Oracle patch. Oracle patch installation can take over an hour to complete.

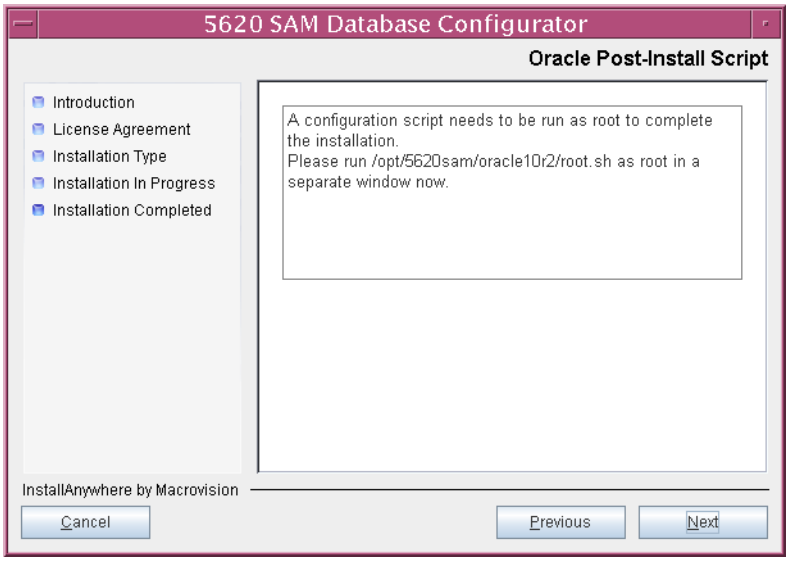
ii Oracle patch installation details are displayed as the patch installation progresses. When the patch installation is complete, as shown in Figure 4-70, click on the Next button to continue.

Figure 4-70 Patch Oracle Database Management Software



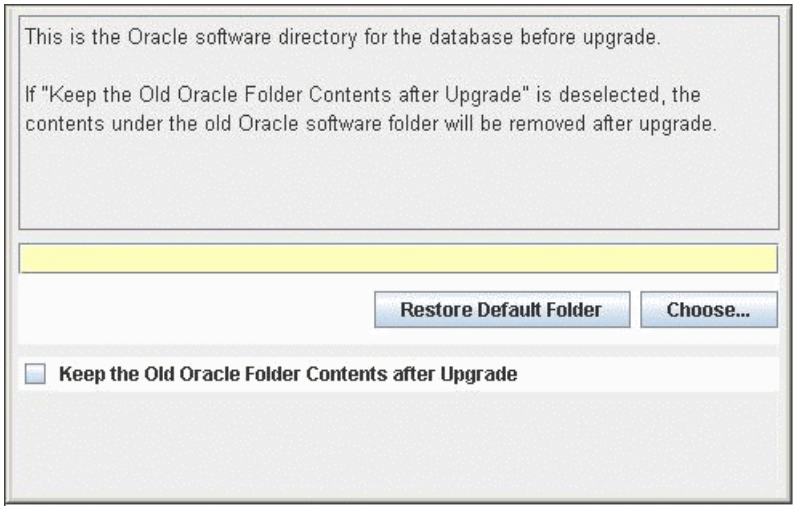
35 You may be prompted to run an Oracle post-installation script, as shown in Figure 4-71. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

Figure 4-71 Oracle Post-Install Script



36 The panel shown in Figure 4-72 is displayed if a new version of Oracle is being installed, such as when you upgrade from 5620 SAM Release 4.0. If you do not want the existing Oracle installation deleted by the installer, enable the "Keep the Old Oracle Folder Contents after Upgrade" parameter and specify the base directory in which the existing Oracle software is installed (typically /opt/5620sam/oracle). Click on the Next button to continue.

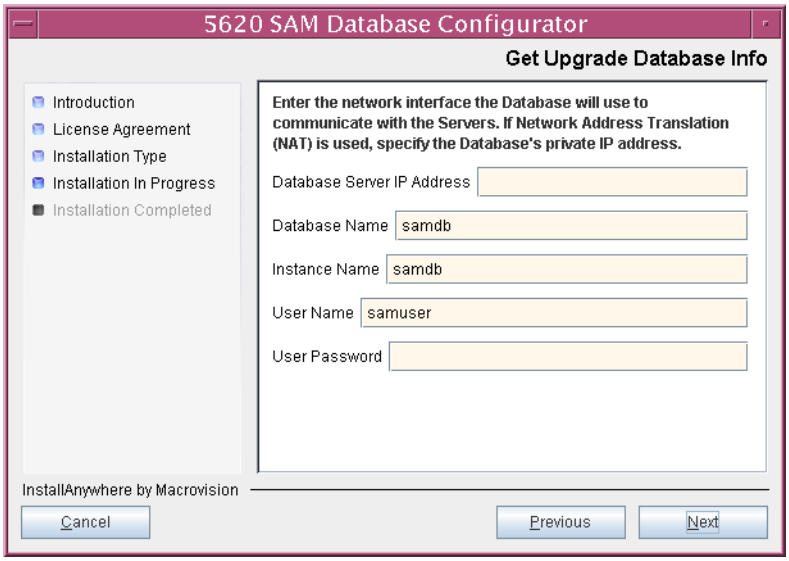
Figure 4-72 Specify existing Oracle location



37 Configure the following parameters shown in Figure 4-73 using information from the existing 5620 SAM installation, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb2)
- User Name (typically samuser)
- User Password

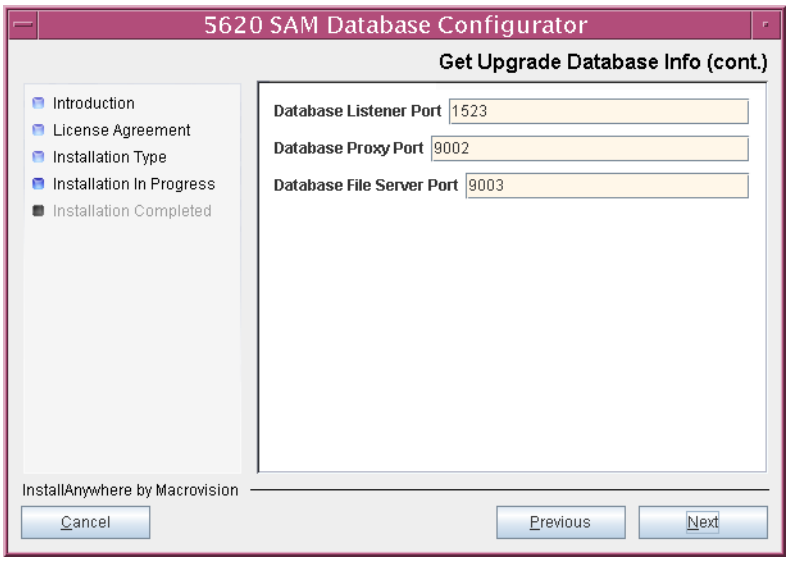
Figure 4-73 Get Upgrade Database Info



38 Configure the following parameters shown in Figure 4-74 using information from the existing 5620 SAM installation, then click on the Next button:

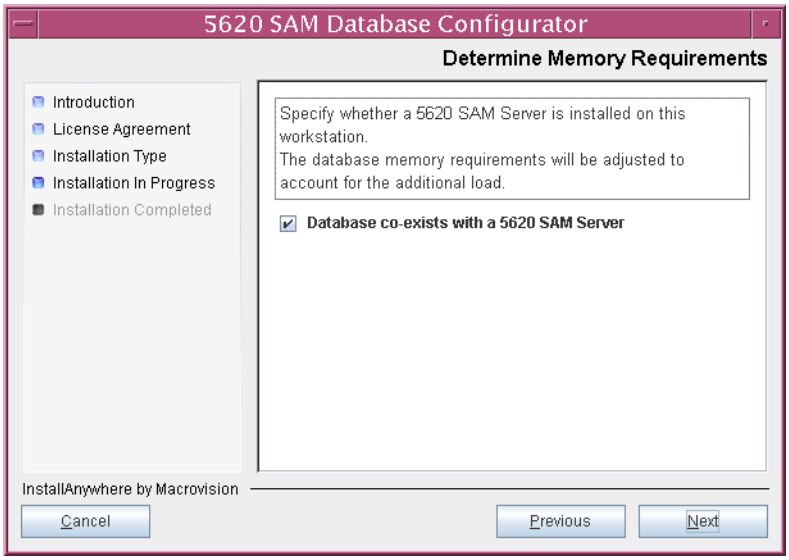
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 4-74 Get Upgrade Database Info (continued)



39 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 4-75. Click on the Next button to continue.

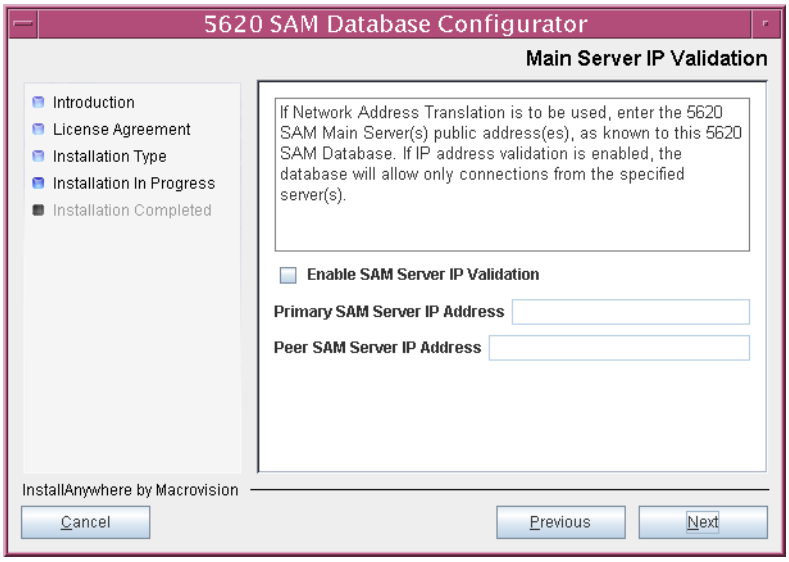
Figure 4-75 Determine Memory Requirements



40 If the “Enable SAM Server IP Validation” parameter shown in Figure 4-76 is enabled, only the specified servers can connect to the database. If required, enable it and configure the following parameters. Click on the Next button to continue.

- Primary SAM Server IP Address
- Peer SAM Server IP Address

Figure 4-76 Main Server IP Validation



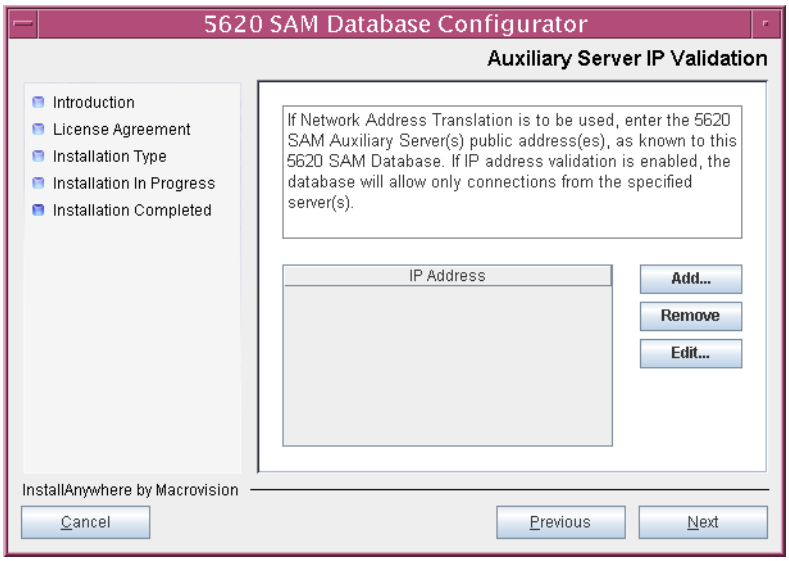
41 If the “Enable SAM Server IP Validation” parameter in step 40 is enabled, the panel in Figure 4-77 is displayed, depending on the 5620 SAM release from which you are upgrading; perform one of the following actions. Otherwise, go to step 43.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

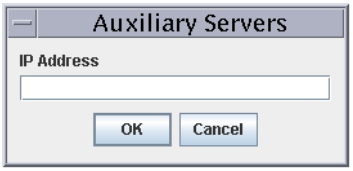
i Click on the Add button shown in Figure 4-77. The Auxiliary Server Configuration form shown in Figure 4-78 opens.

Figure 4-77 Auxiliary Server IP Validation



ii Enter the IP Address of the auxiliary server.

Figure 4-78 Auxiliary Servers



iii Click on the OK button to save the information and close the form.

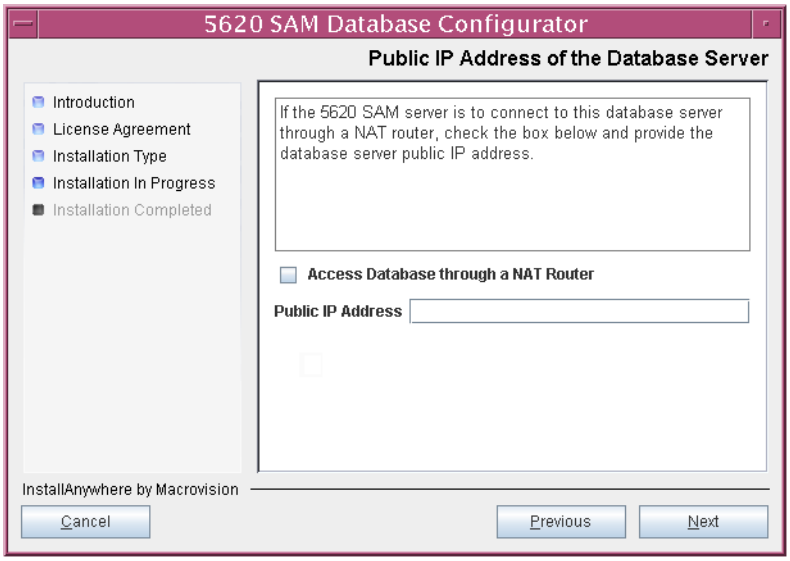
iv Repeat steps 41 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

42 Click on the Next button to continue.

43 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 4-79 and enter the public IP address of the database. Click on the Next button to continue.

Figure 4-79 Public IP Address of the Database Server

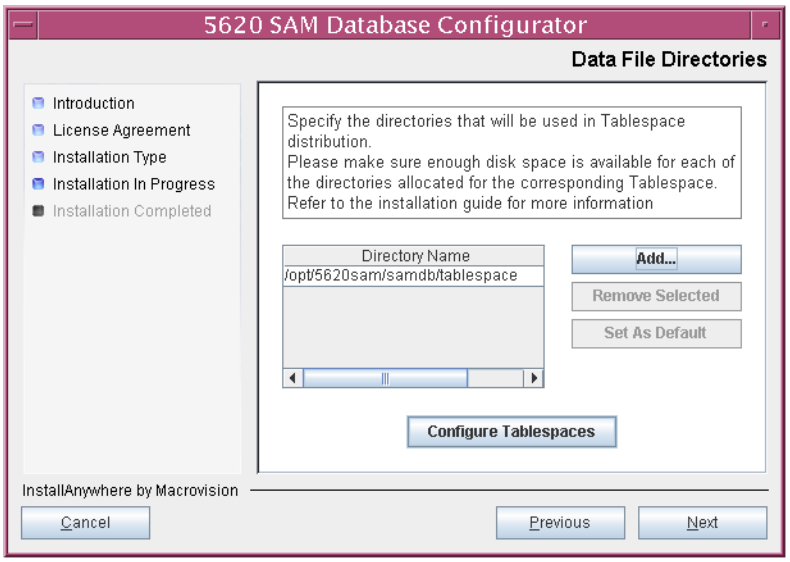


44 If the panel in Figure 4-80 is displayed, the new database contains at least one tablespace that is not defined in the previous database. Perform the following steps to choose the tablespace directories. Otherwise, go to step 47.

i Click on the Add button and use the browser form that opens to specify a directory for association with the new tablespaces.

ii Repeat step 44 i as required to specify additional tablespace directories.

Figure 4-80 Data File Directories



45 Associate the new tablespaces with the directories specified in step 44.

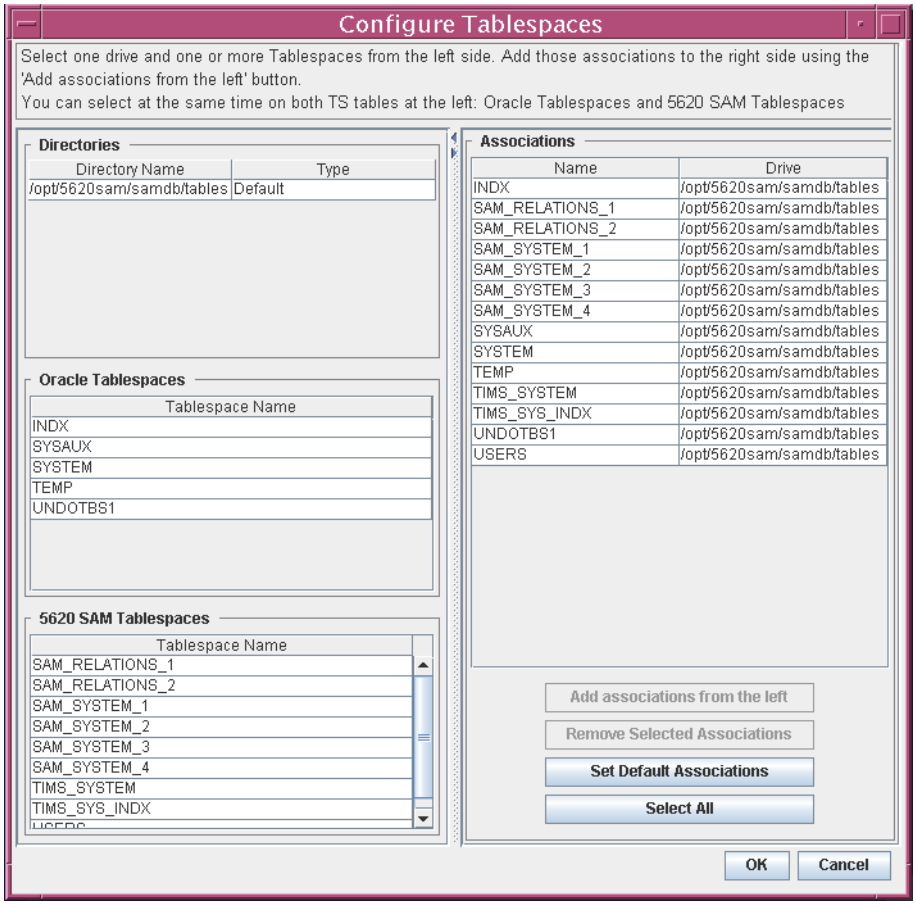
i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 4-81.

Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 4-80 is again displayed.

Figure 4-81 Configure Tablespaces

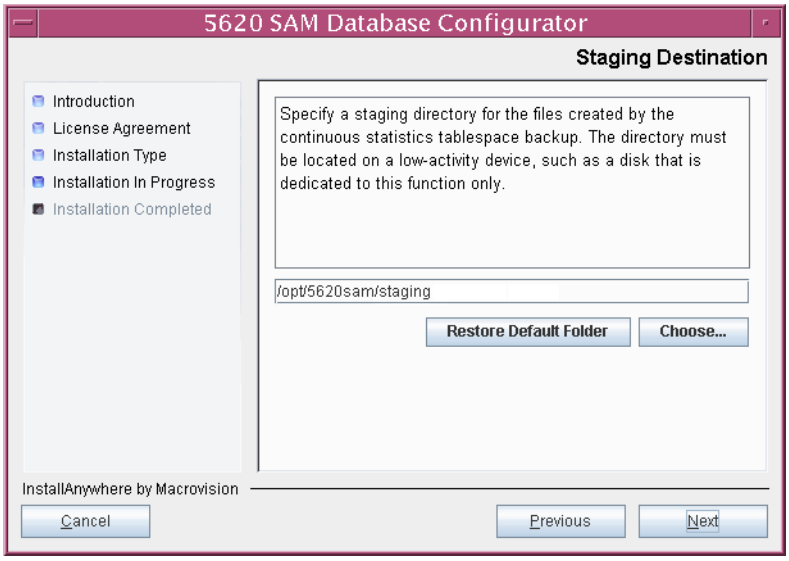


46 Click on the Next button to continue.

47 If the panel in Figure 4-82 is displayed, specify a directory for the continuous statistics tablespace backup. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/dbbackup partition, such as /opt/5620sam/dbbackup/staging.

Figure 4-82 Staging Destination

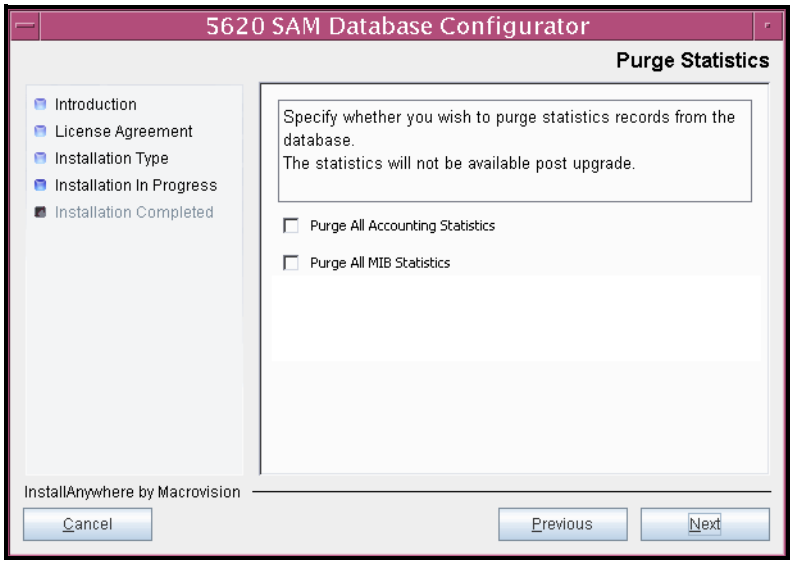


48 To speed the database upgrade, you can purge the statistics data that the 5620 SAM currently stores. Configure the following parameters shown in Figure 4-83, then click on the Next button to continue.

- Purge All Accounting Statistics
- Purge All MIB Statistics

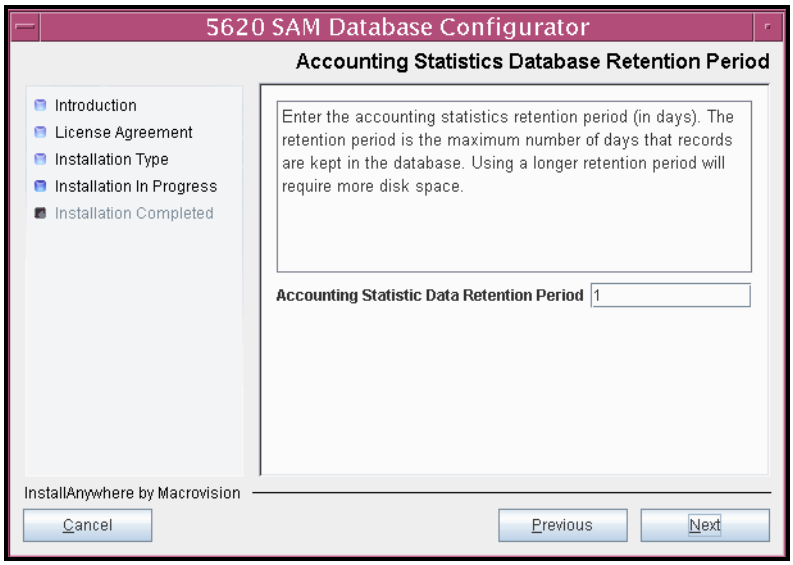
Note — The statistics data for the selected statistics types are permanently deleted from the 5620 SAM.

Figure 4-83 Purge Statistics



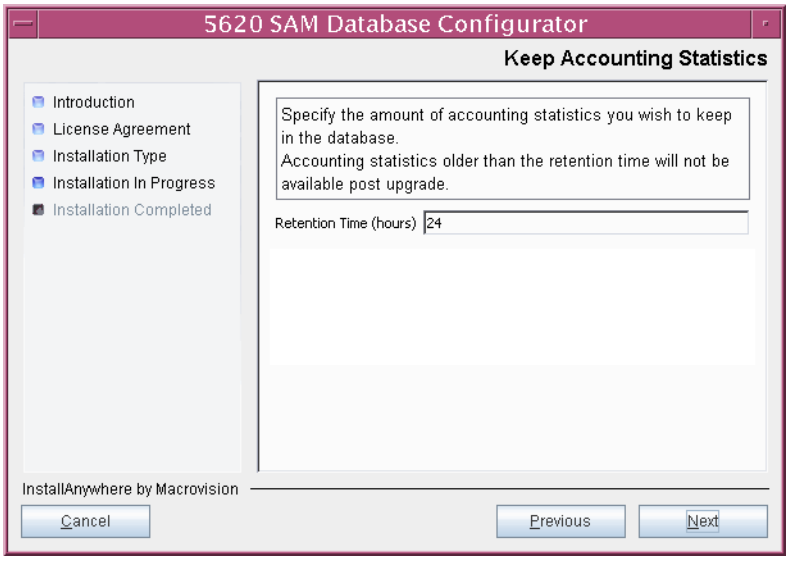
49 Configure the “Accounting Statistic Database Retention Period” parameter shown in Figure 4-84. Click on the Next button to continue.

Figure 4-84 Accounting Statistics Database Retention Period



50 Depending on the 5620 SAM version that you are upgrading from, the panel shown in Figure 4-85 appears. Configure the “Retention Time (hours) parameter to specify how long the 5620 SAM retains accounting statistics after server startup. Click on the Next button to continue.

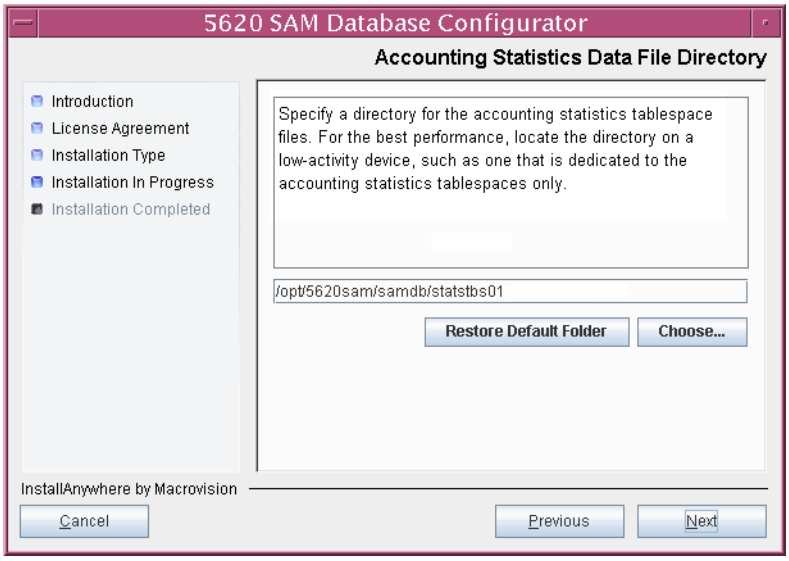
Figure 4-85 Keep Accounting Statistics



51 If the panel in Figure 4-86 is displayed, specify a directory for the accounting statistics tablespace files. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

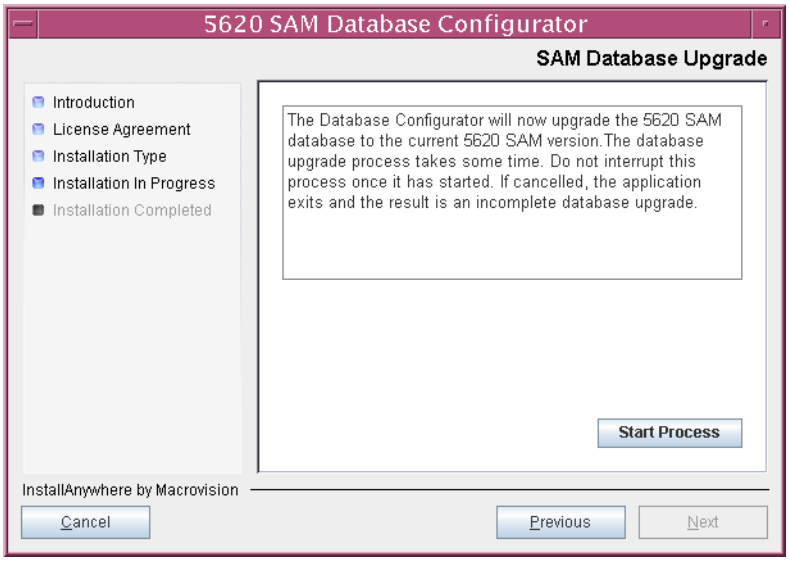
Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/samdb/tablespace partition, such as /opt/5620sam/samdb/tablespace/statstbs01.

Figure 4-86 Accounting Statistics Data File Directory



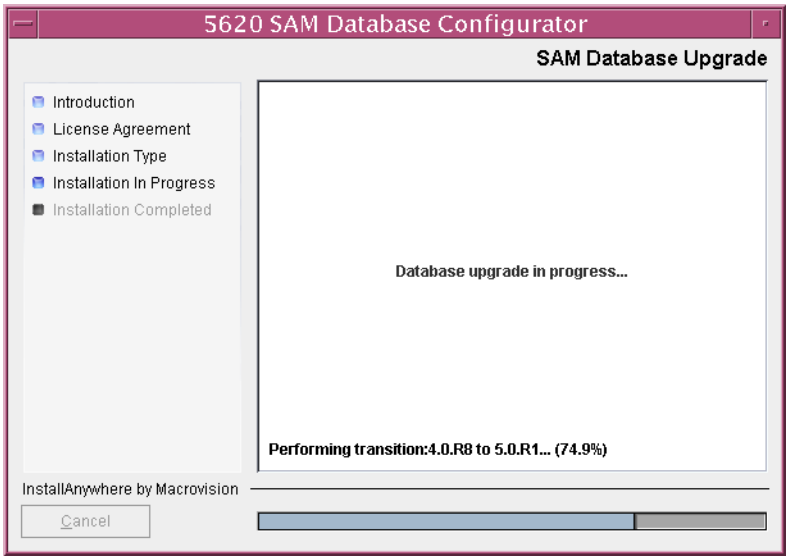
52 You are prompted to begin the database upgrade, as shown in Figure 4-87. A database upgrade can take two hours or more to complete, depending on the database version and number of database records. Click on the Start Process button to proceed.

Figure 4-87 SAM Database Upgrade



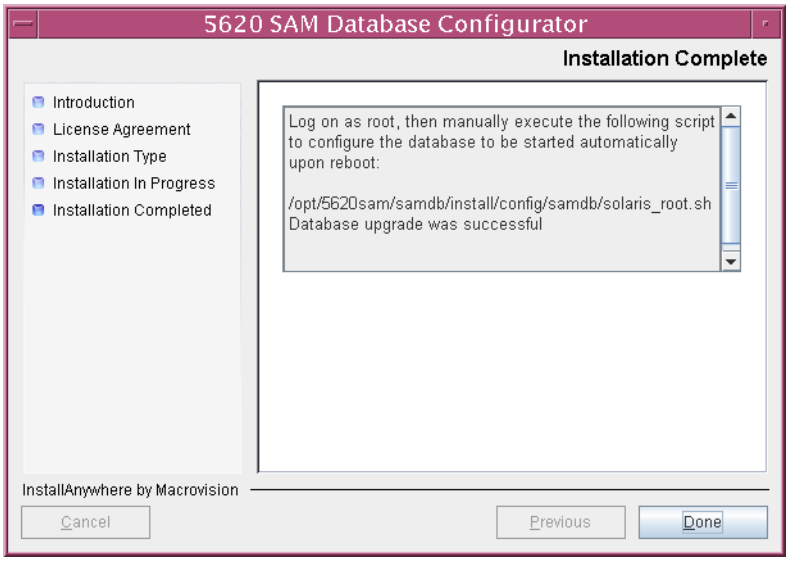
The next panel displays database creation progress, as shown in Figure 4-88.

Figure 4-88 SAM Database Upgrade



53 When the database upgrade is complete, as shown in Figure 4-89, you are prompted to run a script that enables automatic database startup during system startup. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 4-89 Installation Complete



This database is the new primary database.

Upgrade original standby main server

54 Log in as a user with root-equivalent privileges on the original standby server station.

55 Open a console window.

56 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

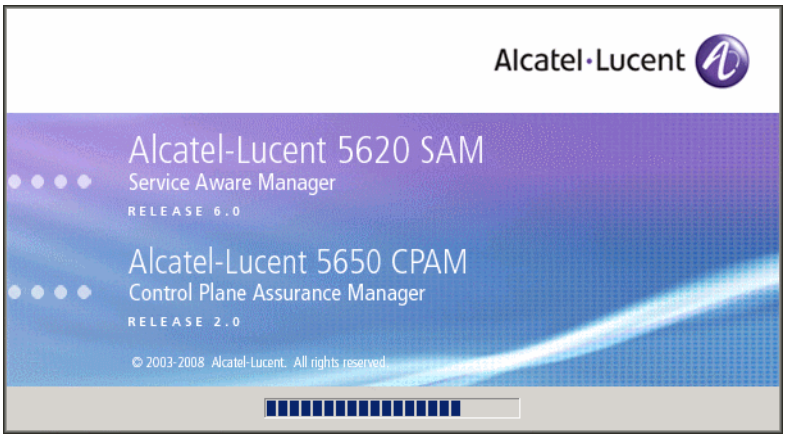
57 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

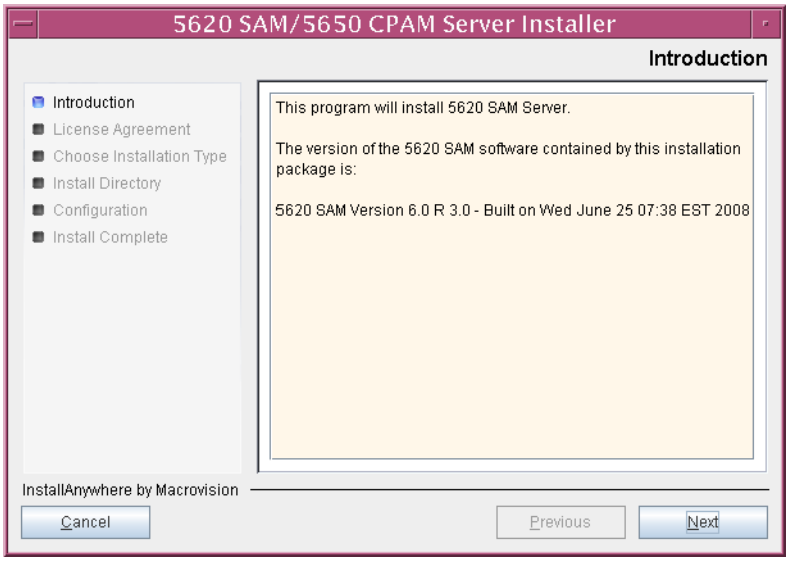
The splash screen shown in Figure 4-90 appears and the upgrade process begins.

Figure 4-90 5620 SAM Installer



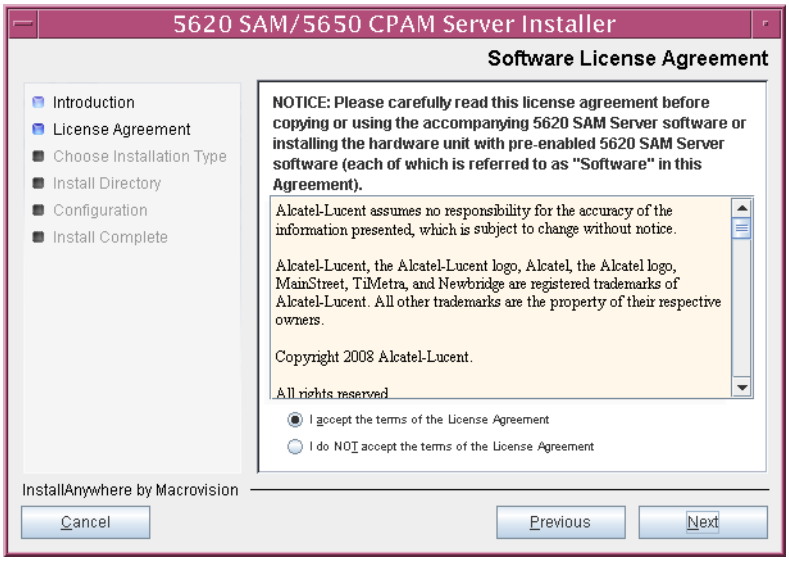
58 The 5620 SAM installer opens, as shown in Figure 4-91. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-91 Introduction



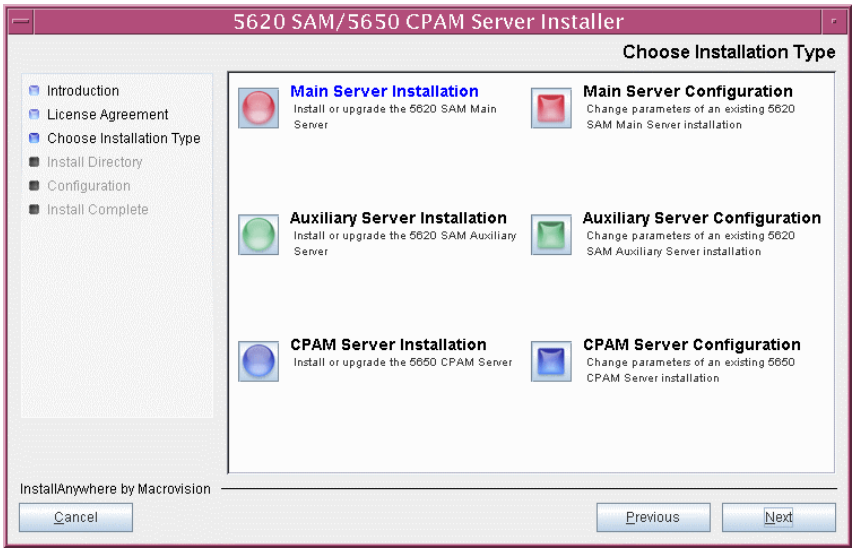
59 Review and accept the terms of the license agreement shown in Figure 4-92, then click on the Next button.

Figure 4-92 Software License Agreement



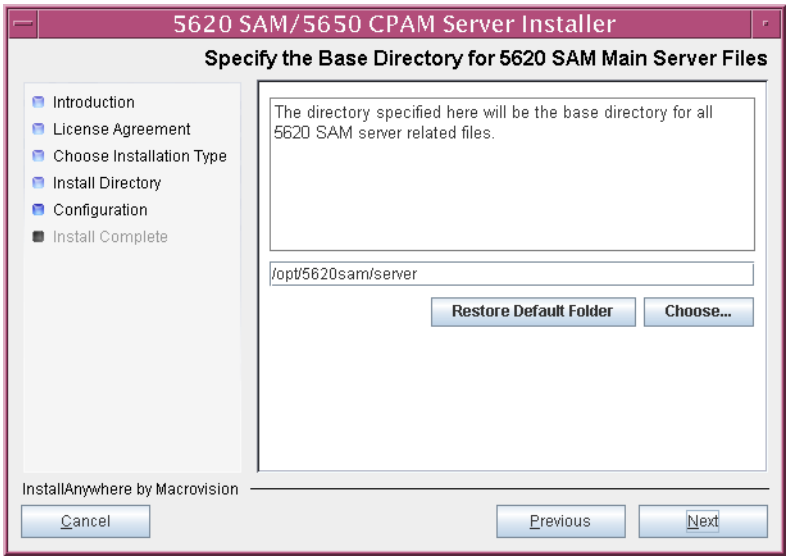
60 Select Main Server Installation, as shown in Figure 4-93, then click on the Next button.

Figure 4-93 Choose Installation Type



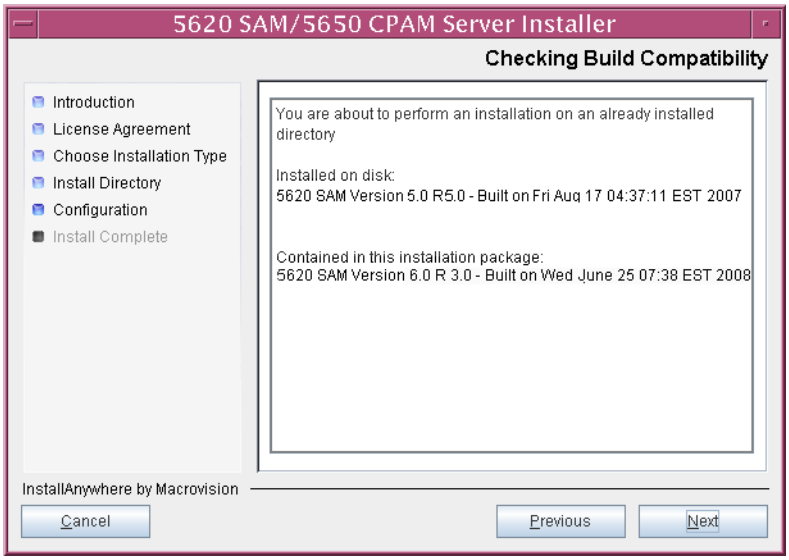
61 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 4-94. Click on the Next button to continue.

Figure 4-94 Specify the Base Directory for 5620 SAM Main Server Files



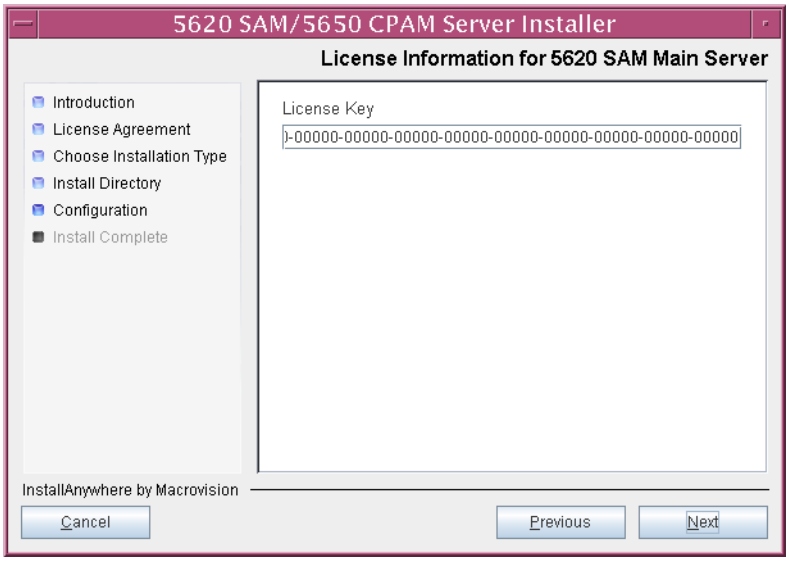
62 As shown in Figure 4-95, the installer displays the version of the 5620 SAM server software that is installed and the version to which it is being upgraded. Verify the information, then click on the Next button.

Figure 4-95 Checking Build Compatibility



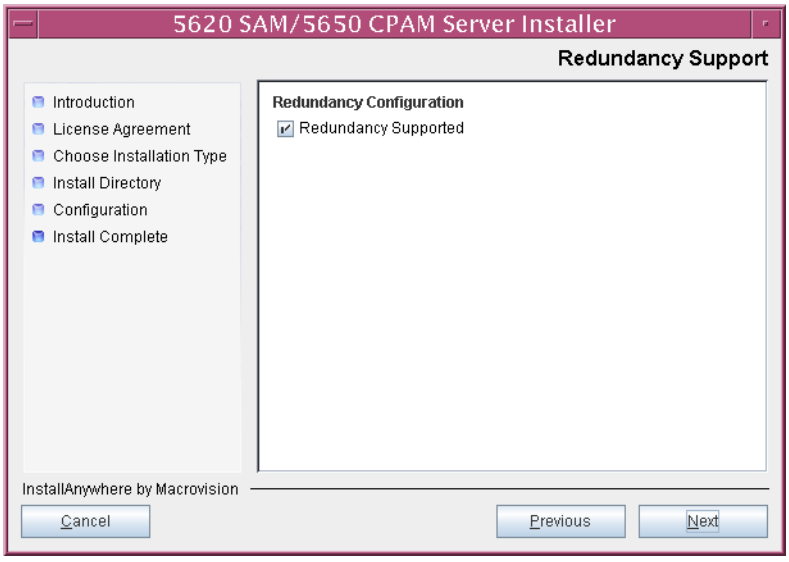
63 The 5620 SAM Installer displays the License Key specified during the existing installation. Enter the License Key information for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 4-96. Click on the Next button to continue.

Figure 4-96 License Information for 5620 SAM Main Server



64 Enable the “Redundancy Supported” parameter, as shown in Figure 4-97, then click on the Next button.

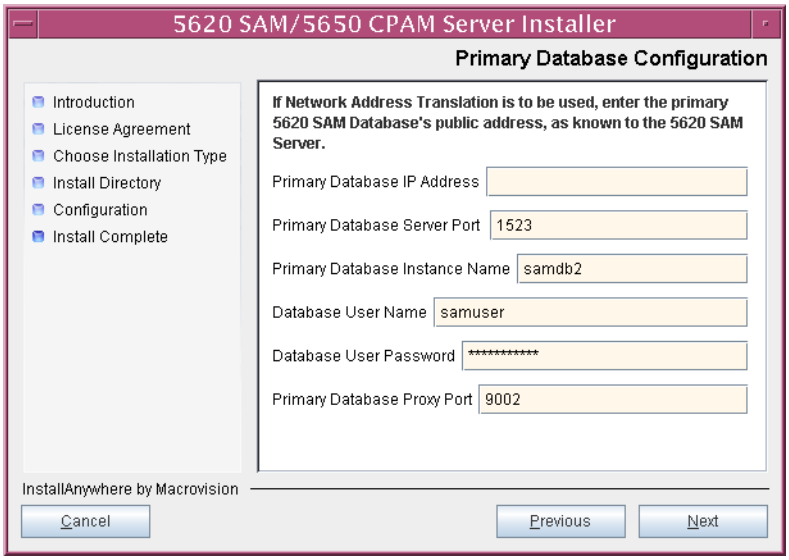
Figure 4-97 Redundancy Support



65 Configure the following parameters, shown in Figure 4-98, using the recorded values from the new primary database installation. Click on the Next button to continue.

- Primary Database IP Address (the IP address of the new primary database station)
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (the name of the former standby database instance, typically samdb2)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

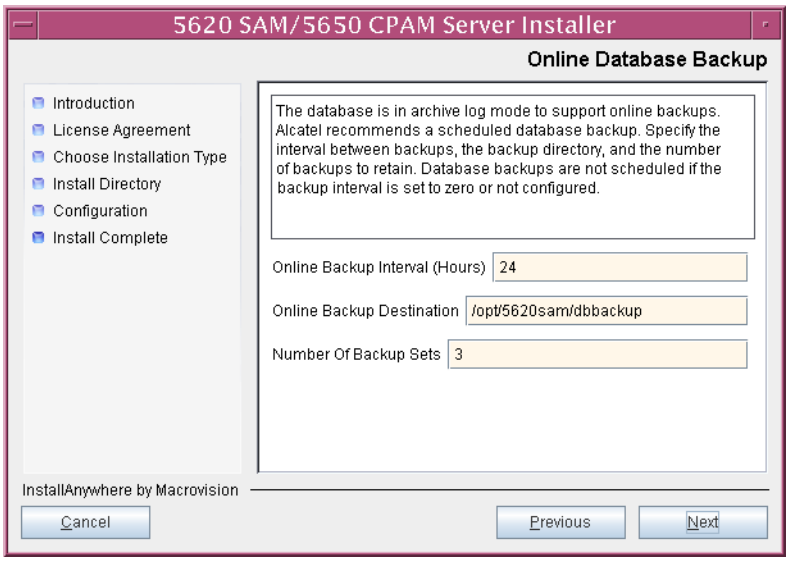
Figure 4-98 Primary Database Configuration



66 Depending on the existing configuration. the panel shown in Figure 4-99 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

Figure 4-99 Online Database Backup

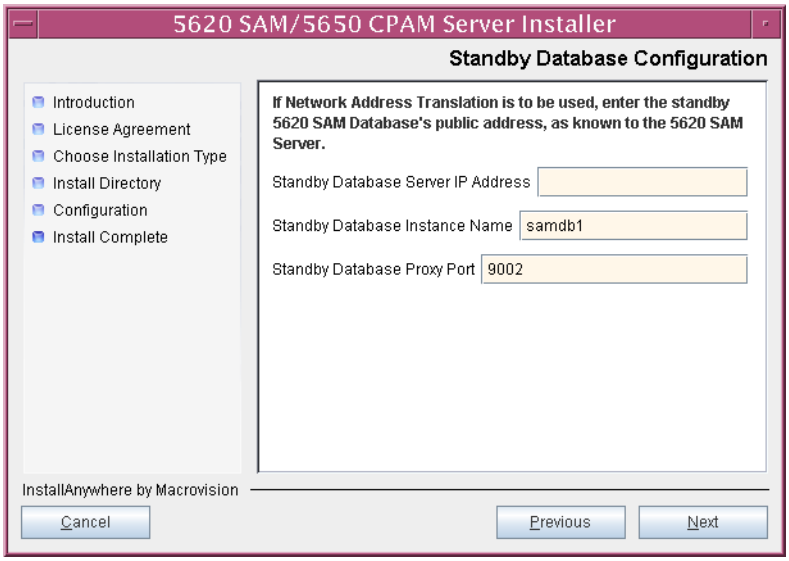


67 Configure the following parameters shown in Figure 4-100, then click on the Next button:

- Standby Database Server IP Address (the IP address of the new standby database station)
- Standby Database Instance Name (the name of the database instance on the new primary database station, typically samdb1)
- Standby Database Proxy Port (typically 9002)

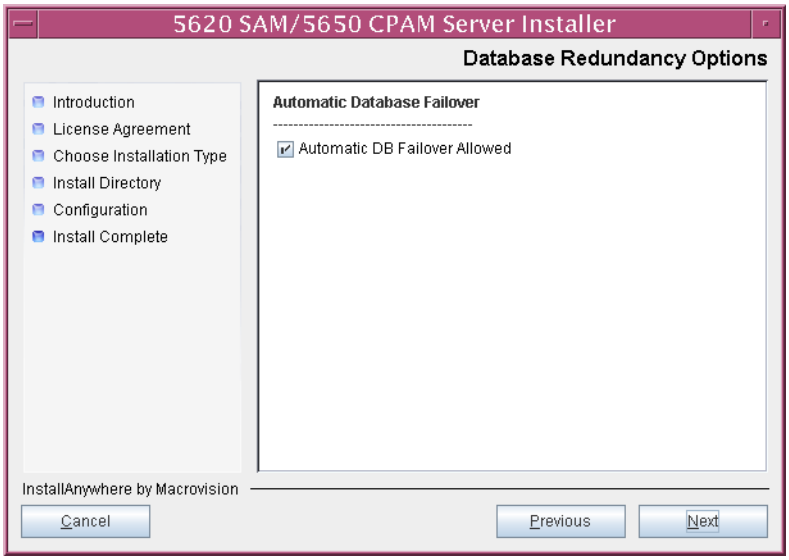
Specify the Peer Database Instance Name value from the database restore as the Standby Database Instance Name value.

Figure 4-100 Standby Database Configuration



68 Enable the “Automatic DB Failover Allowed” parameter, as shown in Figure 4-101, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 4-101 Database Redundancy Options

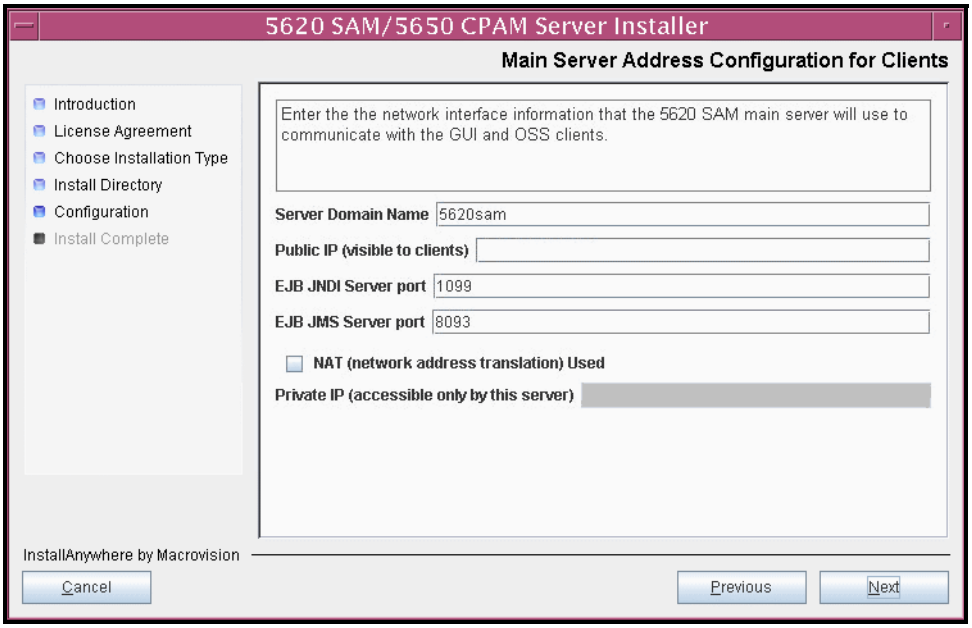


69 Configure the following parameters shown in Figure 4-102:

- SAM Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 4-102 Main Server Address Configuration for Clients

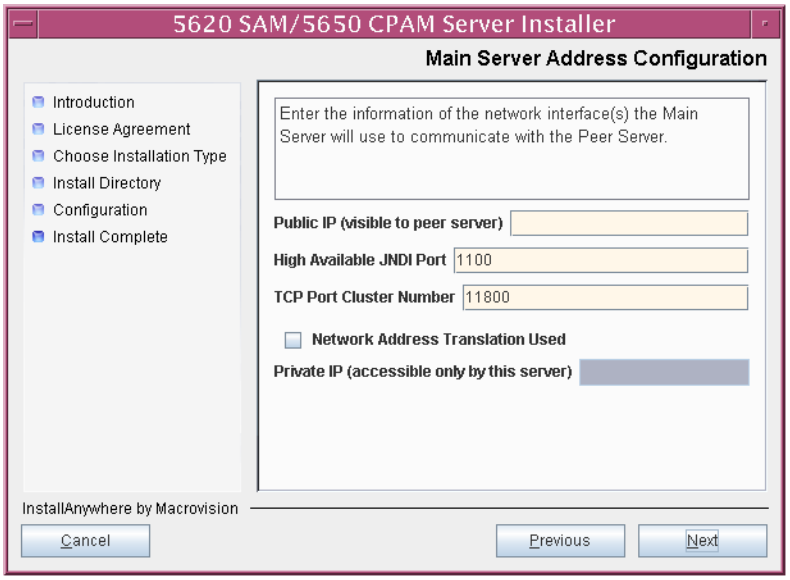


70 Configure the following parameters shown in Figure 4-103:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 4-103 Main Server Address Configuration



71 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

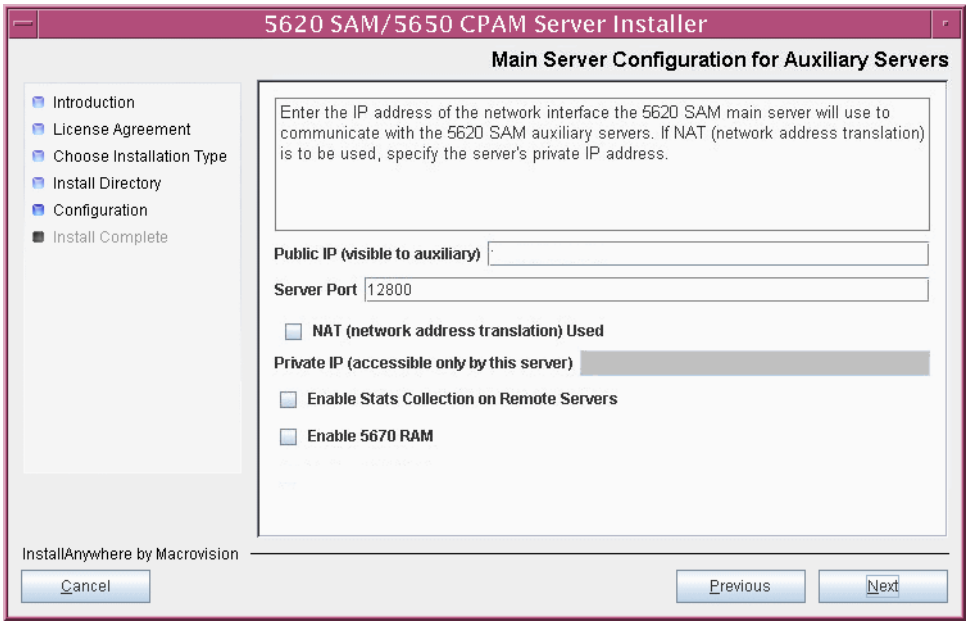
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 4-104:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the “Enable Stats Collection on Remote Servers” parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 4-104 Main Server Configuration for Auxiliary Servers



ii If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 4-105 to specify an auxiliary server. The form shown in Figure 4-106 opens.

Figure 4-105 Auxiliary Servers

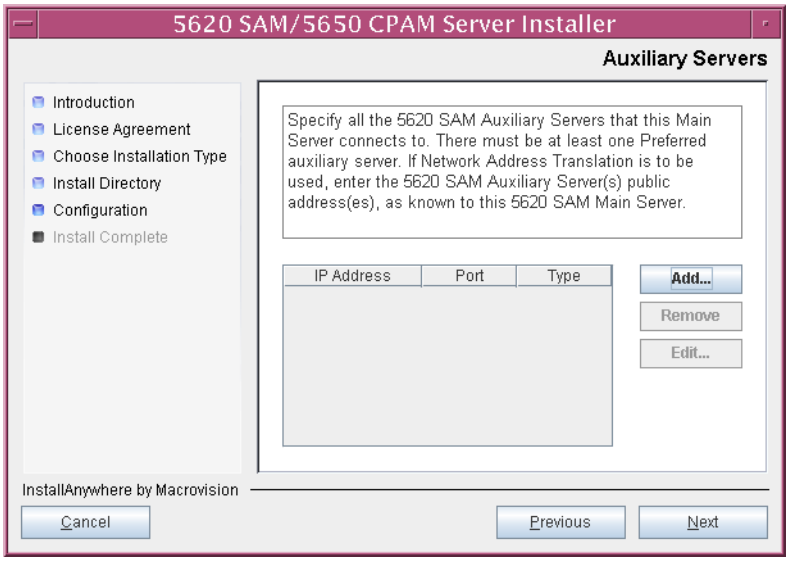
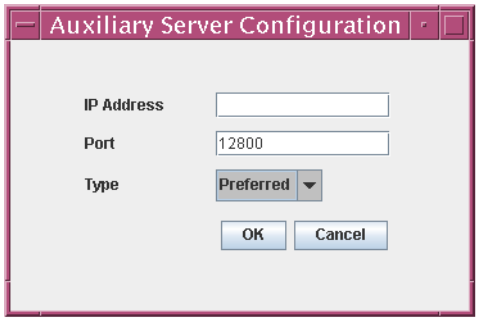


Figure 4-106 Auxiliary Server Configuration



v Configure the following parameters:

- IP Address (the IP address of the auxiliary server)
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 71 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

72 Click on the Next button to continue.

73 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 4-107.

ii If you want to accept the default user documentation location that is displayed, go to step 74.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

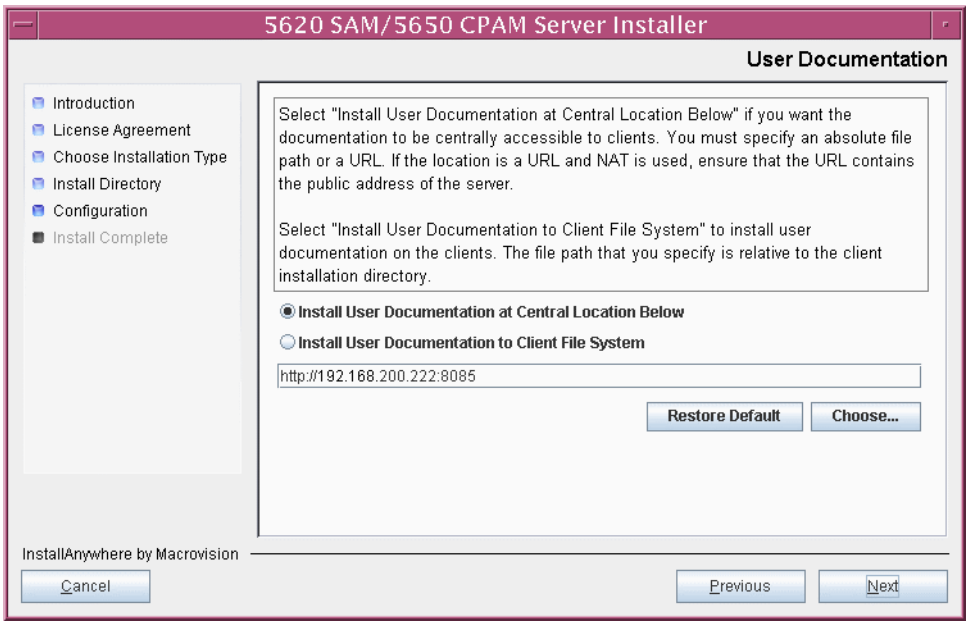
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 4-107.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

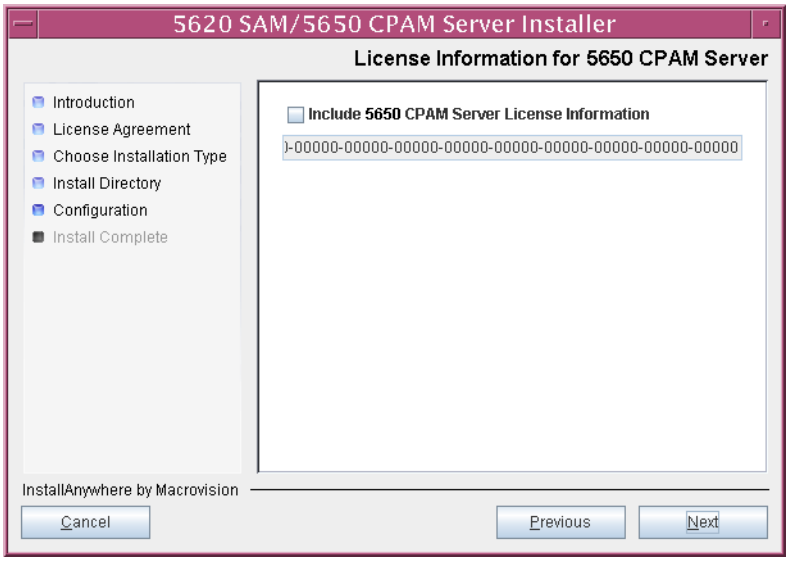
Figure 4-107 User Documentation



74 Click on the Next button to continue.

75 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 4-108. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

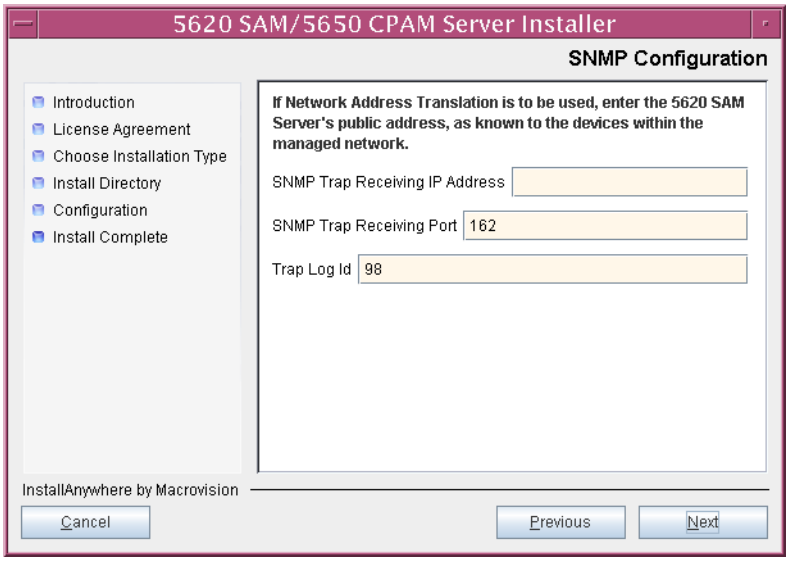
Figure 4-108 License Information for 5650 CPAM Server



76 Configure the following parameters shown in Figure 4-109, then click on the Next button:

- SNMP Trap Receiving IP Address (the IP address of the network interface on this server that the managed devices use to reach this server)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

Figure 4-109 SNMP Configuration

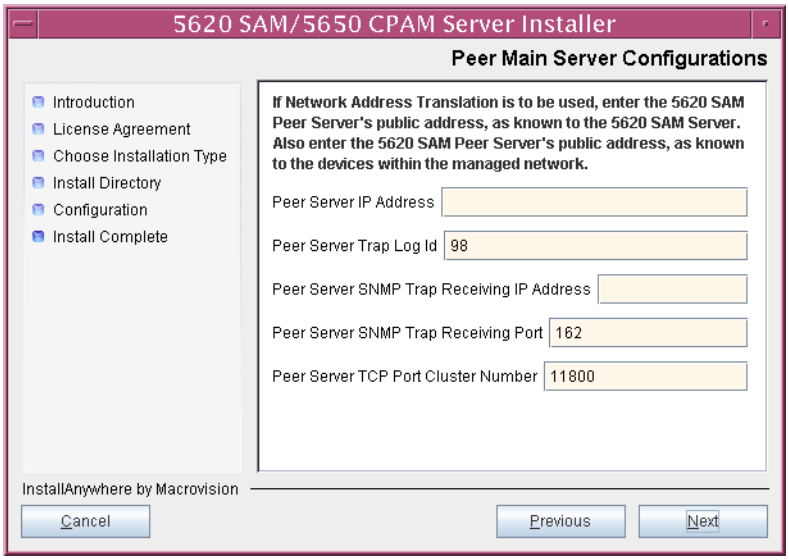


77 Configure the following parameters shown in Figure 4-110, then click on the Next button:

- Peer Server IP Address (original primary server station IP address)
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

The peer is the other 5620 SAM server station that is the standby server after the upgrade. Click on the Next button to continue.

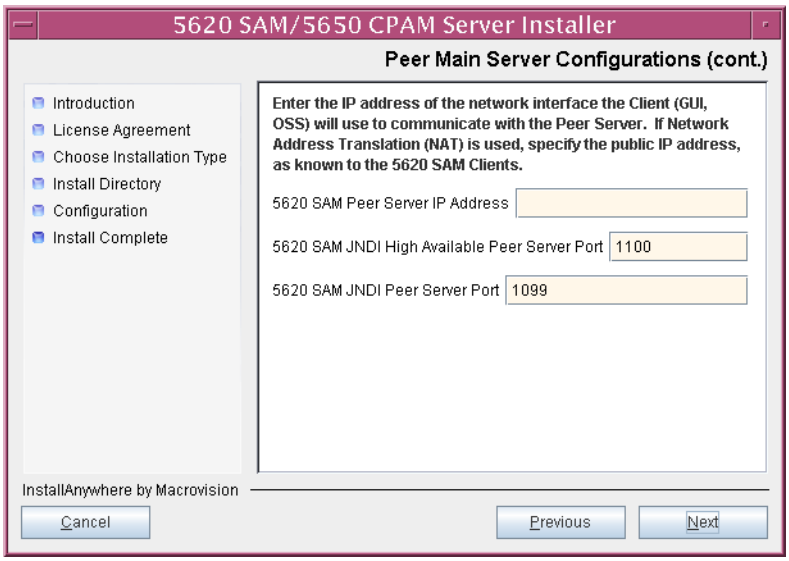
Figure 4-110 Peer Main Server Configurations



78 Configure the following parameters shown in Figure 4-111, then click on the Next button:

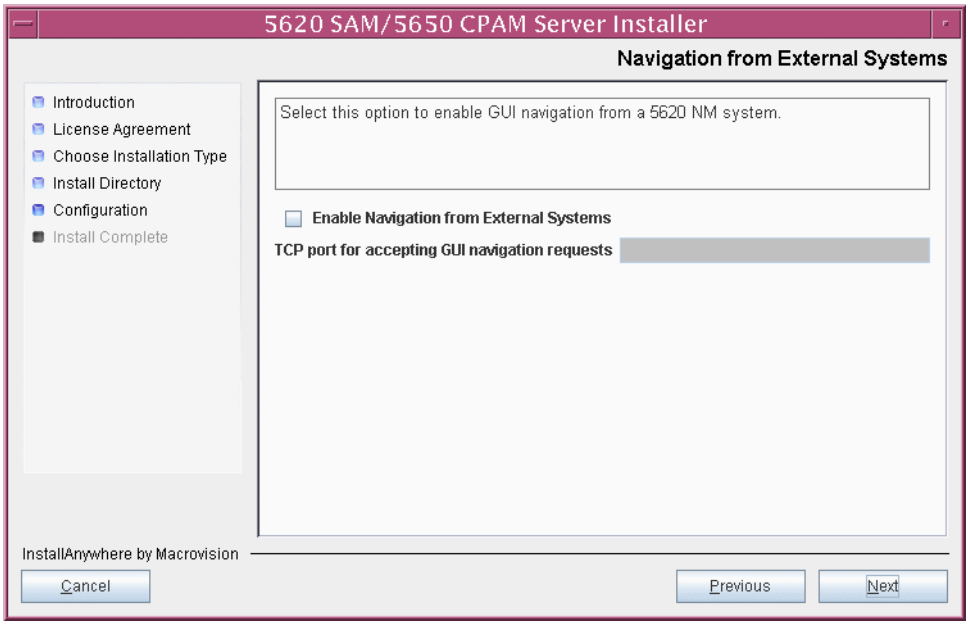
- 5620 SAM Peer Server IP Address (new standby server station IP address)
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 4-111 Peer Main Server Configurations (continued)



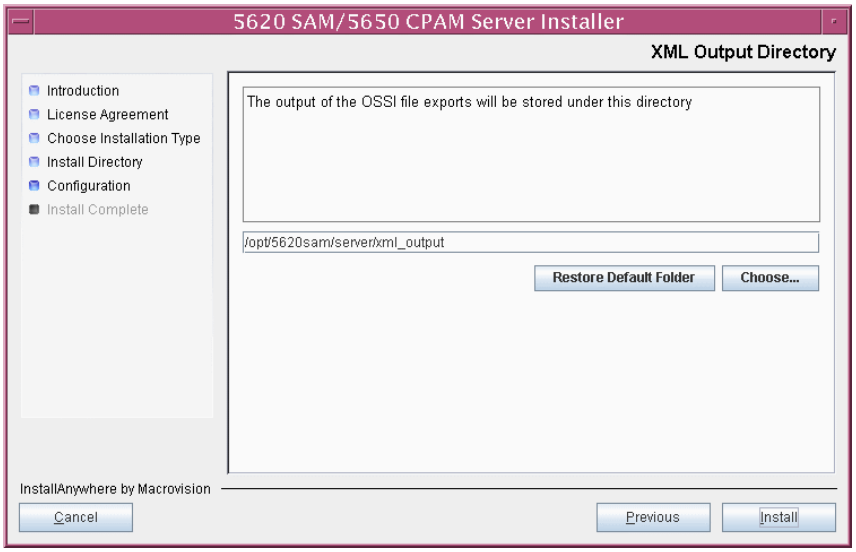
79 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 4-112 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 4-112 Navigation from External Systems



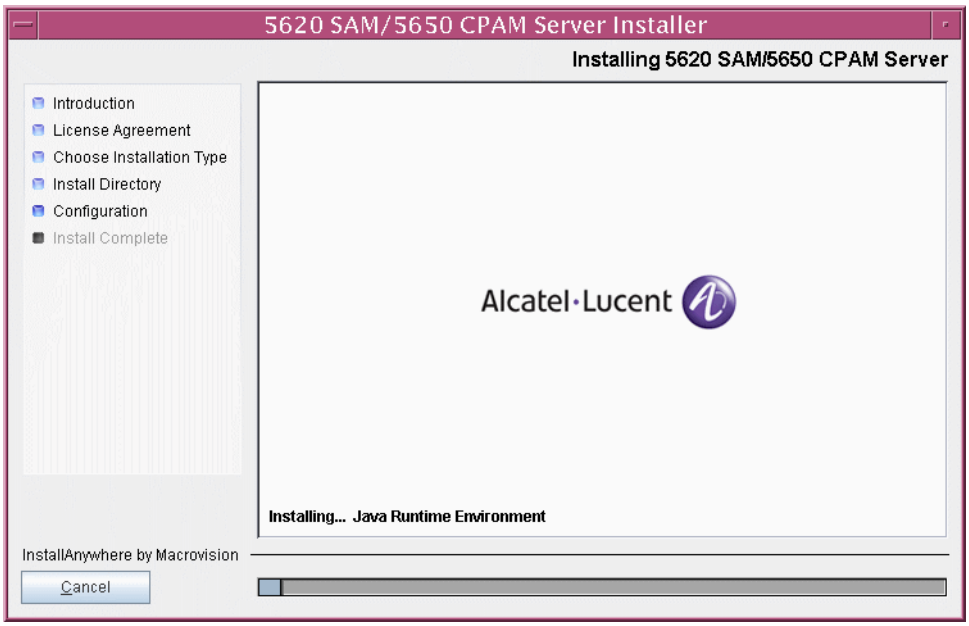
80 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 4-113. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 4-113 XML Output Directory



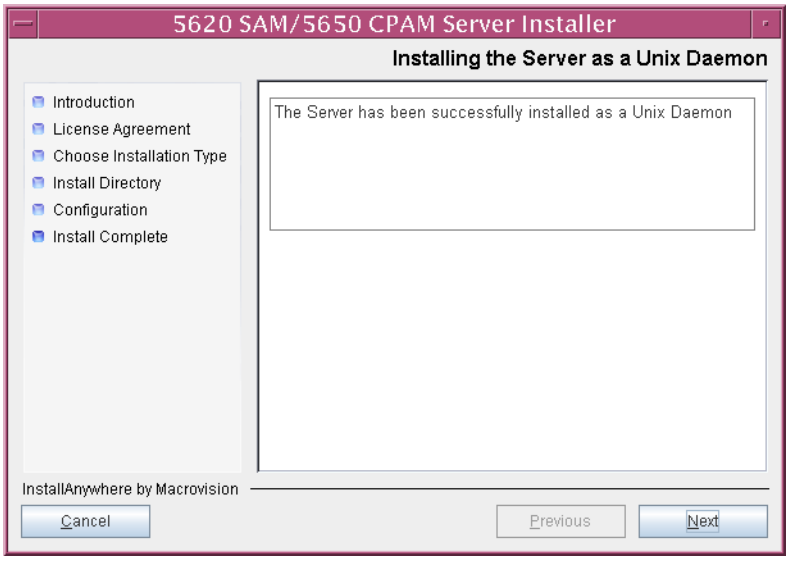
The next panel displays server installation progress, as shown in Figure 4-114.

Figure 4-114 Installing 5620 SAM/5650 CPAM Server



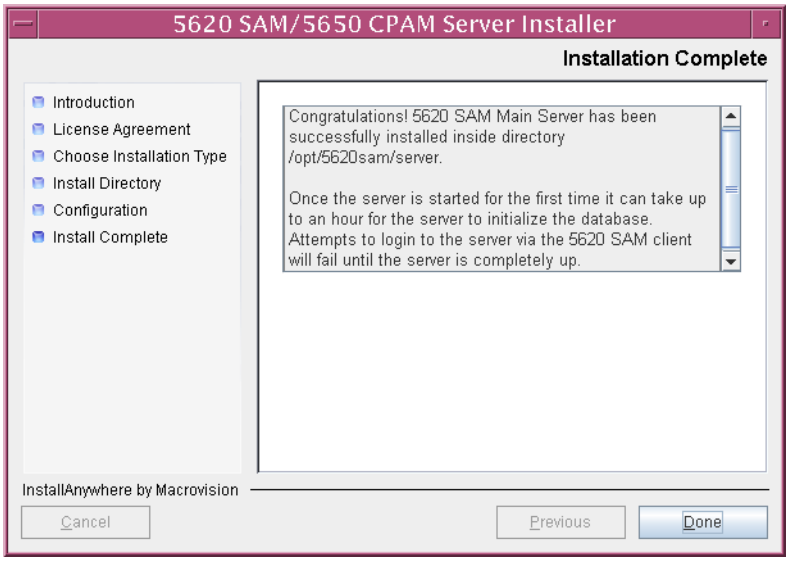
81 As shown in Figure 4-115, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 4-115 Installing the server as a Unix Daemon



82 When the server installation is complete, as shown in Figure 4-116, click on the Done button to close the installer.

Figure 4-116 Installation Complete



This server is the new primary server.

Upgrade original standby auxiliary servers

83 If the 5620 SAM deployment contains auxiliary servers, perform Procedure 4-8 on each preferred and reserved auxiliary server of the original standby main server to upgrade the auxiliary server software.

Shut down original primary server

84 Stop the 5620 SAM server application on the original primary server station.

i Log in as a user with root-equivalent privileges on the original primary server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server is stopped when the command in step 84 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 84 v. Do not proceed unless the console displays the above text.

Shut down original primary database

85 Stop the 5620 SAM database application on the original primary database station.

i Log in as a user with root-equivalent privileges on the original primary database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

Disable original primary database daemons

86 Disable the 5620 SAM Oracle proxy and database startup daemons on the original primary database station. This ensures that the original primary 5620 SAM database does not automatically start in the event of a power disruption during the upgrade.

i Log in as a user with root-equivalent privileges on the database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Disable the Oracle database daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S95db5620sam inactive.S95db5620sam ↵
```

v Disable the Oracle proxy daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S965620SAMOracleProxyWrapper
inactive.S965620SAMOracleProxyWrapper ↵
```

Disable original primary server daemon

87 Disable the 5620 SAM server startup daemon on the original primary server station. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the upgrade.

i Log in to the original primary server station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Disable the 5620 SAM server daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

Shut down original primary auxiliary servers

88 If the 5620 SAM deployment contains auxiliary servers, perform the following steps on each preferred and reserved auxiliary server of the original primary main server to stop the auxiliary server software.

i Log in as the same user that installed the auxiliary server.

ii Enter the following at the CLI prompt:

```
# path/nms/bin/nmsserver.bash auxstop ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server stops.

Start new primary server

89 Start the new primary 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# ./nmsserver.bash start ↵
```

The 5620 SAM server starts.

90 Verify that the new primary 5620 SAM main server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 90 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 90 i. Do not proceed unless the console displays the above text.

Start new primary auxiliary servers

91 Start each preferred and reserved 5620 SAM auxiliary server of the new primary main server. As the same user that upgraded the auxiliary server, enter the following at a CLI prompt on each auxiliary server station:

```
# path/nms/bin/nmsserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server starts.

Upgrade or install client for testing upgraded system

92 Upgrade an existing 5620 SAM client, or install a new 5620 SAM client, for sanity testing and network monitoring after the first server/database pair is upgraded to the new version. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 2-7 to upgrade a 5620 SAM client on a Windows station.

c Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

d Perform Procedure 4-3 or 4-4 to upgrade a 5620 SAM client on a Solaris or Linux station.

Note — You must specify the IP address of the current standby 5620 SAM server as the primary main server IP address when you install or upgrade the client. The current standby server is the new primary server after the upgrade.

Test 5620 SAM system using new client

93 When the new primary server is operational, use the new client to perform sanity testing of the new primary 5620 SAM server/database pair, as required.

See the *5620 SAM User Guide* for information about client operation.

If you need to back out of the upgrade and return the original primary server/database pair to service, you can do so by stopping the new primary server and database and restarting the original primary server and database applications.

Uninstall original primary database

94 Log in as a user with root-equivalent privileges on the original primary database station.

95 Open a console window.

96 Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

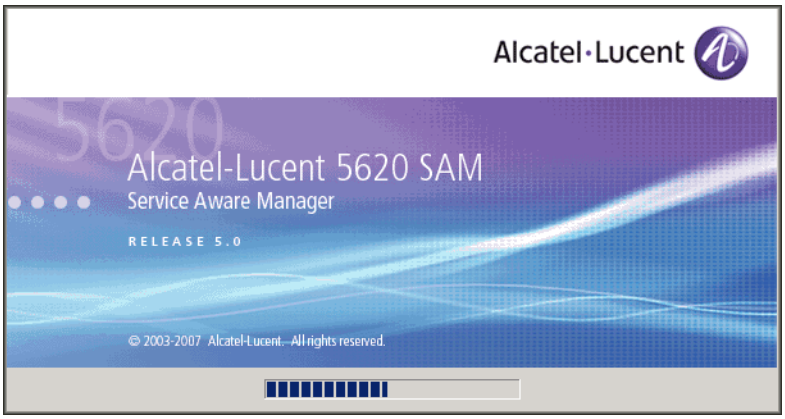
97 Enter the following at the CLI prompt to open the 5620 SAM uninstaller:

```
bash$
path/install/Uninstaller/Uninstall_5620_SAM_Database_Configurato
r ↵
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

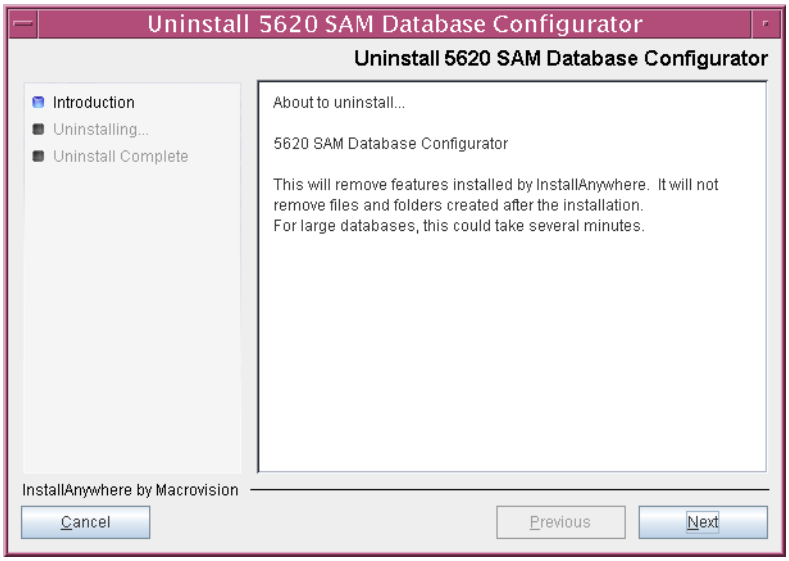
The splash screen shown in Figure 4-117 appears and the uninstallation process begins. The appearance of the splash screen depends on the version of the 5620 SAM uninstaller.

Figure 4-117 5620 SAM Uninstaller



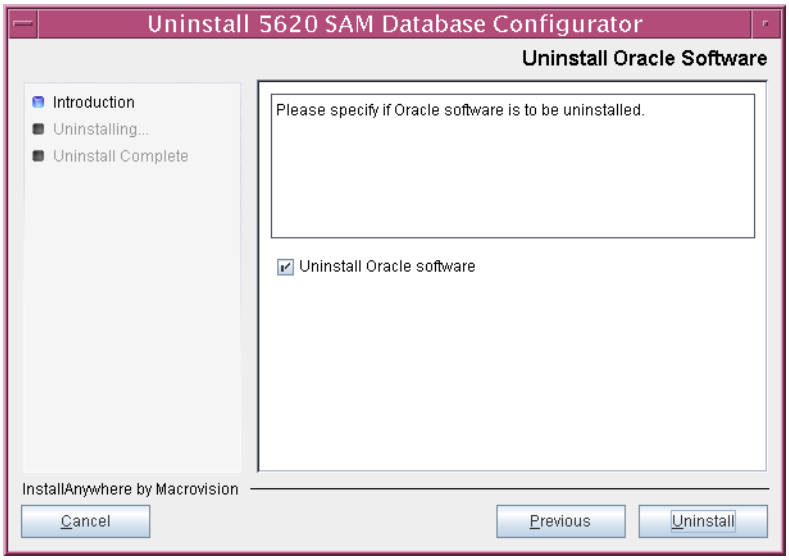
98 The 5620 SAM uninstaller opens, as shown in Figure 4-118. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Next button to continue.

Figure 4-118 Uninstall 5620 SAM Database Configurator



99 A 5620 SAM standby database upgrade requires the removal of the previously installed Oracle software. Enable the “Uninstall Oracle software” parameter, as shown in Figure 4-119, then click on the Uninstall button to continue.

Figure 4-119 Uninstall Oracle Software

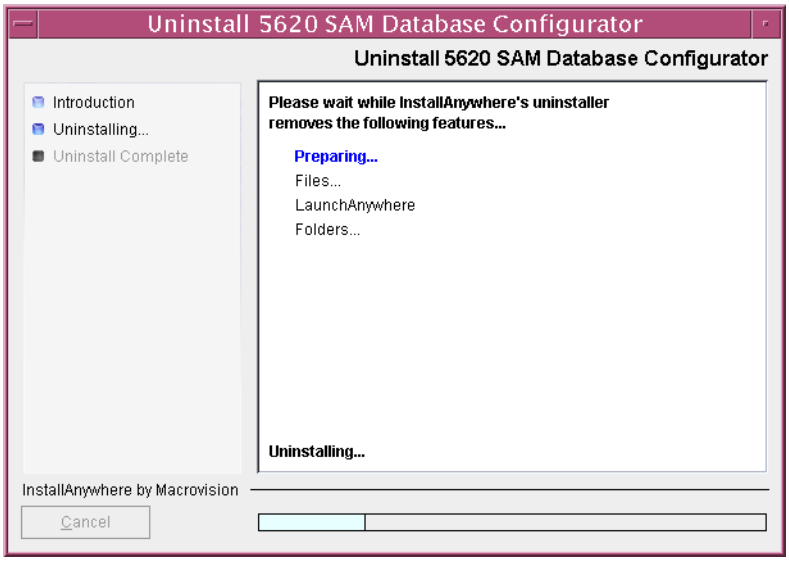


100 As shown in Figure 4-120, you are prompted to run a script that enables the uninstallation of the database daemons. Open a separate console window and run the script. After the script execution completes, click on the OK button to continue.

Figure 4-120 Warning

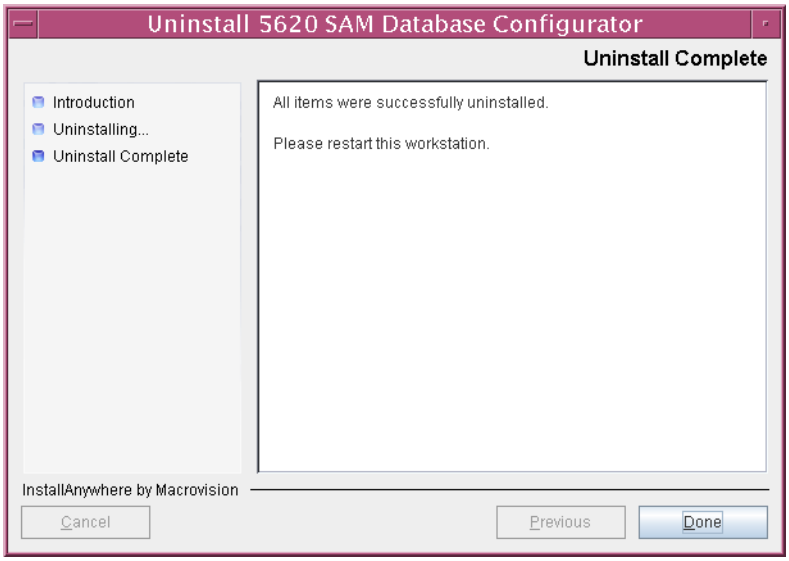
101 As shown in Figure 4-121, the uninstaller begins to remove files and directories from the original primary database station.

Figure 4-121 Uninstall 5620 SAM Database Configurator



102 When database uninstallation is complete, as shown in Figure 4-122, click on the Done button to close the uninstaller.

Figure 4-122 Uninstall Complete



103 The 5620 SAM uninstaller does not remove files that it does not recognize, such as the Oracle proxy daemon and 5620 SAM database daemon files that were renamed in step 86. Perform the following actions to delete these files.

i Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

ii Delete the renamed Oracle database daemon file. Enter the following at the CLI prompt:

```
# rm inactive.S95db5620sam ↵
```

iii Delete the renamed Oracle proxy daemon file. Enter the following at the CLI prompt:

```
# rm inactive.S965620SAMOracleProxyWrapper ↵
```

The next section of the procedure describes the installation of the new standby (original primary) 5620 SAM database. 5620 SAM database installation requires root-equivalent and Oracle management user-account privileges.

Install new standby database

104 Before you perform a 5620 SAM database installation on Solaris, you must run a pre-installation script. This script configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database installation to fail.

Switch to the root user. Enter the following at the CLI prompt:

```
bash$ su - ↵
```

105 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

106 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh upgrade ↵
```

107 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — Running the script may generate messages that are similar to the following; these are not error messages and can be ignored.

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle10R2"

108 After the script execution completes, reboot the new standby database station to put the system update into effect. Enter the following at the CLI prompt:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

109 After the new standby database station reboots, log in as the Oracle management user on the new standby database station.

110 Open a console window.

111 Navigate to the Solaris directory on the new version of the 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

112 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

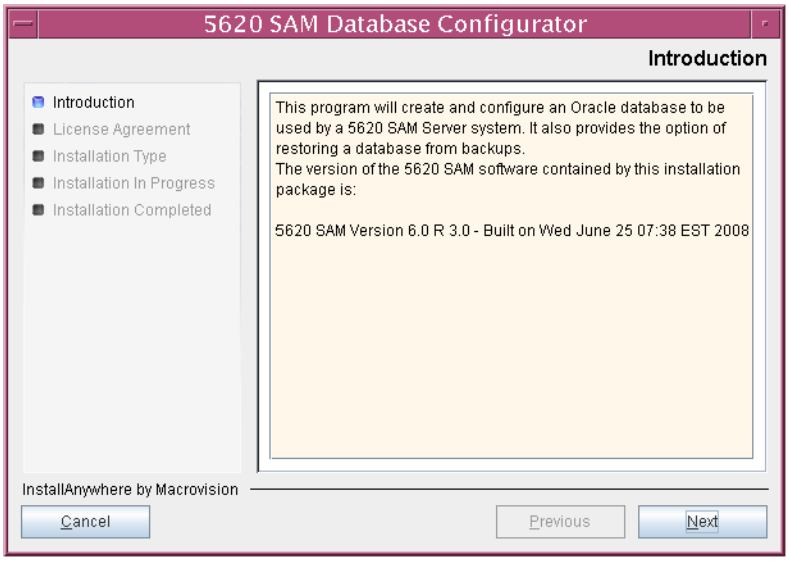
Note — After the upgrade, the database on this station is the new standby database. The installer automatically backs up the new primary database and restores it on this station.

The splash screen in Figure 4-123 appears and the installation process begins.

Figure 4-123 5620 SAM Installer

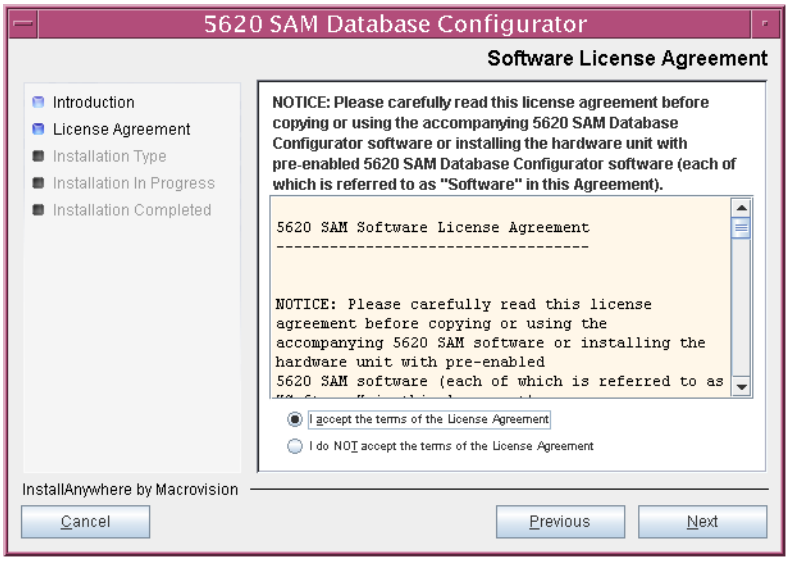
113 The 5620 SAM installer opens, as shown in Figure 4-124. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 4-124 Introduction



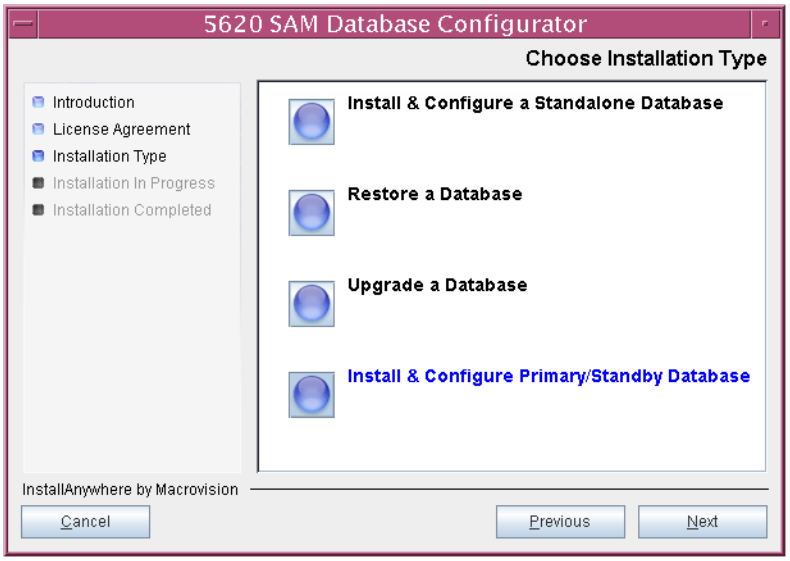
114 Review and accept the terms of the license agreement shown in Figure 4-125, then click on the Next button.

Figure 4-125 Software License Agreement



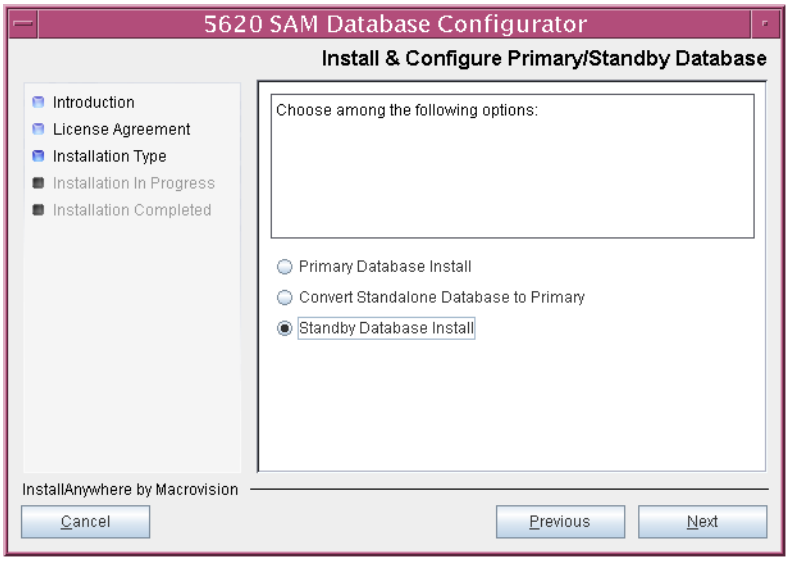
115 Select Install & Configure Primary/Standby Database, as shown in Figure 4-126, then click on the Next button.

Figure 4-126 Choose Installation Type



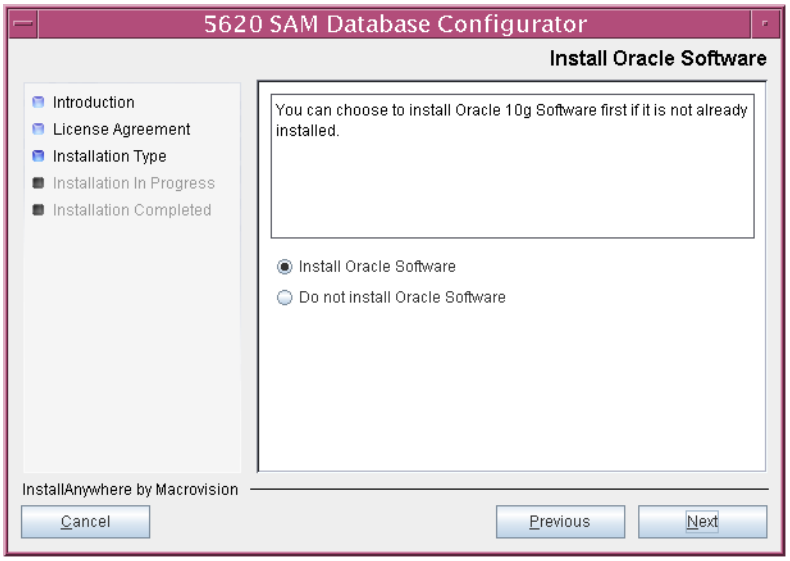
116 Select Standby Database Install, as shown in Figure 4-127, then click on the Next button.

Figure 4-127 Install & Configure Primary/Standby Database



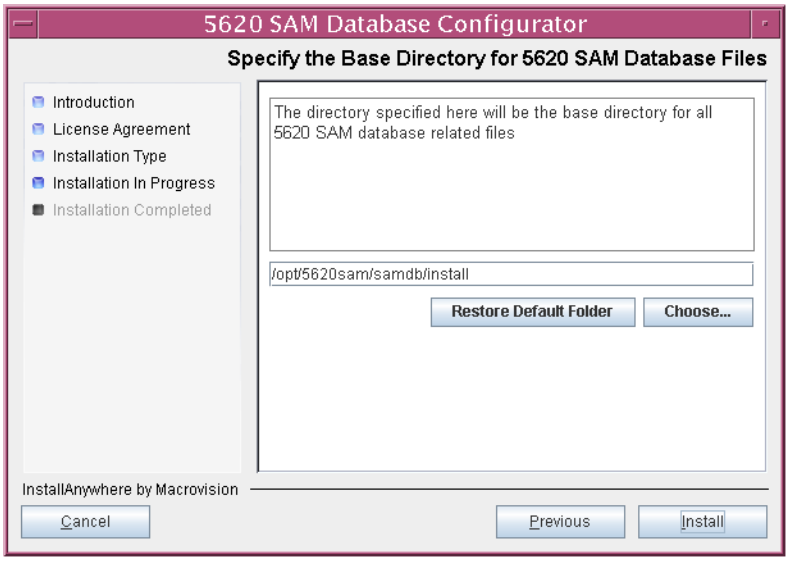
117 Select Install Oracle Software, as shown in Figure 4-128, then click on the Next button.

Figure 4-128 Install Oracle Software



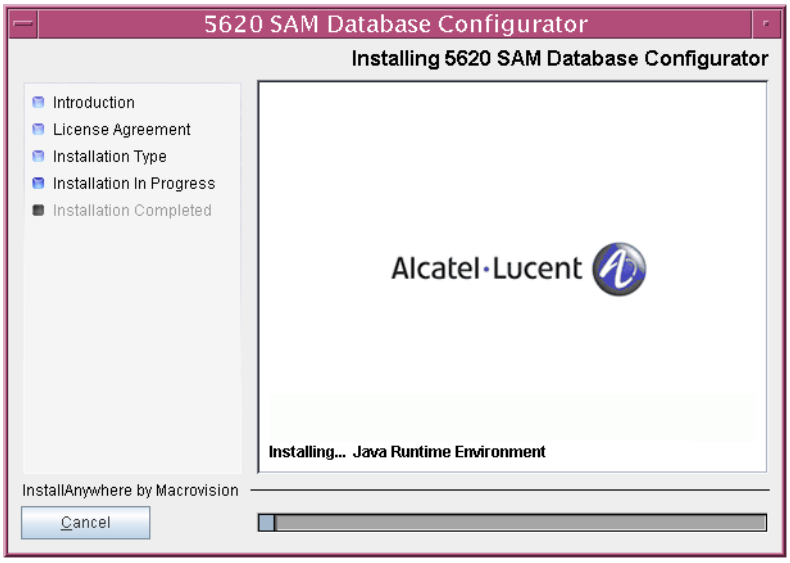
118 Specify the base directory for the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 4-129. This directory must be the same one specified in step 31. Click on the Install button to proceed.

Figure 4-129 Specify the Base Directory for 5620 SAM Database Files



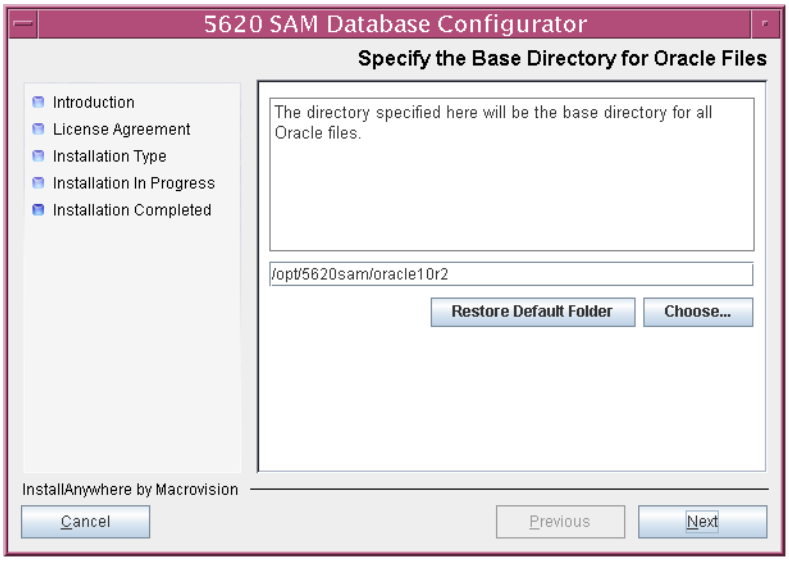
The next panel displays installation progress, as shown in Figure 4-130.

Figure 4-130 Installing 5620 SAM Database Configurator



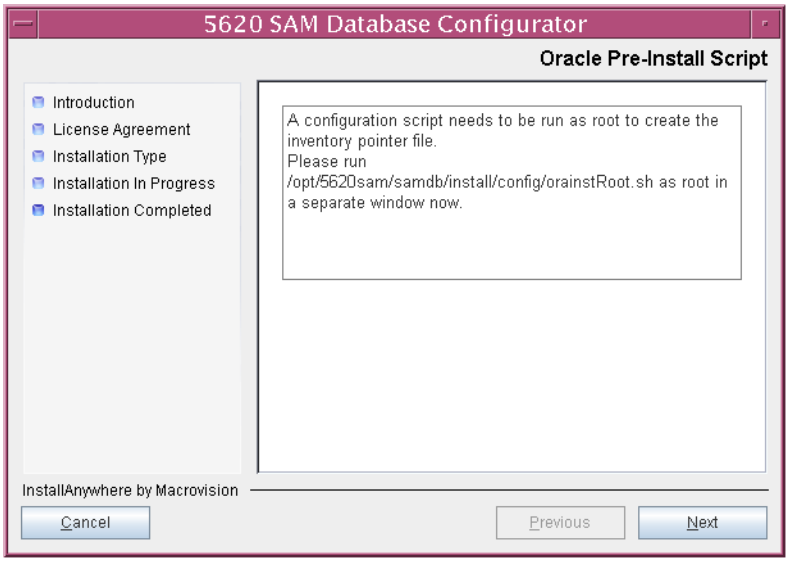
119 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 4-131. This directory specification must be the same as the one specified in step 32. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 4-131 Specify the Base Directory for Oracle Files



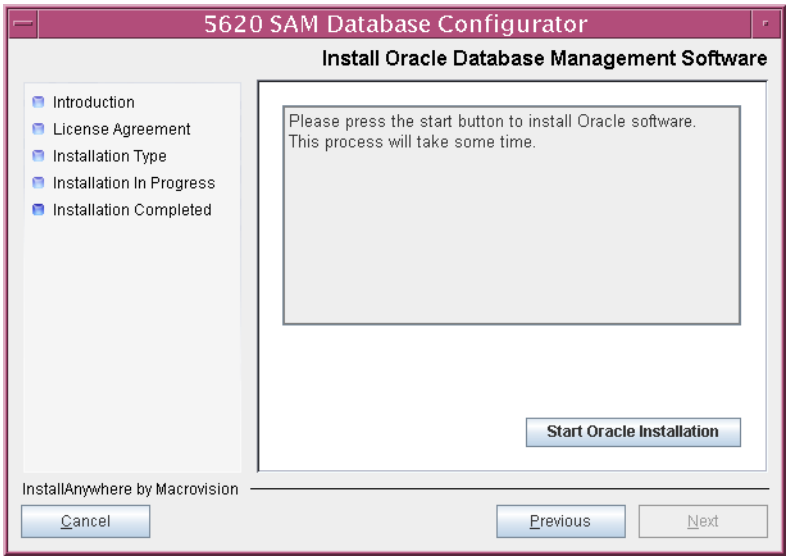
120 You may be prompted to run an Oracle pre-installation script, as shown in Figure 4-132. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

Figure 4-132 Oracle Pre-Install Script



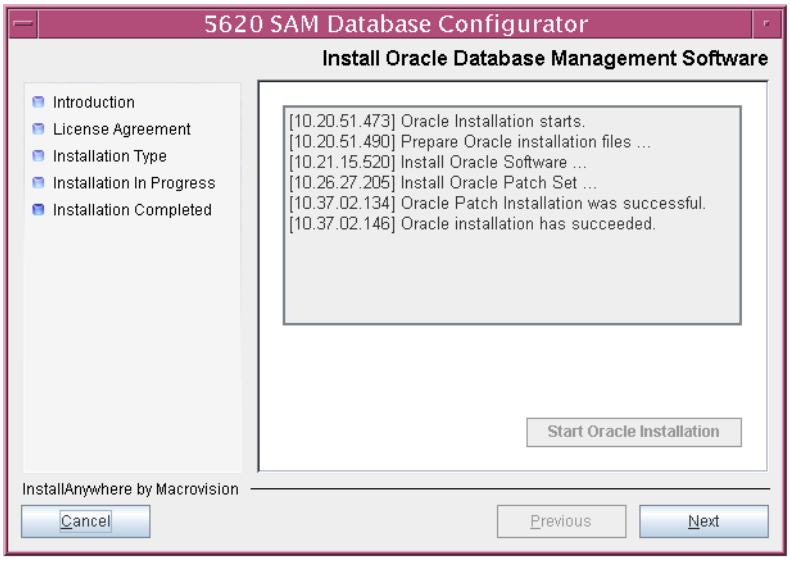
121 You are prompted to begin Oracle installation, as shown in Figure 4-133. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 4-133 Install Oracle Database Management Software



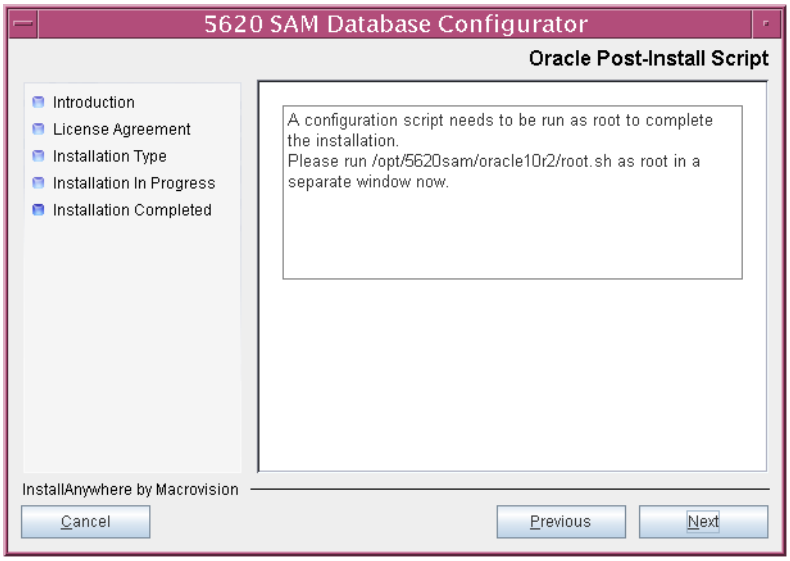
122 Oracle installation details are displayed as the installation progresses. When Oracle installation is complete, as shown in Figure 4-134, click on the Next button.

Figure 4-134 Install Oracle Database Management Software



123 You are prompted to run an Oracle post-installation script, as shown in Figure 4-135. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

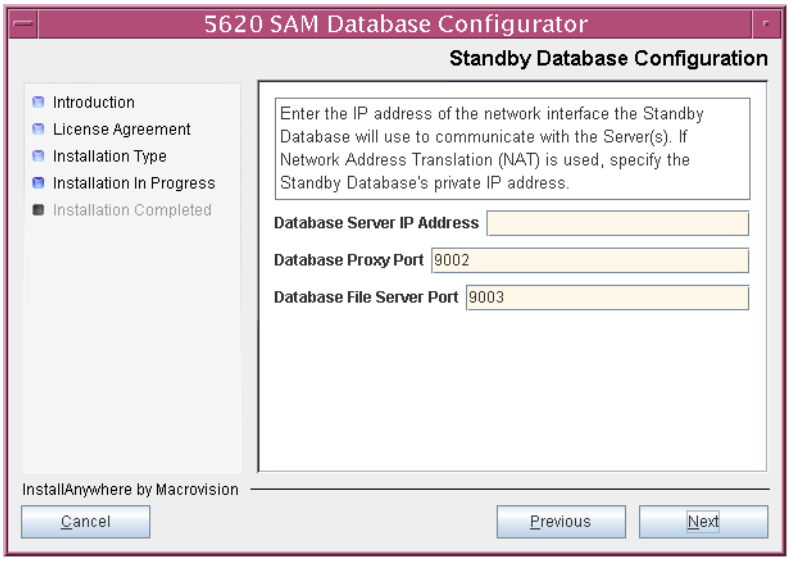
Figure 4-135 Oracle Post-Install Script



124 Configure the parameters shown in Figure 4-136, then click on the Next button to continue.

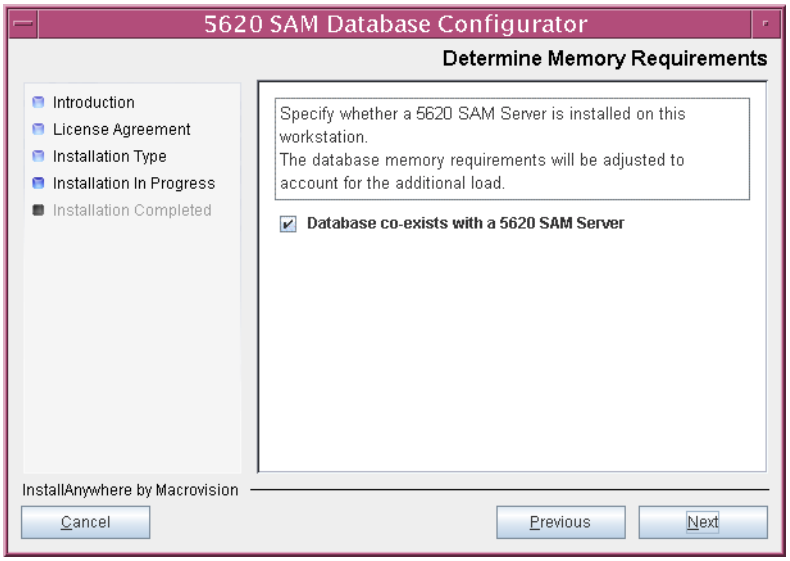
- Database Server IP Address (the IP address of the network interface on this station that the main servers use to reach the database on this station)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 4-136 Standby Database Configuration



125 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 4-137. Click on the Next button to continue.

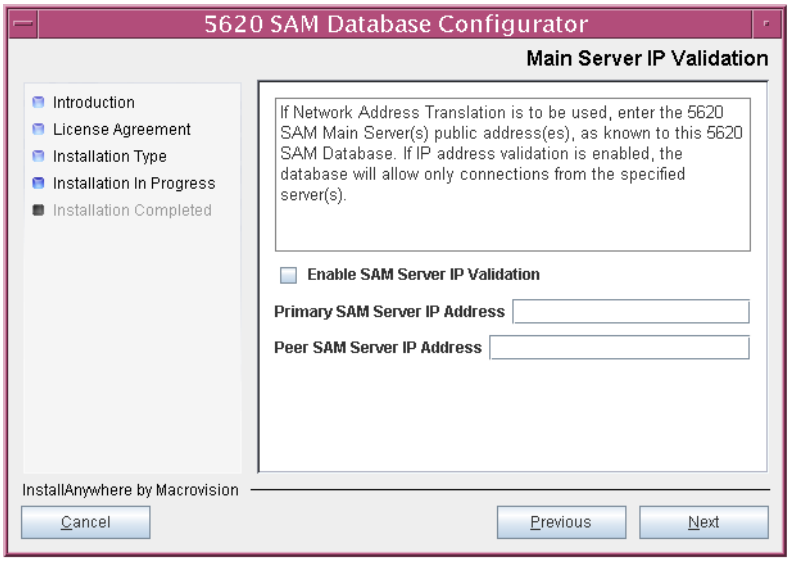
Figure 4-137 Determine Memory Requirements



126 If IP-address validation is required, enable the “Enable SAM Server IP Validation” parameter and configure the following parameters shown in Figure 4-138. Click on the Next button to continue.

- Primary SAM Server IP Address (primary server IP address value from step 40)
- Peer SAM Server IP Address (peer server IP address value from step 40)

Figure 4-138 Main Server IP Validation



127 If the “Enable SAM Server IP Validation” parameter shown in step 126 is enabled, perform one of the following actions.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Click on the Add button shown in Figure 4-139. The form shown in Figure 4-140 opens.

Figure 4-139 Auxiliary Server IP Validation

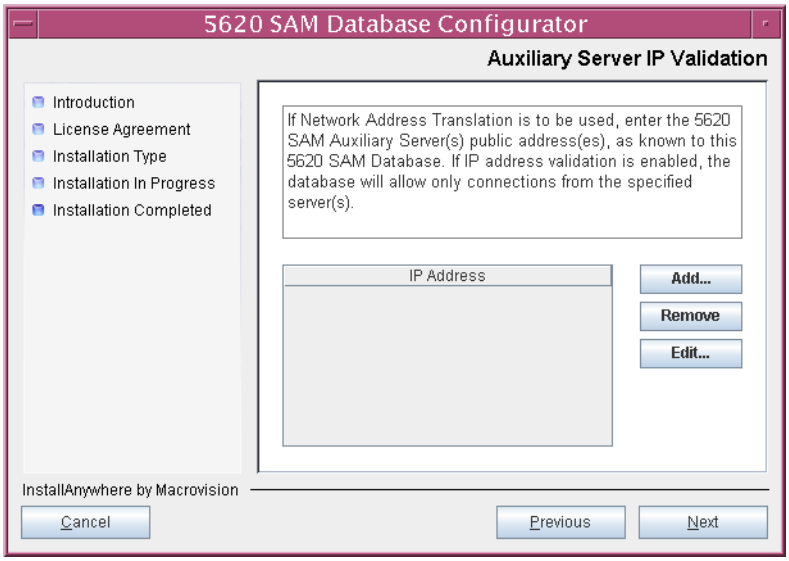
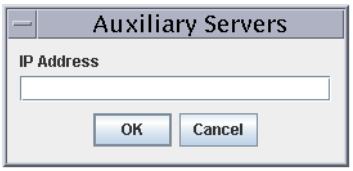


Figure 4-140 Auxiliary Servers



ii Enter the IP Address of the auxiliary server.

iii Click on the OK button to save the information and close the form.

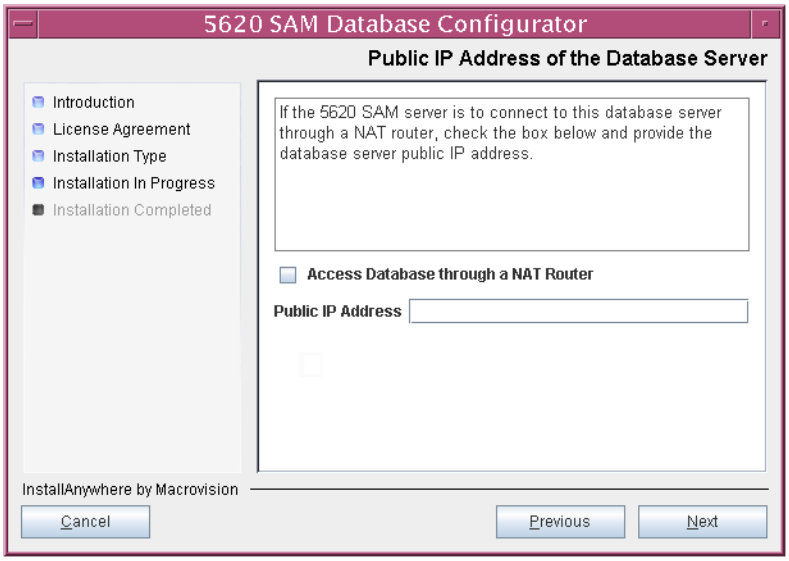
iv Repeat steps 127 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

128 Click on the Next button to continue.

129 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 4-141 and enter the public IP address of the database. Click on the Next button to continue.

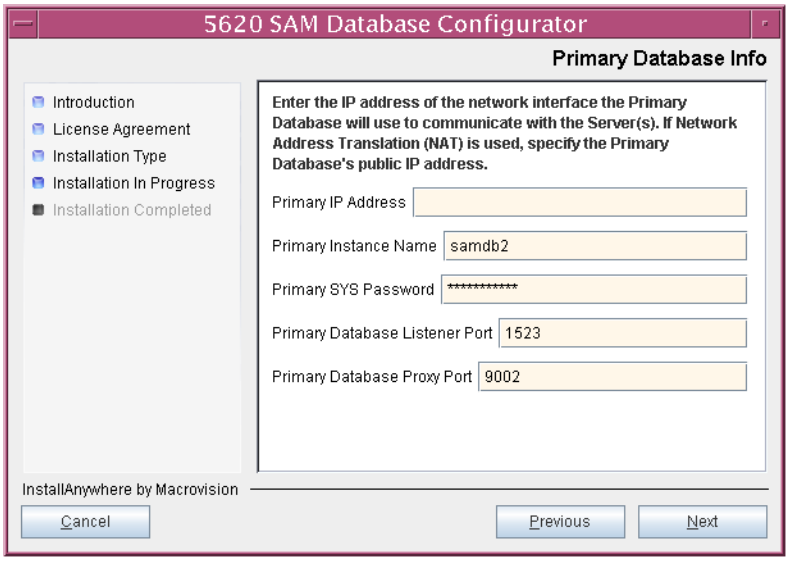
Figure 4-141 Public IP Address of the Database Server



130 Configure the following parameters, shown in Figure 4-142, using the recorded values from the primary database installation. Click on the Next button to continue.

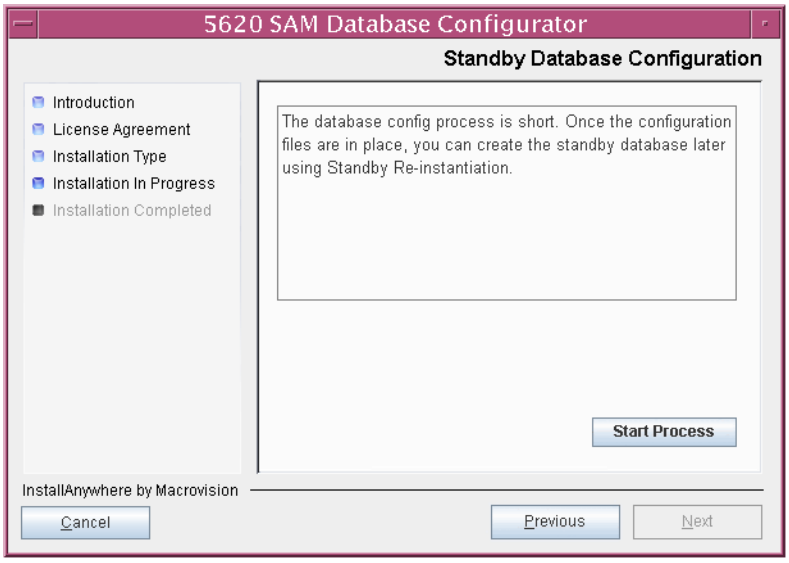
- Primary IP Address
- Primary Instance Name (typically samdb2)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 4-142 Primary Database Info



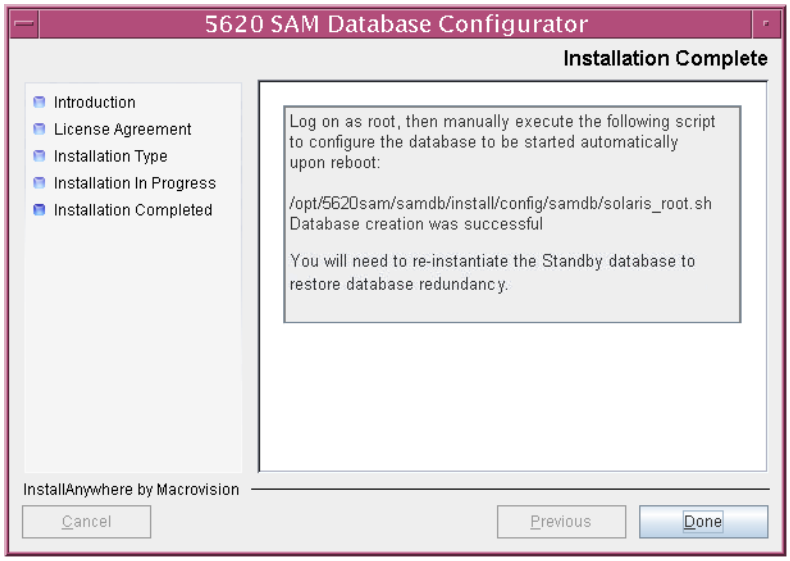
131 You are prompted to begin standby database creation, as shown in Figure 4-143. Click on the Start Process button to proceed.

Figure 4-143 Standby Database Configuration



132 When the database creation is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 4-144. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 4-144 Installation Complete



The next section of the procedure describes the reinstantiation of the database on the new standby database station.

Reinstantiate database on new standby station

133 Log in to a 5620 SAM client as the admin user.

134 Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.

135 Click on the Re-Instantiate Standby button. A dialog box appears.

136 Click on the Yes button. The database reinstantiation begins.

You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.

137 When the reinstantiation is complete, close the System Information form.

The next section of the procedure describes the upgrade of the original primary (new standby) 5620 SAM server. Server upgrade requires root-equivalent privileges.

Upgrade new standby main server

138 Log in to the original primary server station as a user with root-equivalent privileges.

Note — This station is the new standby server station after the upgrade.

139 Open a console window.

140 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

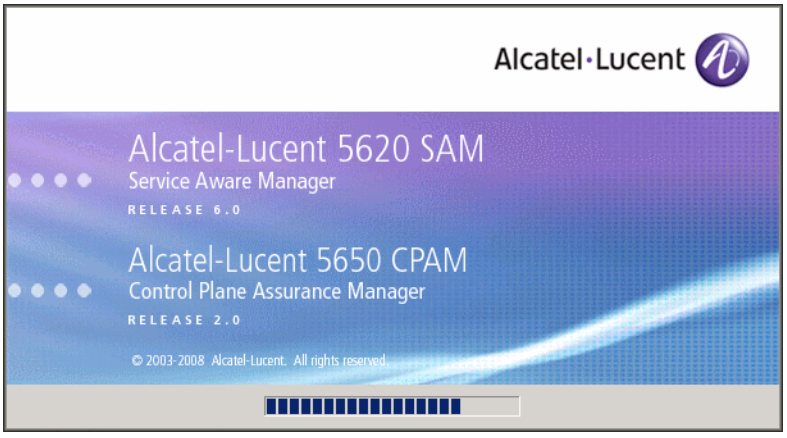
141 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

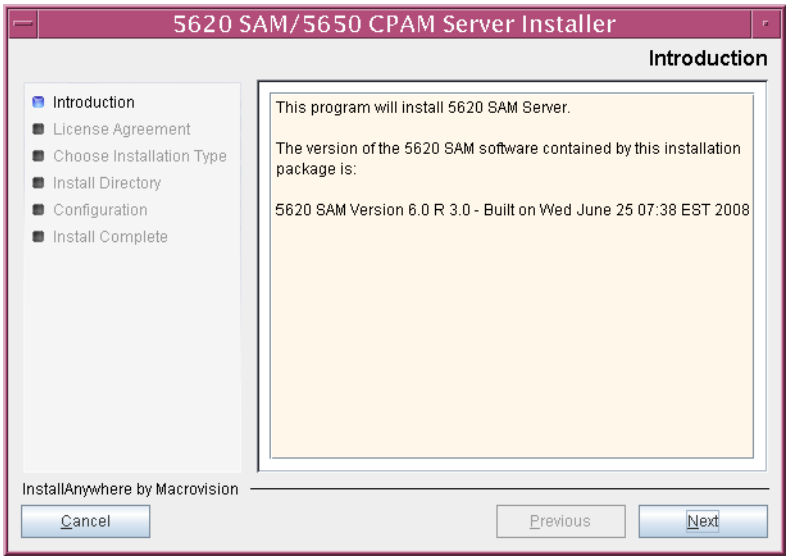
The splash screen in Figure 4-145 appears and the installation process begins.

Figure 4-145 5620 SAM Installer



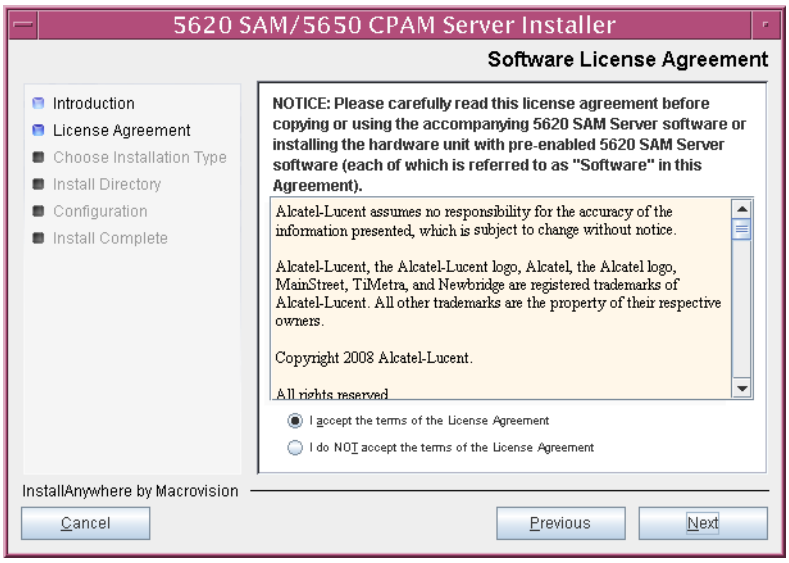
142 The 5620 SAM installer opens, as shown in Figure 4-146. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-146 Introduction



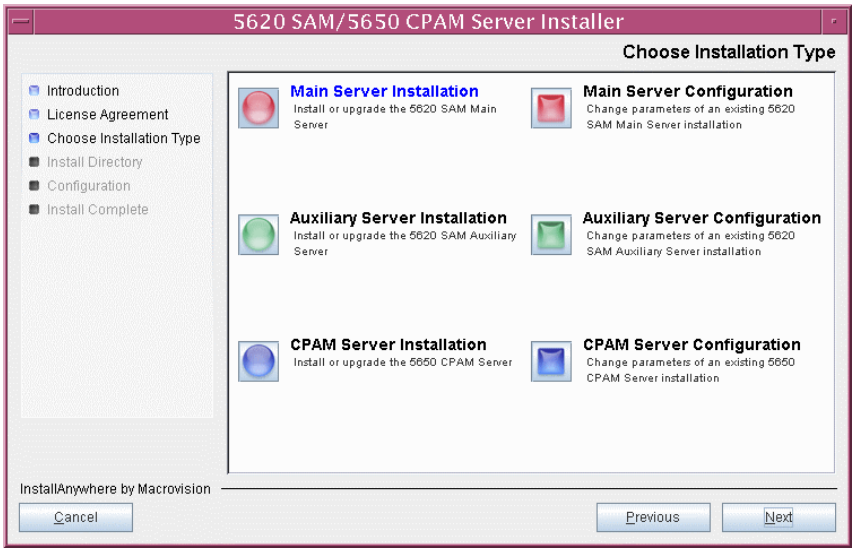
143 Review and accept the terms of the license agreement shown in Figure 4-147, then click on the Next button.

Figure 4-147 Software License Agreement



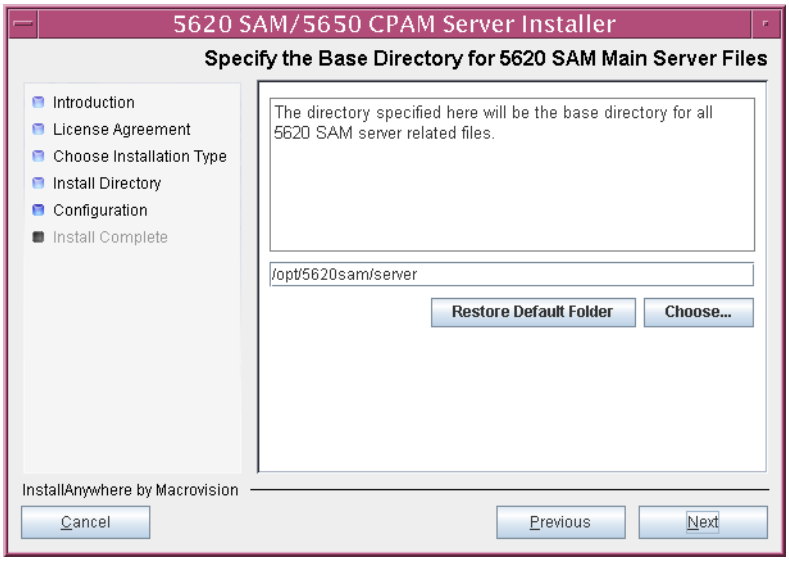
144 Select Main Server Installation, as shown in Figure 4-148, then click on the Next button.

Figure 4-148 Choose Installation Type



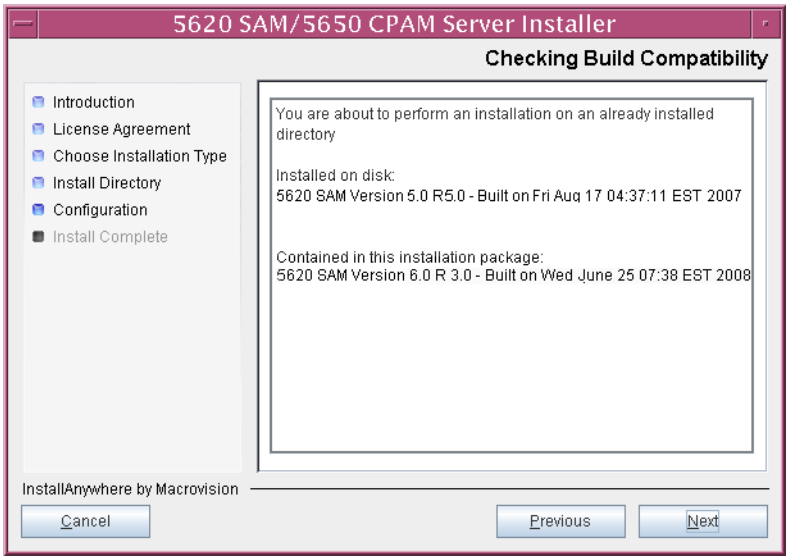
145 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 4-149. Click on the Next button to continue.

Figure 4-149 Specify the Base Directory for 5620 SAM Main Server Files



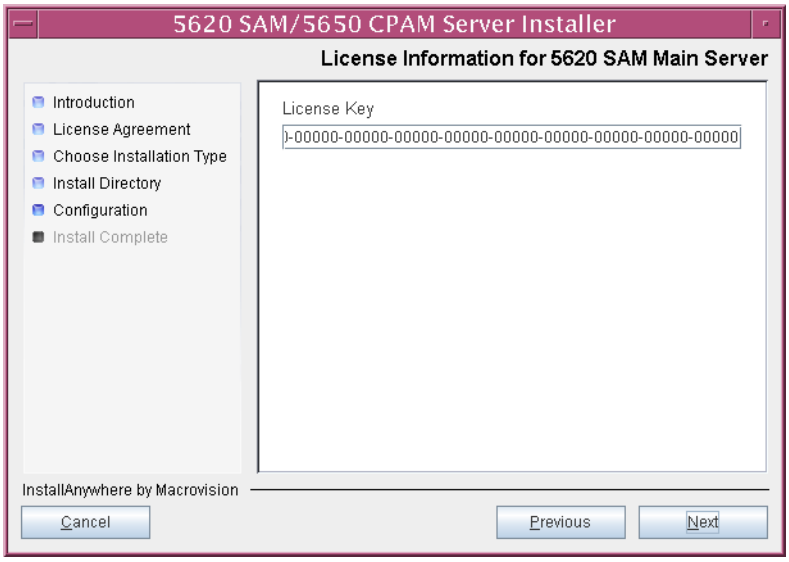
146 As shown in Figure 4-150, the installer displays the version of the 5620 SAM server software that is installed and the version to which it is being upgraded. Verify the information, then click on the Next button.

Figure 4-150 Checking Build Compatibility



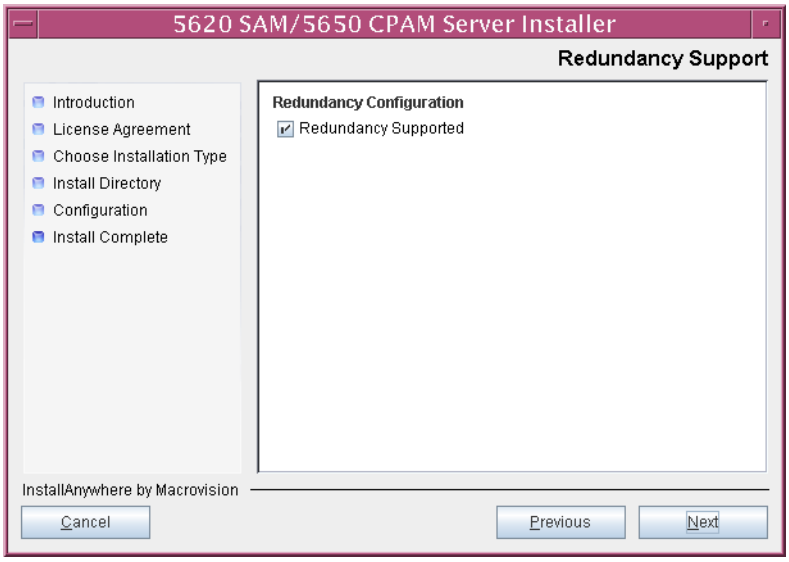
147 The 5620 SAM Installer displays the License Key specified during the existing installation. Enter the License Key information for the new 5620 SAM release exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 4-151. Click on the Next button to continue.

Figure 4-151 License Information for 5620 SAM Main Server



148 Enable the “Redundancy Supported” parameter, as shown in Figure 4-152, then click on the Next button.

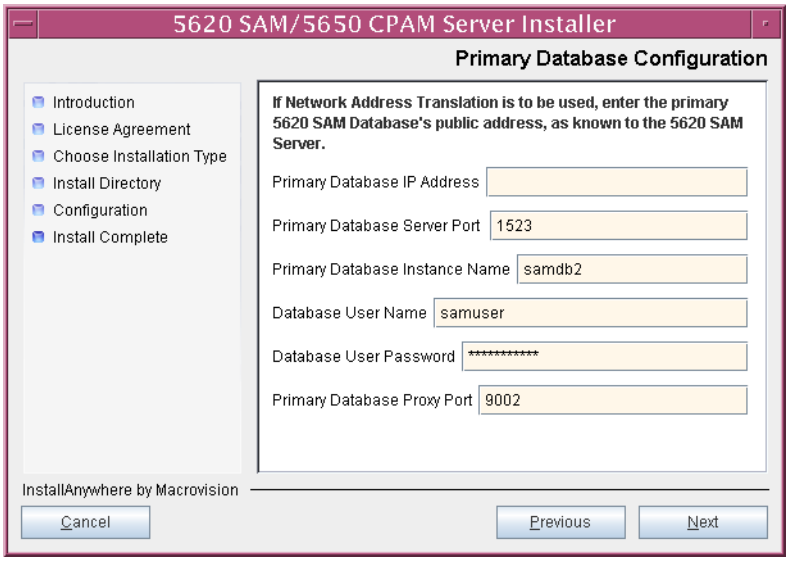
Figure 4-152 Redundancy Support



149 Configure the following parameters, shown in Figure 4-153, using the recorded values from the primary database installation. Click on the Next button to continue.

- Primary Database IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb2)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

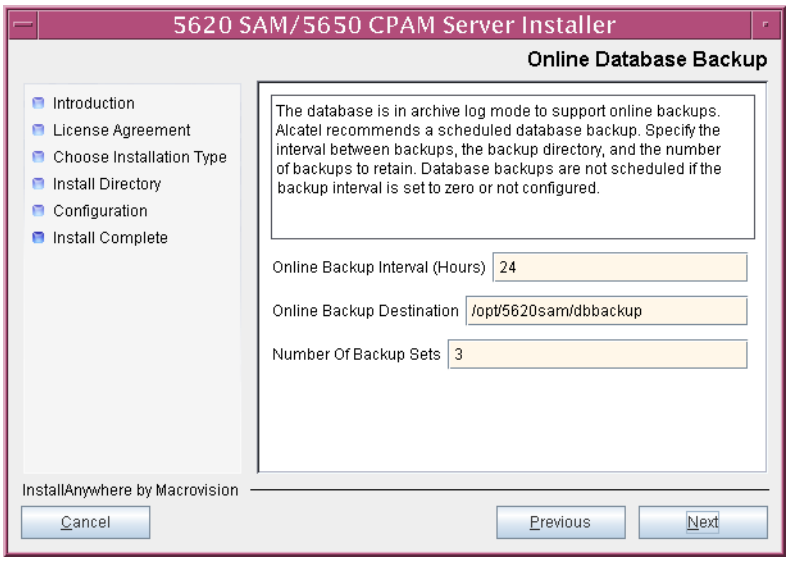
Figure 4-153 Primary Database Configuration



150 Depending on the existing configuration. the panel shown in Figure 4-154 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

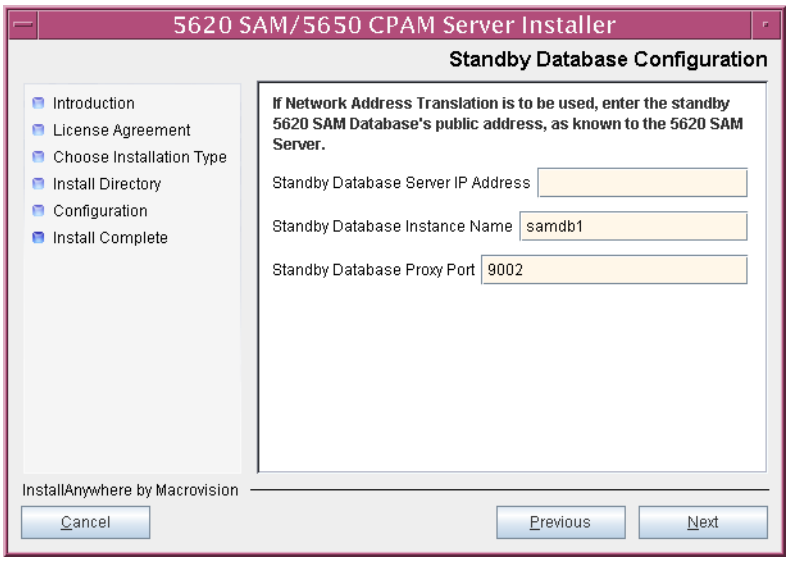
Figure 4-154 Online Database Backup



151 Configure the following parameters shown in Figure 4-155, then click on the Next button:

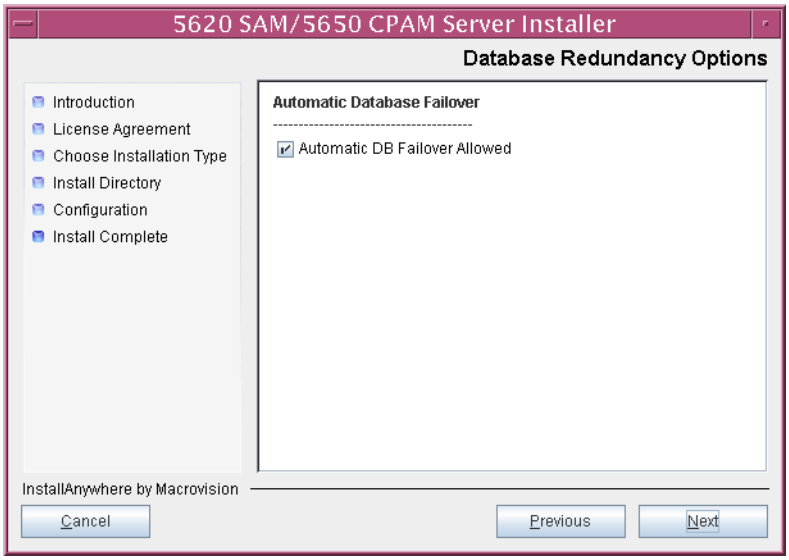
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb1)
- Standby Database Proxy Port (typically 9002)

Figure 4-155 Standby Database Configuration



152 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 4-156, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 4-156 Database Redundancy Options

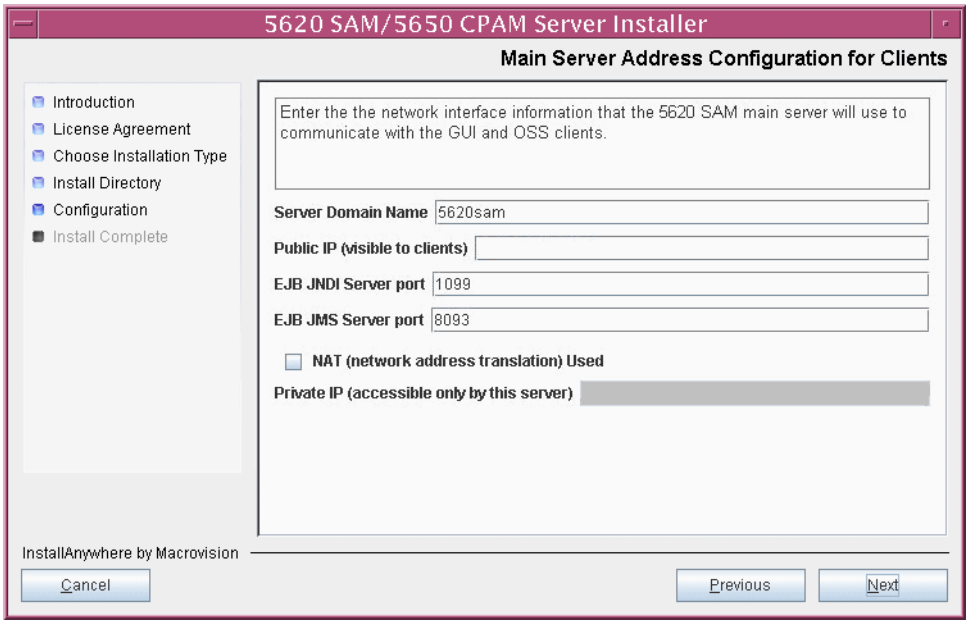


153 Configure the following parameters shown in Figure 4-157:

- SAM Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 4-157 Main Server Address Configuration for Clients

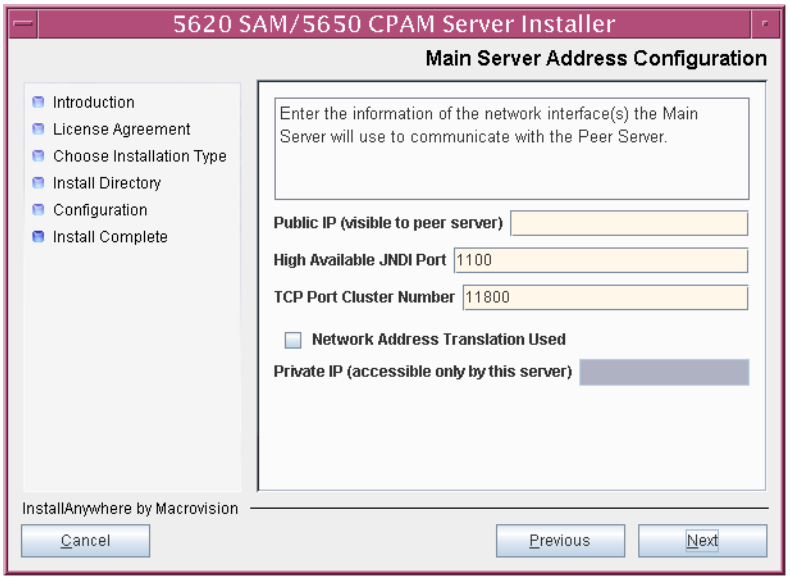


154 Configure the following parameters shown in Figure 4-158:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 4-158 Main Server Address Configuration



155 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

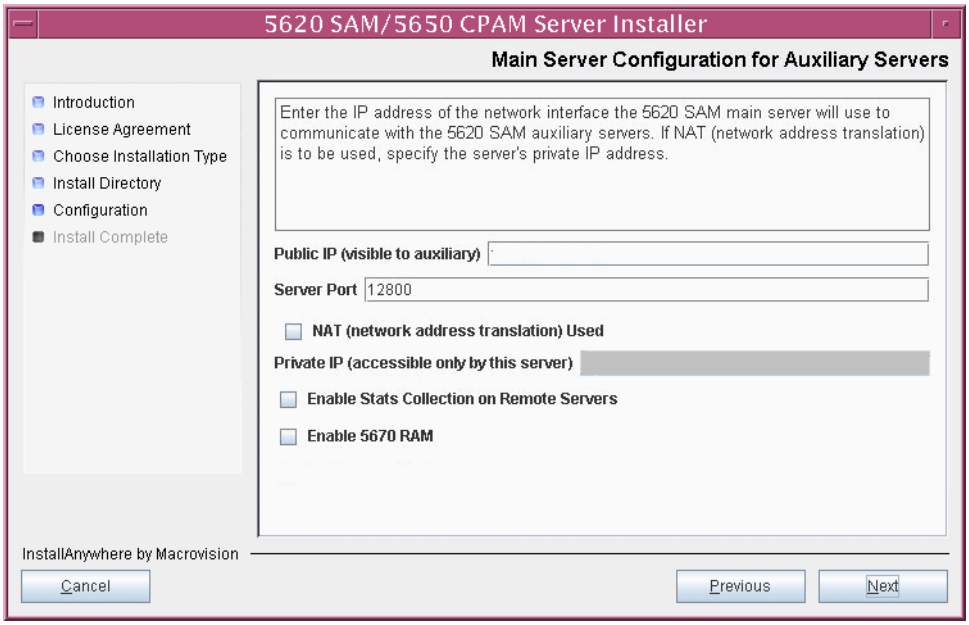
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 4-159:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the “Enable Stats Collection on Remote Servers” parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 4-159 Main Server Configuration for Auxiliary Servers



ii If NAT is used between this 5620 SAM server and the auxiliary servers, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button to continue.

iv Click on the Add button shown in Figure 4-160 to specify an auxiliary server. The form shown in Figure 4-161 opens.

Figure 4-160 Auxiliary Servers

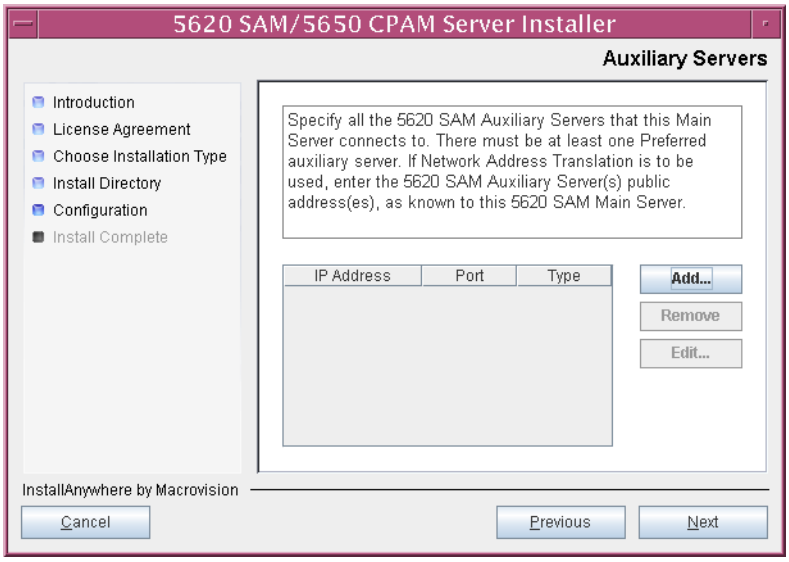
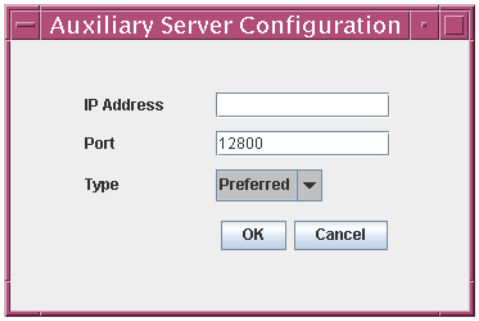


Figure 4-161 Auxiliary Server Configuration



v Configure the following parameters:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 155 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

156 Click on the Next button to continue.

157 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 4-162.

ii If you want to accept the default user documentation location that is displayed, go to step 158.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

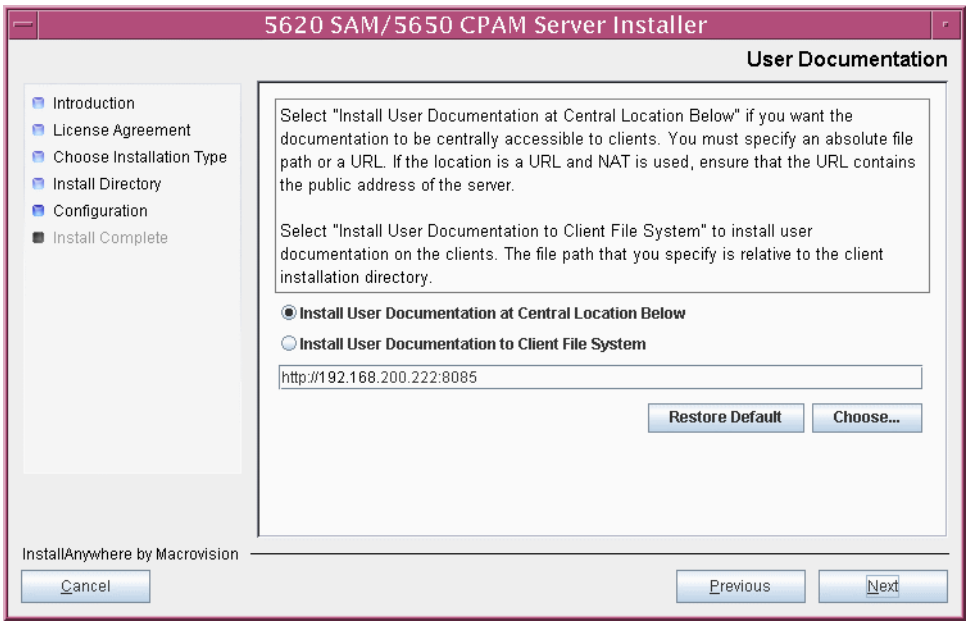
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 4-162.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

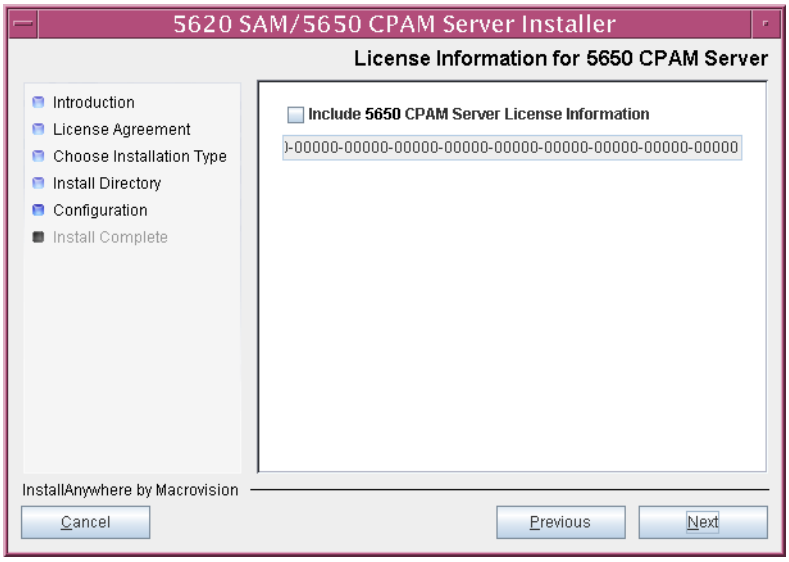
Figure 4-162 User Documentation



158 Click on the Next button to continue.

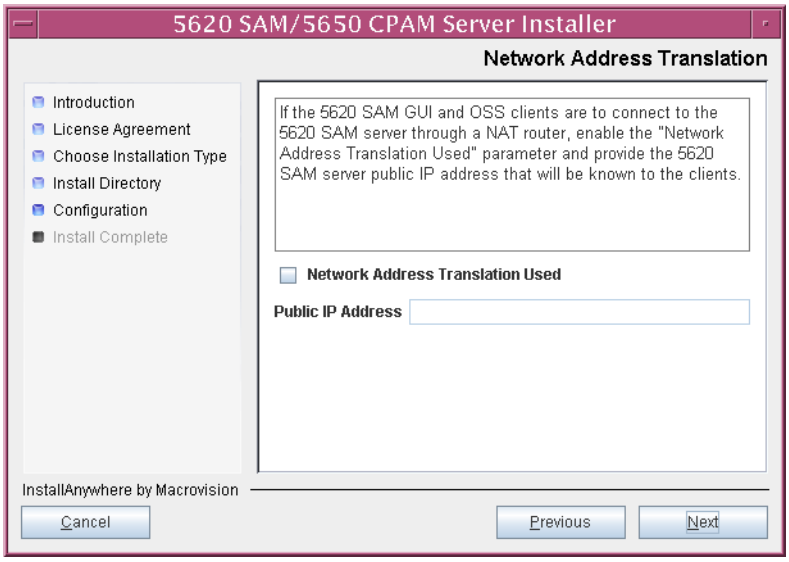
159 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 4-163. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

Figure 4-163 License Information for 5650 CPAM Server



160 If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter shown in Figure 4-164 and enter the public IP address of the server. Click on the Next button to continue.

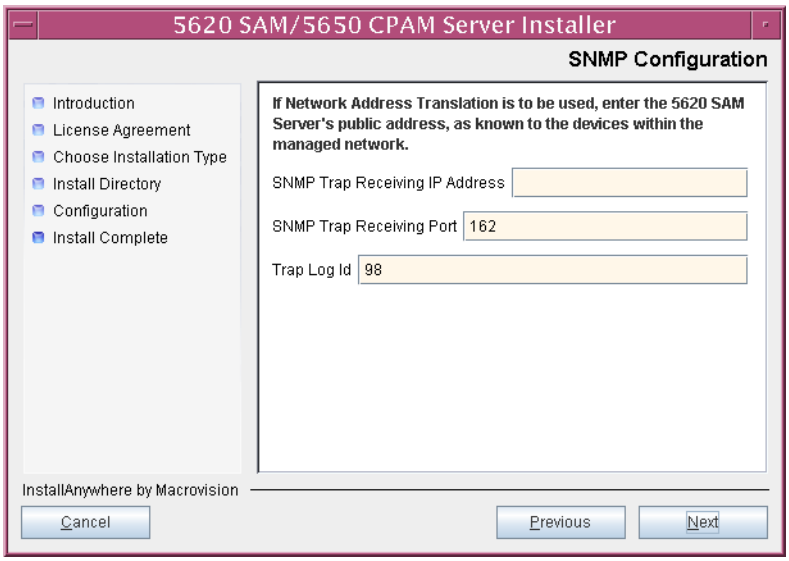
Figure 4-164 Network Address Translation



161 Configure the following parameters shown in Figure 4-165, then click on the Next button:

- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

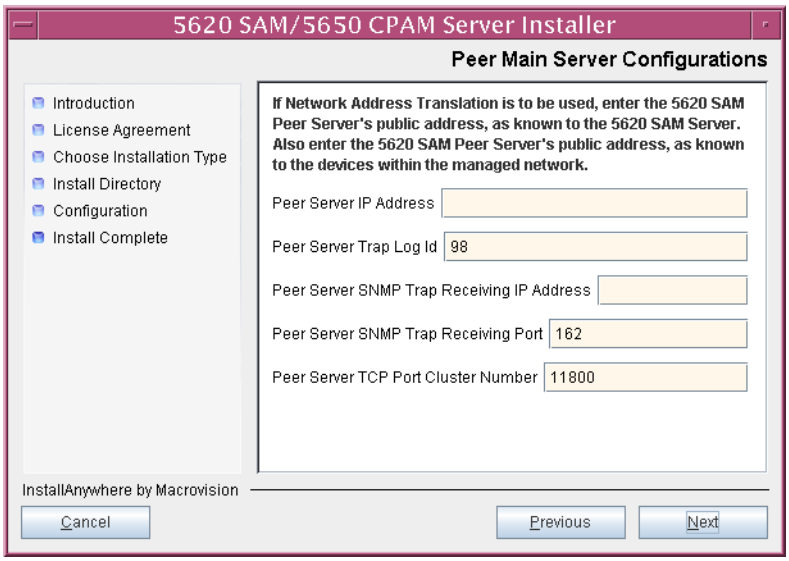
Figure 4-165 SNMP Configuration



162 Configure the following parameters shown in Figure 4-166, then click on the Next button:

- Peer Server IP Address (the new standby server IP address)
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

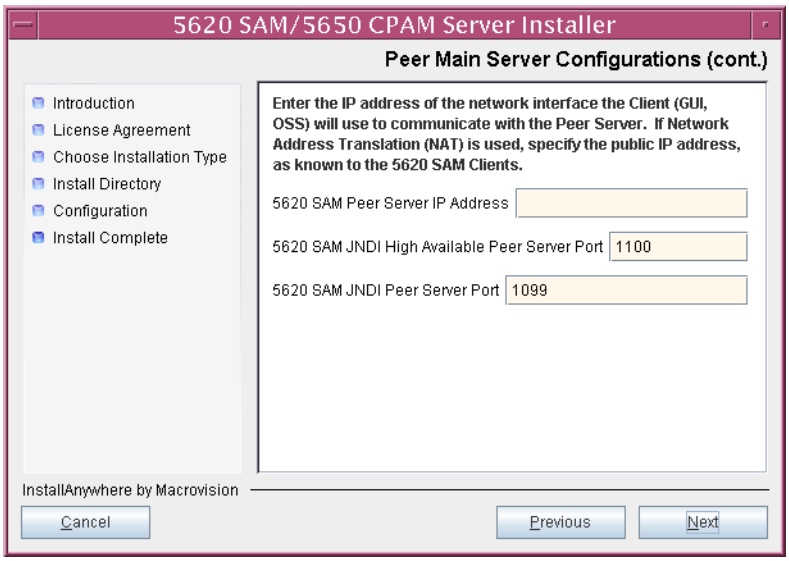
Figure 4-166 Peer Main Server Configurations



163 Configure the following parameters shown in Figure 4-167, then click on the Next button:

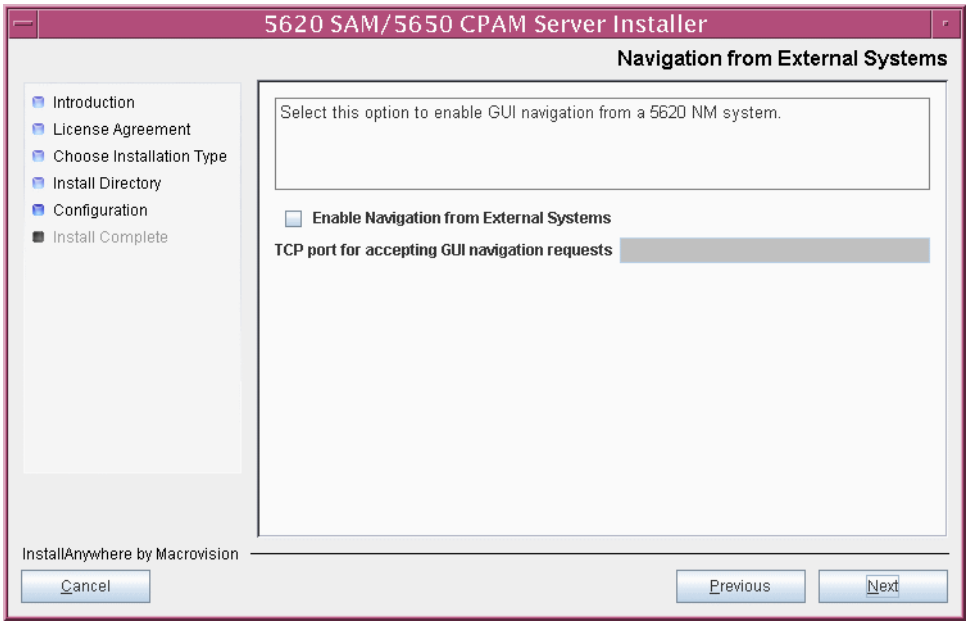
- 5620 SAM Peer Server IP Address (new standby server station IP address)
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 4-167 Peer Main Server Configurations (continued)



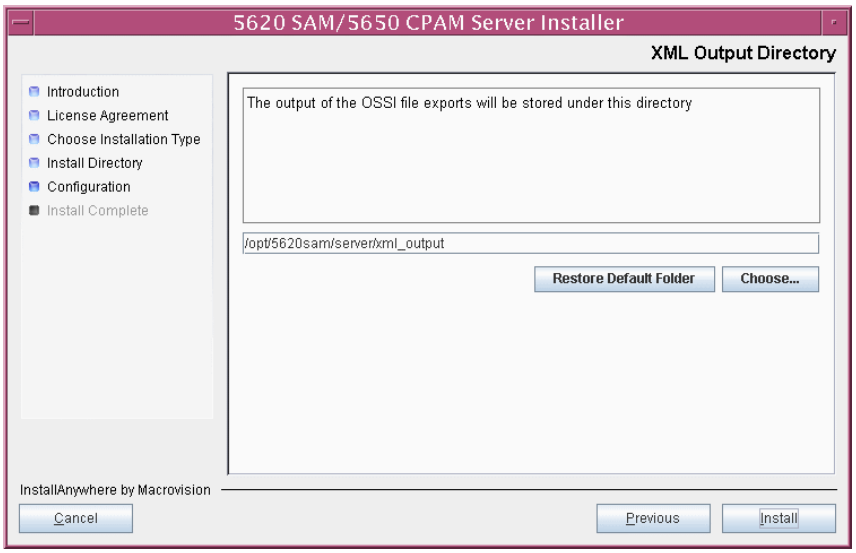
164 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 4-168 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 4-168 Navigation from External Systems



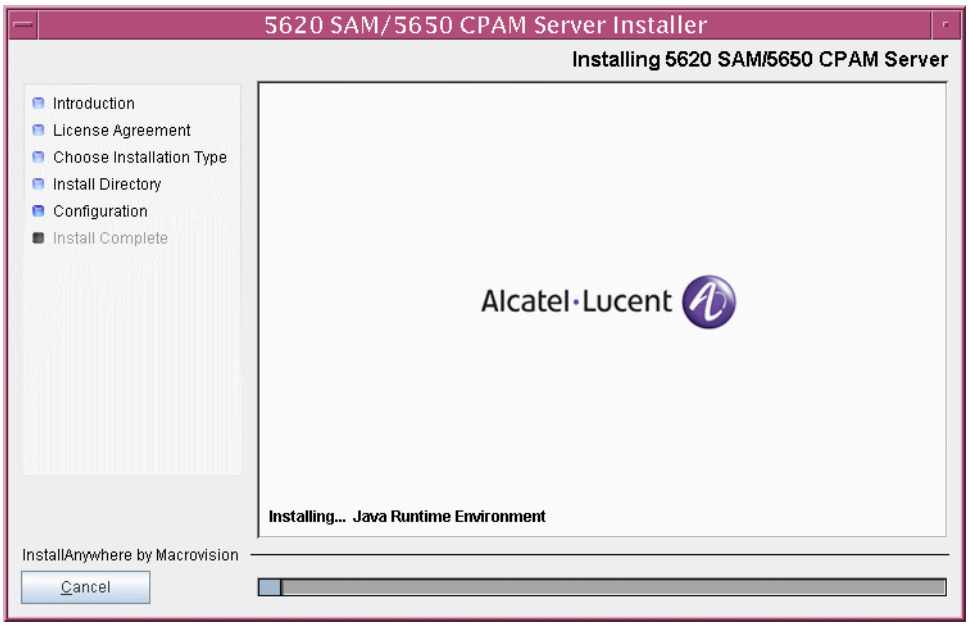
165 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 4-169. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 4-169 XML Output Directory



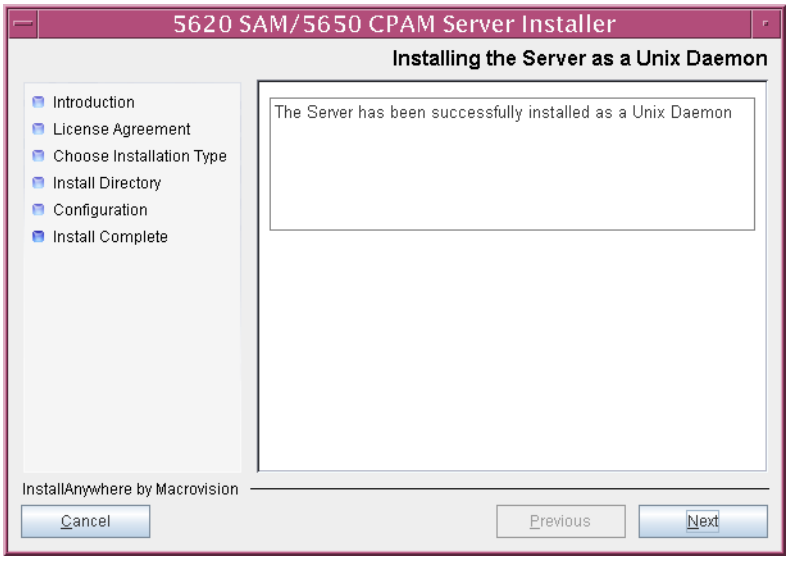
The next panel displays server installation progress, as shown in Figure 4-170.

Figure 4-170 Installing 5620 SAM/5650 CPAM Server



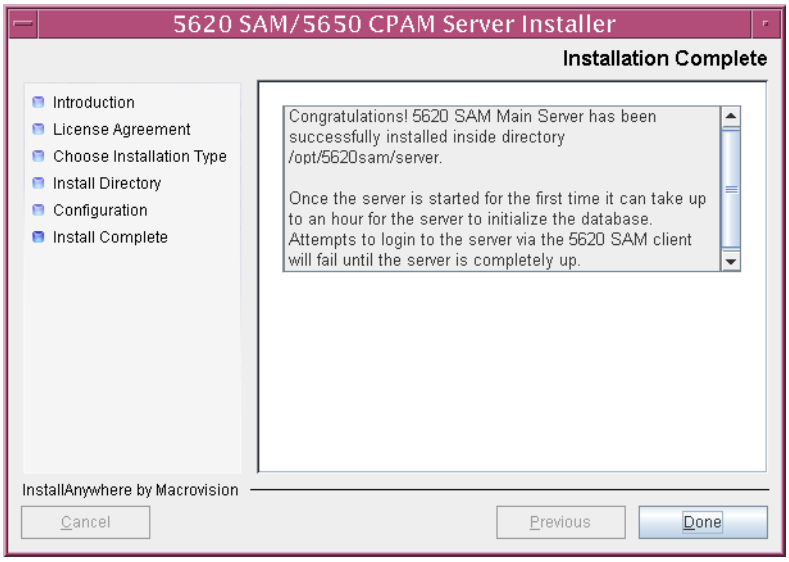
166 The 5620 SAM server is installed as a UNIX daemon, as shown in Figure 4-171. Click on the Next button to continue.

Figure 4-171 Installing the Server as a Unix Daemon



167 When the server installation is complete, as shown in Figure 4-172, click on the Done button to close the installer.

Figure 4-172 Installation Complete



This server is the new standby server.

Upgrade new standby auxiliary servers

168 If the 5620 SAM deployment contains auxiliary servers, perform Procedure 4-8 on each preferred and reserved auxiliary server of the new standby main server to upgrade the auxiliary server software.

Start new standby main server

169 Start the new standby 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# ./nmsserver.bash start ↵
```

The 5620 SAM standby server starts. Initial server startup may take twenty minutes or more to complete.

170 Verify that the standby 5620 SAM server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 170 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 170 i. Do not proceed unless the console displays the above text.

Start new standby auxiliary servers

171 Start each preferred and reserved 5620 SAM auxiliary server of the new standby main server. As the same user that upgraded the auxiliary server, enter the following at a CLI prompt on each auxiliary server station:

```
# path/nms/bin/nmsserver.bash auxstart ↵
```

where *path* is the 5620 SAM auxiliary server installation location, typically /opt/5620sam/auxserver

The 5620 SAM auxiliary server starts.

Upgrade or install additional clients for redundant system

172 Upgrade an existing 5620 SAM client, or install a new 5620 SAM client, if required. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 2-7 to upgrade a 5620 SAM client on a Windows station.

c Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

d Perform Procedure 4-3 or 4-4 to upgrade a 5620 SAM client on a Solaris or Linux station.

Procedure 4-6 To restore a 5620 SAM 4.0 database

Perform this procedure to restore a 5620 SAM 4.0 database backup on a 5620 SAM database station.

1 Log in as the Oracle management user on the database station.

2 Open a console window.

3 Navigate to the Solaris directory on the existing version of the 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

Caution — If you are performing a database restore as part of a 5620 SAM upgrade, ensure that you use the existing version of the 5620 SAM DVD-ROM for the database restore, not the new version, or the database restore fails.

4 Enter the following at the CLI prompt to open the 5620 SAM configuration utility:

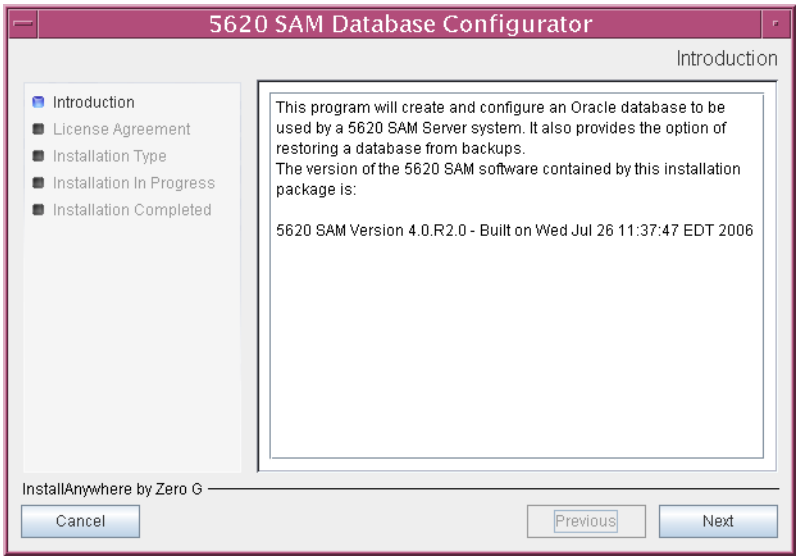
```
bash$ ./DBConfig.bin ↵
```

A splash screen appears, as shown in Figure 4-173, and the restore process begins.

Figure 4-173 5620 SAM Installer

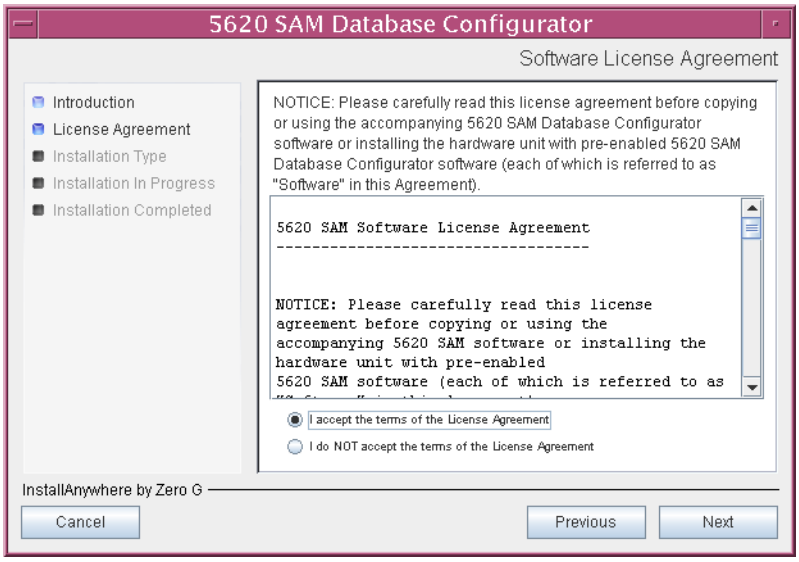
5 The 5620 SAM database configuration utility opens, as shown in Figure 4-174. The left pane indicates restore progress. The right pane displays version information about the utility. Click on the Next button to continue.

Figure 4-174 Introduction



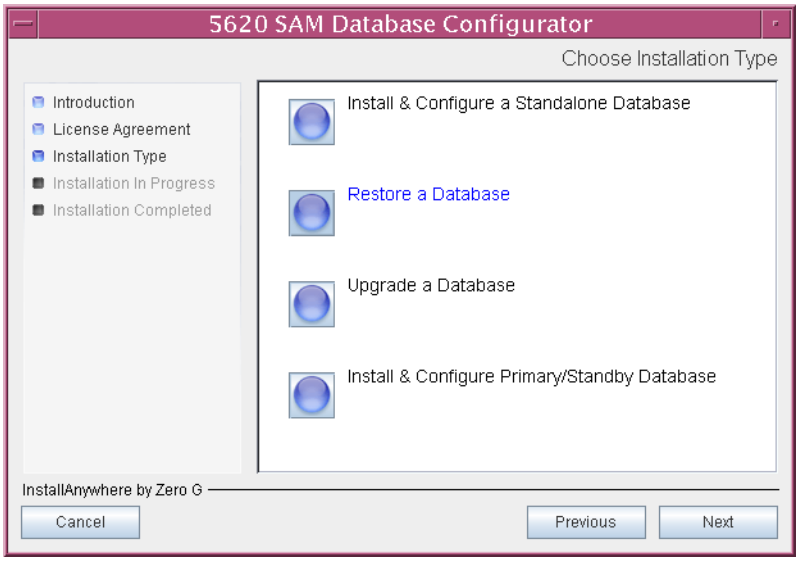
6 Review and accept the terms of the license agreement shown in Figure 4-175, then click on the Next button.

Figure 4-175 Software License Agreement



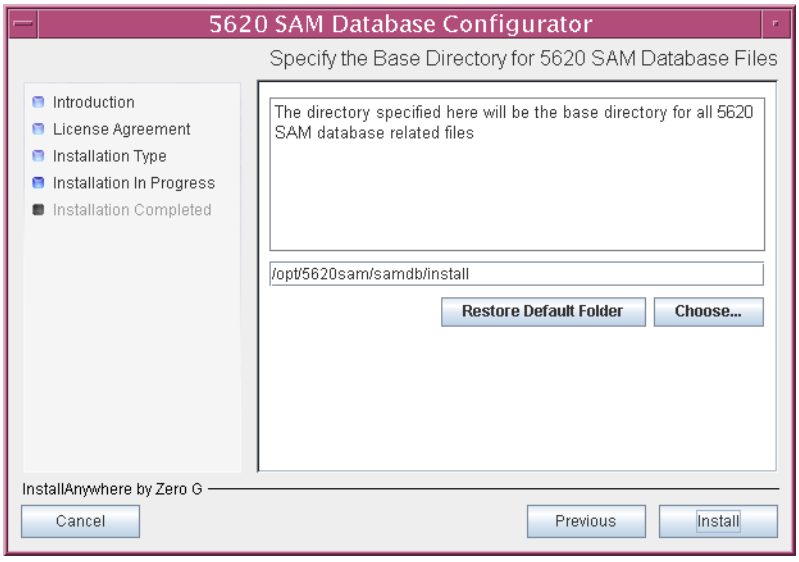
7 Select Restore a Database, as shown in Figure 4-176, then click on the Next button.

Figure 4-176 Choose Installation Type



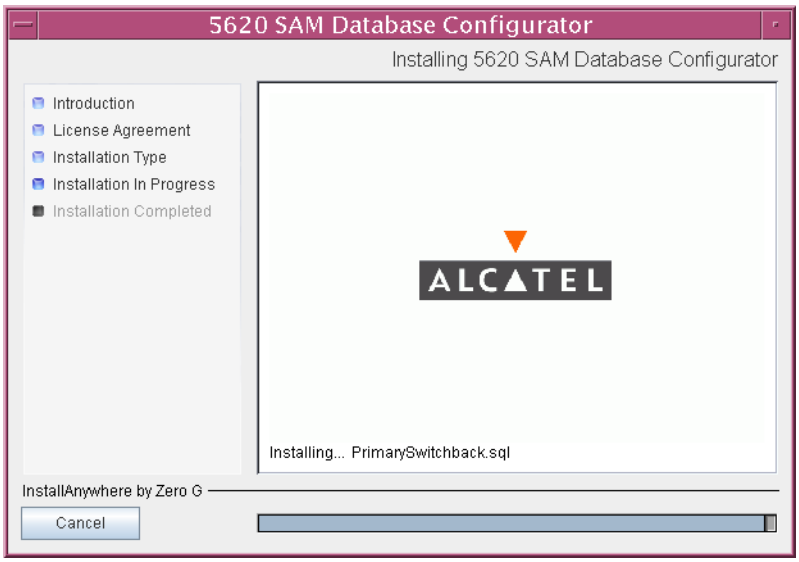
8 Specify the base directory in which to install the 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 4-177. If you are performing an upgrade, you must specify the directory that contained the recently uninstalled database software. Click on the Install button to continue.

Figure 4-177 Specify the Base Directory for 5620 SAM Database Files



The installer prepares to restore the database, as shown in Figure 4-178.

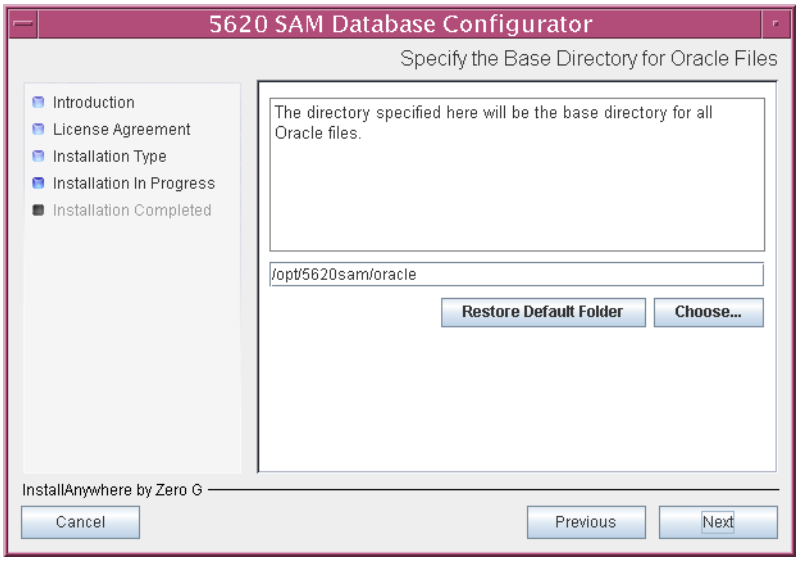
Figure 4-178 Installing 5620 SAM Database Configurator



9 Specify the base directory in which the existing 5620 SAM Oracle software is installed (typically /opt/5620sam/oracle), as shown in Figure 4-179. Click on the Next button to continue.

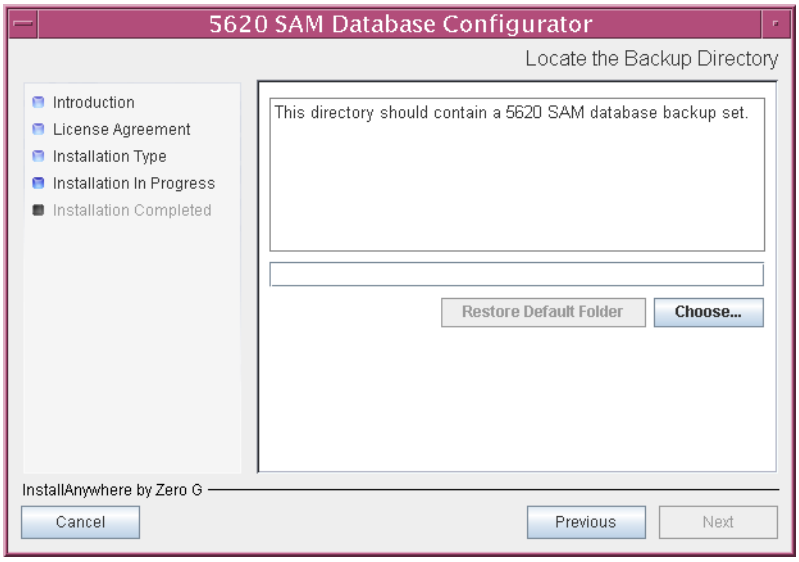
Note — If you are upgrading the 5620 SAM, a new Oracle software directory is chosen for you. You can specify an alternate directory. The directory must be empty.

Figure 4-179 Specify the Base Directory for Oracle Files



10 If you are performing the restore as part of a redundant 5620 SAM upgrade, specify the directory recorded in step 3 of Procedure 4-5 that contains the database backup copied from the primary database station, as shown in Figure 4-180. Click on the Next button to continue.

Figure 4-180 Locate the Backup Directory

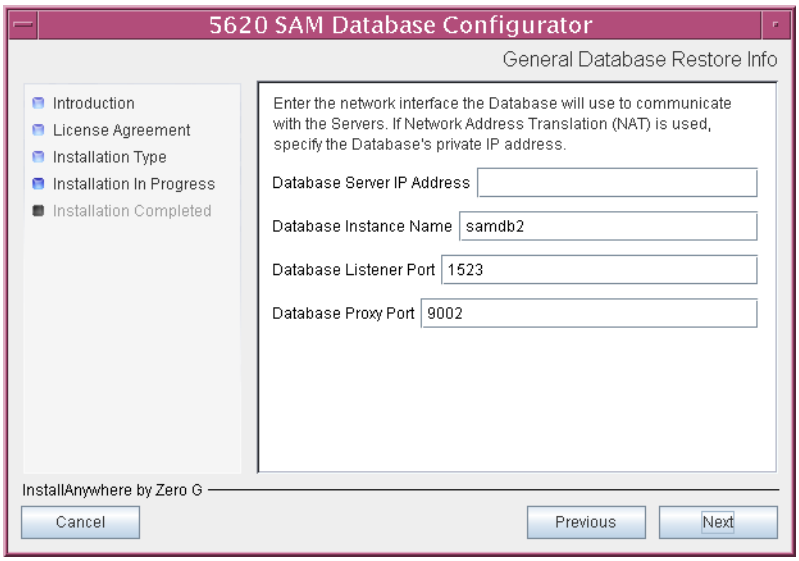


11 Configure the following parameters shown in Figure 4-181, then click on the Next button to continue.

- Database Server IP Address (the local IP address of the network interface that the database uses)
- Database Instance Name (the instance name used for the database on this station before the upgrade began)
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)

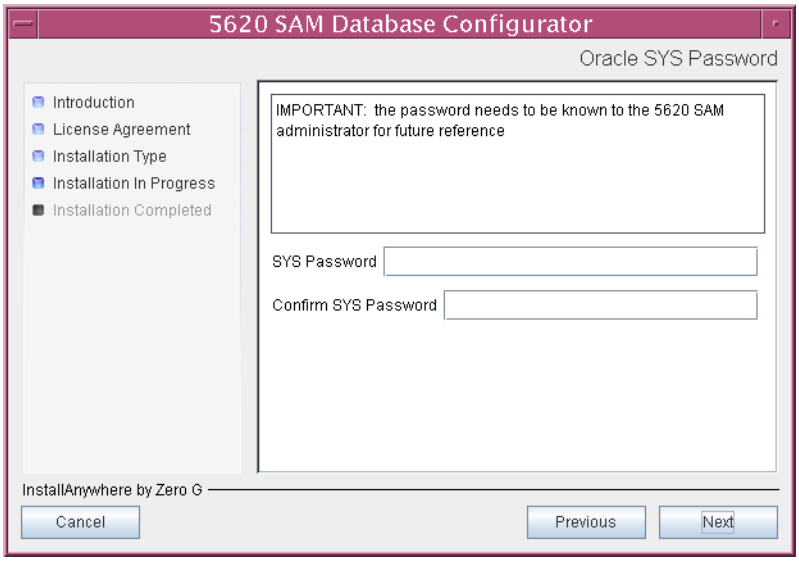
Caution — In a redundant 5620 SAM upgrade, because the database that is being restored is from the other database station, the 5620 SAM installer populates the Database Instance Name with the instance name of the other database. Ensure that you do not accept this value; instead, you must supply the database instance name of the former database on this station.

Figure 4-181 General Database Restore Info



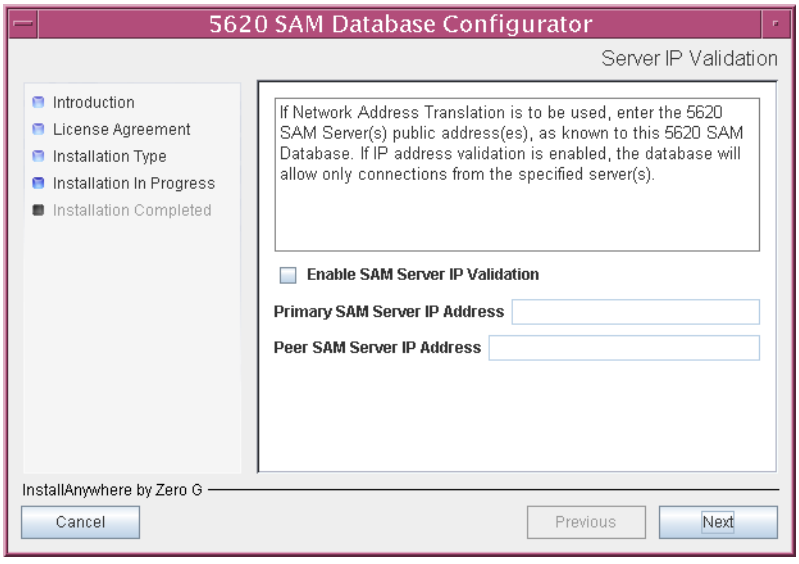
12 Specify and confirm the SYS password, as shown in Figure 4-182, then click on the Next button to continue.

Figure 4-182 Oracle SYS Password



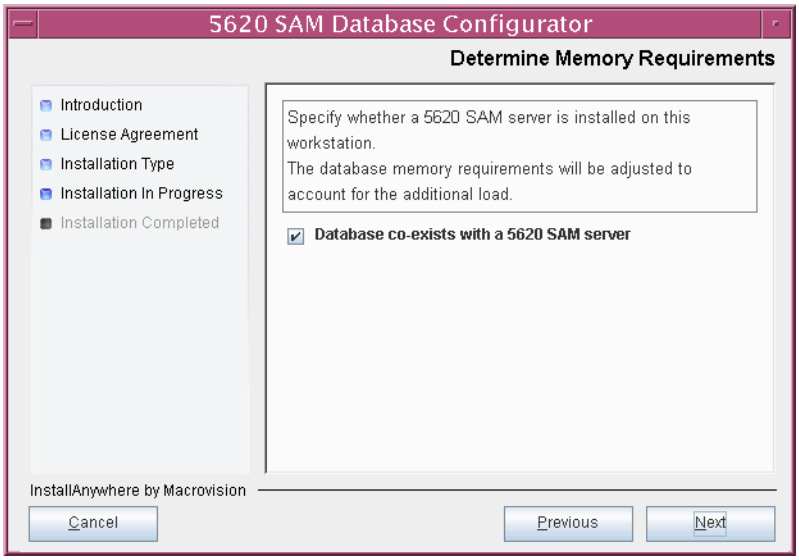
13 The panel in Figure 4-183 is displayed. It is not necessary to configure the parameters on this panel for a database restore. Click on the Next button to continue.

Figure 4-183 Server IP Validation



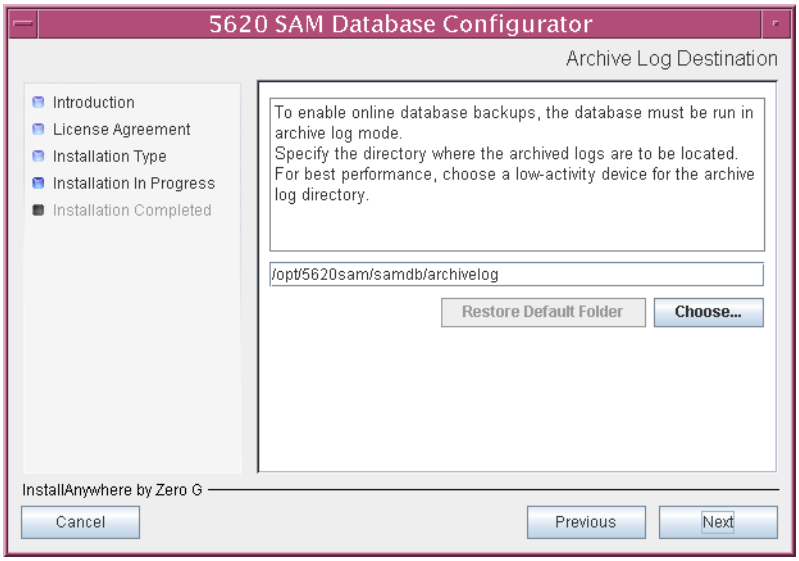
14 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 4-184 and enter the public IP address of the database. Click on the Next button to continue.

Figure 4-184 Public IP Address of the Database Server



15 Specify the directory to be used as the archive log destination (typically /opt/5620sam/samdb/archivelog), as shown in Figure 4-185. The default is the directory specified during the existing installation. Click on the Next button to continue.

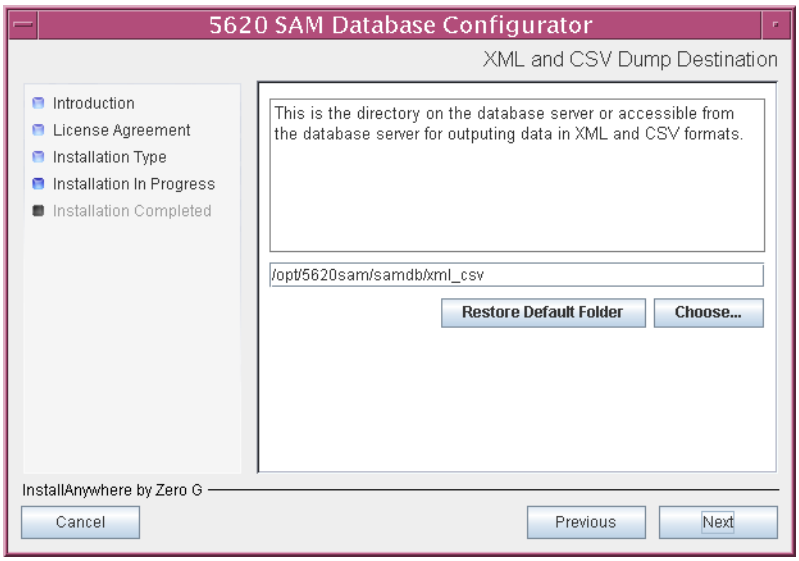
Figure 4-185 Archive Log Destination



16 Specify a directory in which to store the OSS XML and CSV output (typically /opt/5620sam/samdb/xml_csv), as shown in Figure 4-186. The default is the directory specified during installation. Click on the Next button to continue.

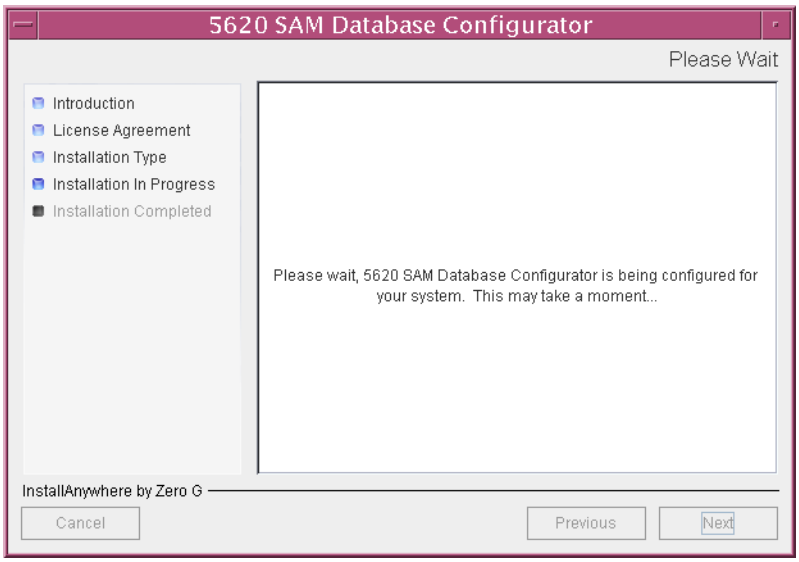
Caution — Before you proceed, ensure that you have restarted the 5620 SAM server application. Otherwise, the database restore may fail.

Figure 4-186 XML and CSV Dump Destination



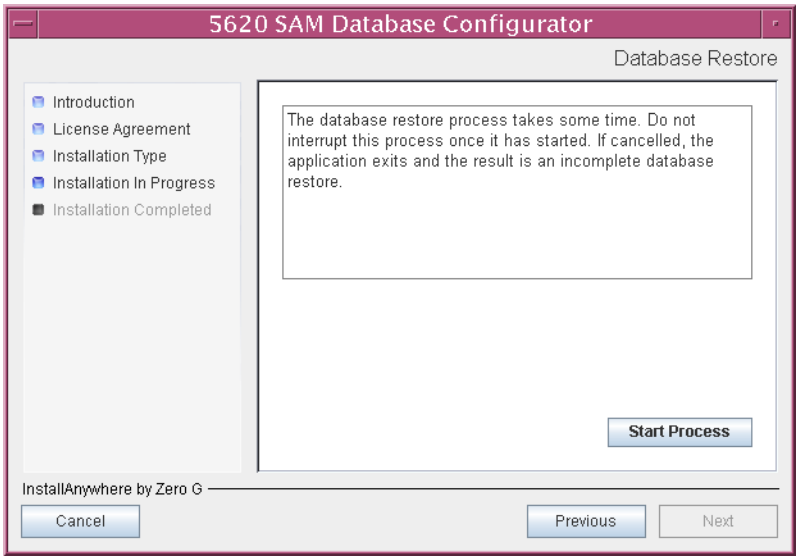
The installer prepares to restore the database, as shown in Figure 4-187.

Figure 4-187 Please Wait



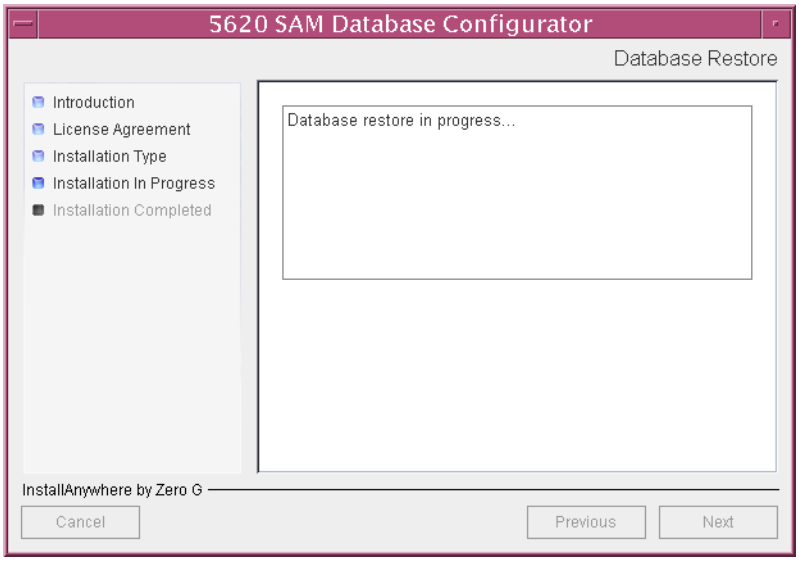
17 You are prompted to begin the database restore, as shown in Figure 4-188. A database restore can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 4-188 Database Restore



Database restore progress is indicated as shown in Figure 4-189.

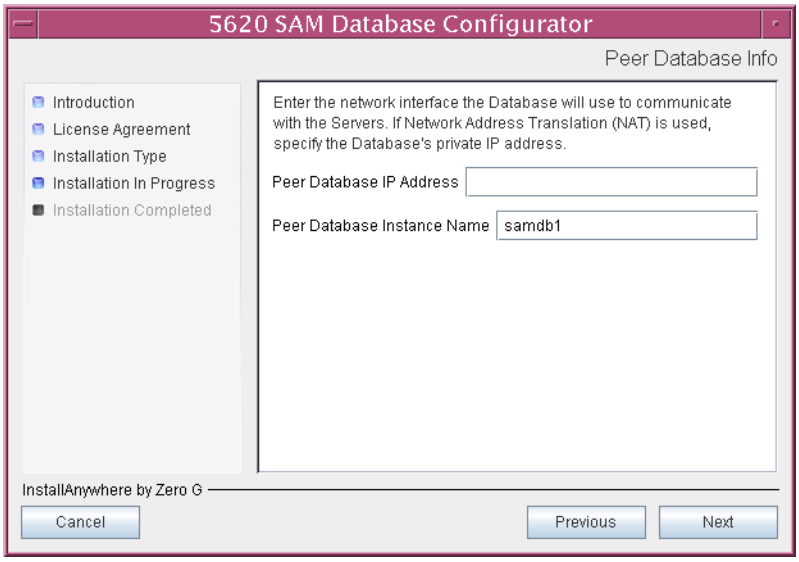
Figure 4-189 Database Restore



18 If the restore is part of a redundant 5620 SAM upgrade, configure the following parameters shown in Figure 4-190, then click on the Next button:

- Peer Database IP Address (the IP address of the network interface on the other database station that is used by the database on that station)
- Peer Database Instance Name (the name of the database instance on the other database station after the redundant upgrade)

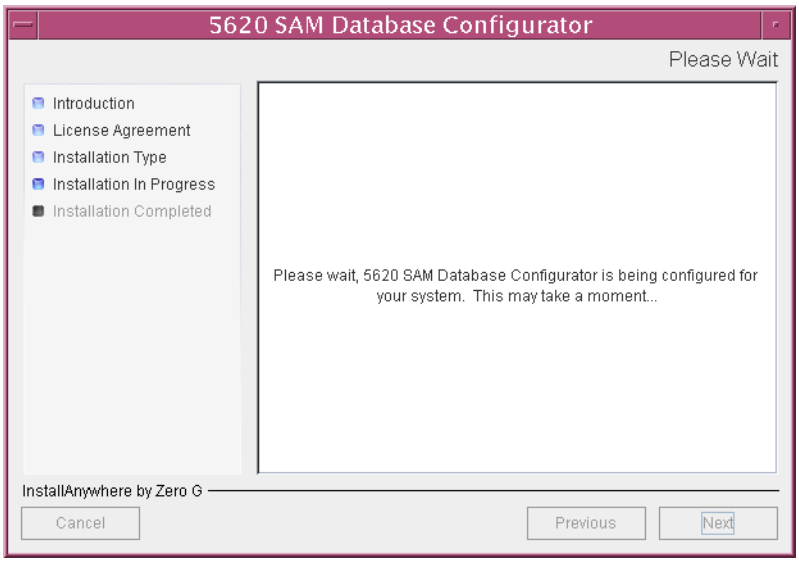
Figure 4-190 Peer Database Info



Note — Make note of the Peer Database Instance Name value that you specify in this step; it is used as the Standby Database Instance Name later in the upgrade procedure.

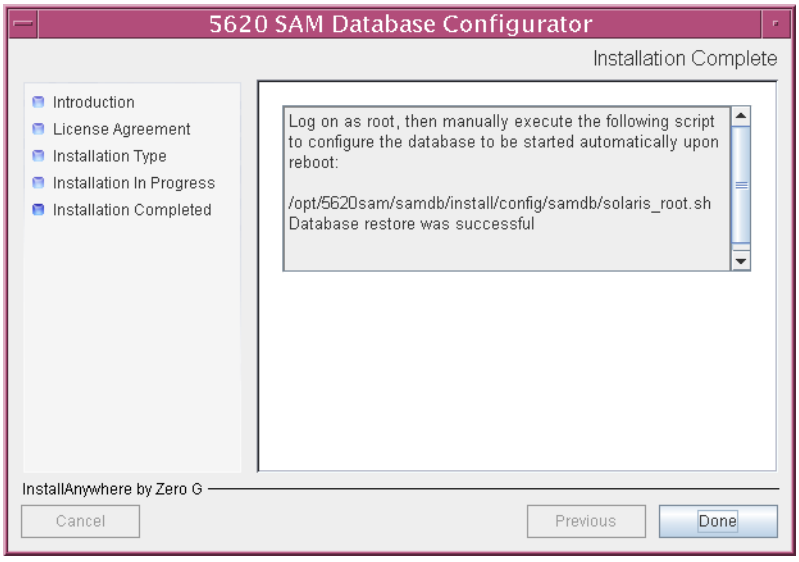
Database configuration progress is indicated as shown in Figure 4-191.

Figure 4-191 Please Wait



19 When the database restore is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 4-192. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the database installer.

Figure 4-192 Installation Complete



Procedure 4-7 To restore a 5620 SAM 5.0 database

Perform this procedure to restore a 5620 SAM 5.0 database backup on a 5620 SAM database station.

1 Log in as the Oracle management user on the database station.

2 Open a console window.

3 Navigate to the Solaris directory on the 5620 SAM 5.0 software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

Caution — If you are performing a database restore as part of a 5620 SAM upgrade, ensure that you use the existing version of the 5620 SAM DVD-ROM for the database restore, not the new version, or the database restore fails.

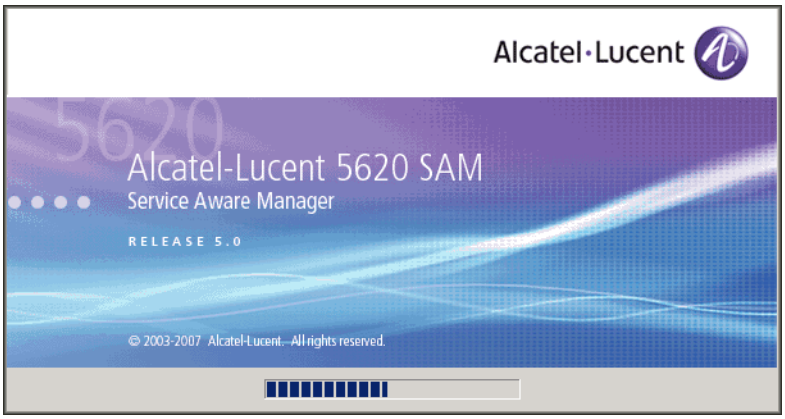
4 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_5_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

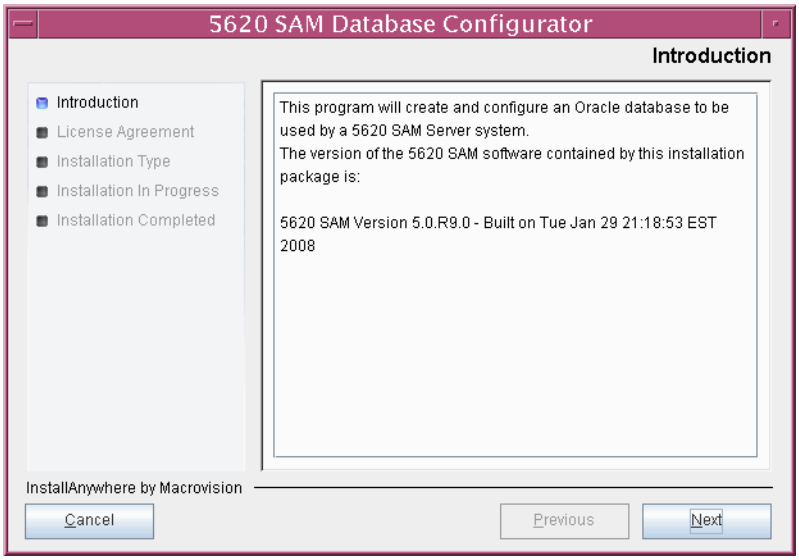
A splash screen appears, as shown in Figure 4-193, and the restore process begins.

Figure 4-193 5620 SAM Installer



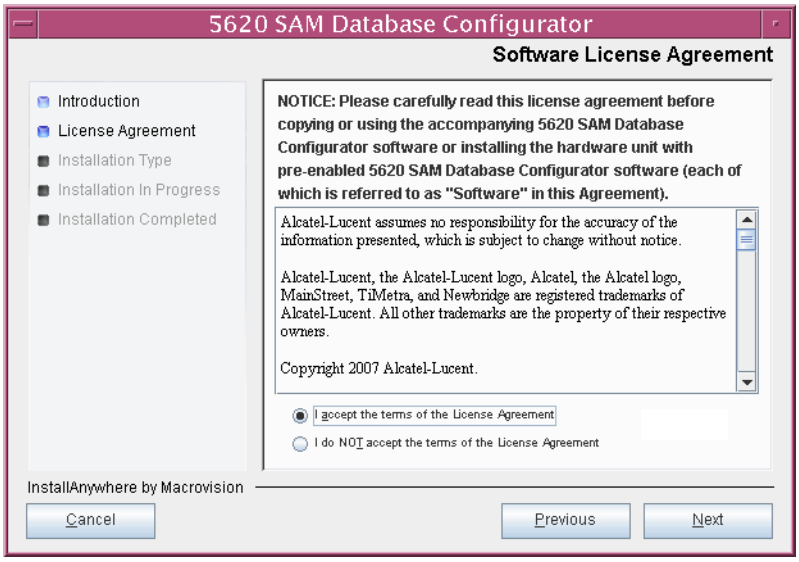
5 The 5620 SAM database configuration utility opens, as shown in Figure 4-194. The left pane indicates restore progress. The right pane displays version information about the utility. Click on the Next button to continue.

Figure 4-194 Introduction



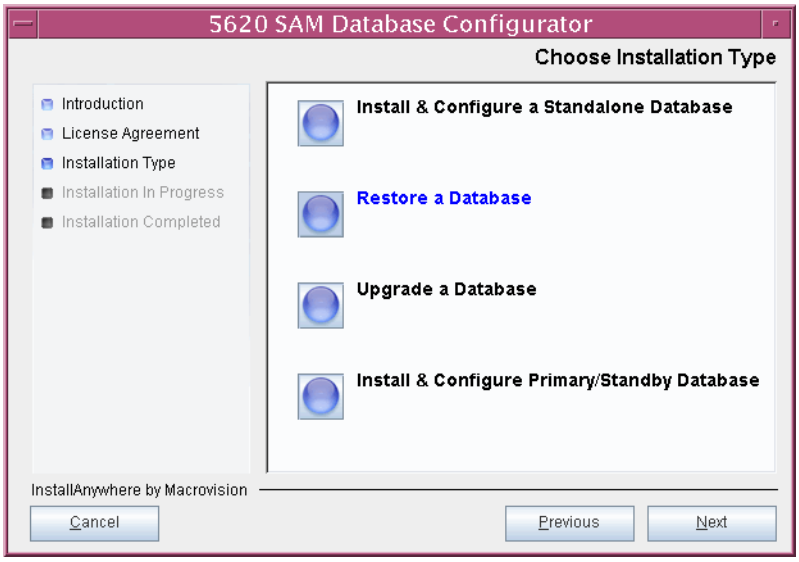
6 Review and accept the terms of the license agreement shown in Figure 4-195, then click on the Next button.

Figure 4-195 Software License Agreement



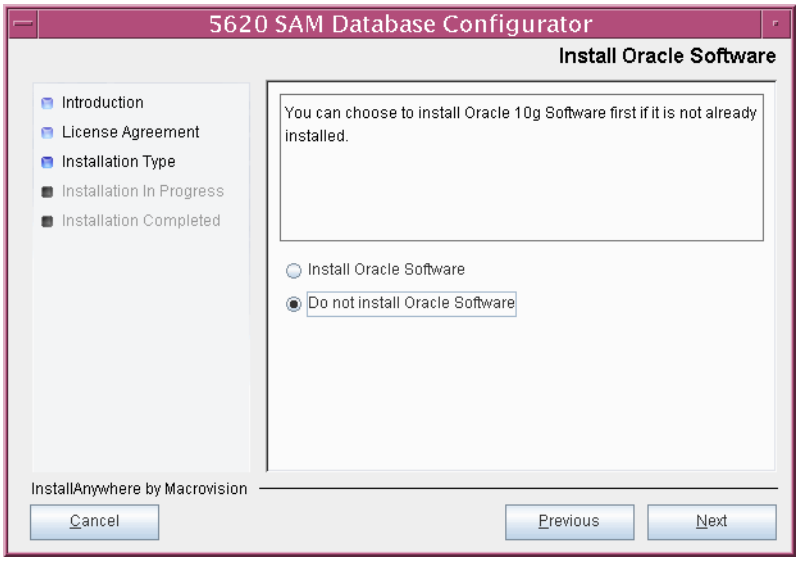
7 Select Restore a Database, as shown in Figure 4-196, then click on the Next button.

Figure 4-196 Choose Installation Type



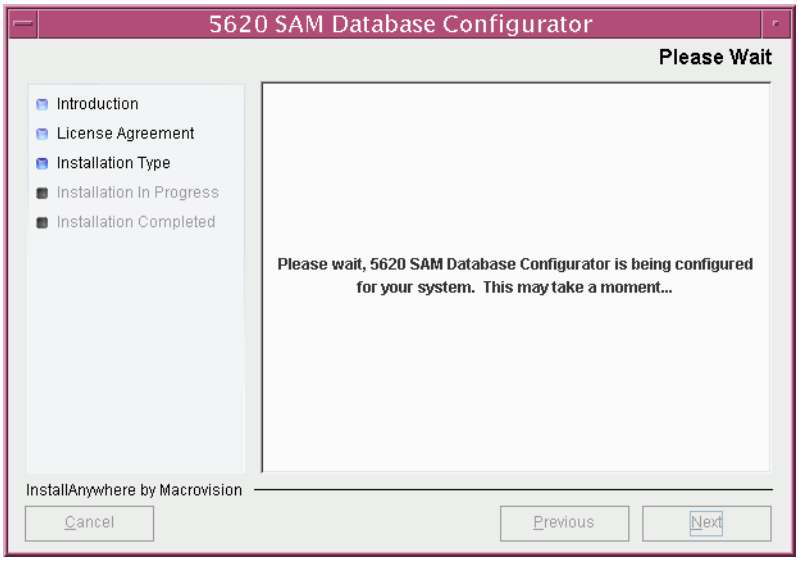
8 Select do not Install Oracle Software, as shown in Figure 4-197, then click on the Next button.

Figure 4-197 Install Oracle Software



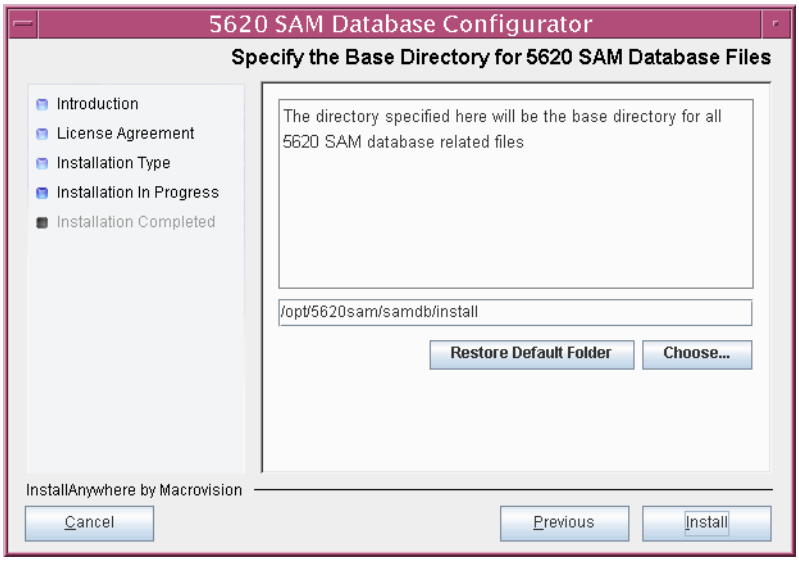
The installer begins configuration, as shown in Figure 4-198.

Figure 4-198 Please Wait



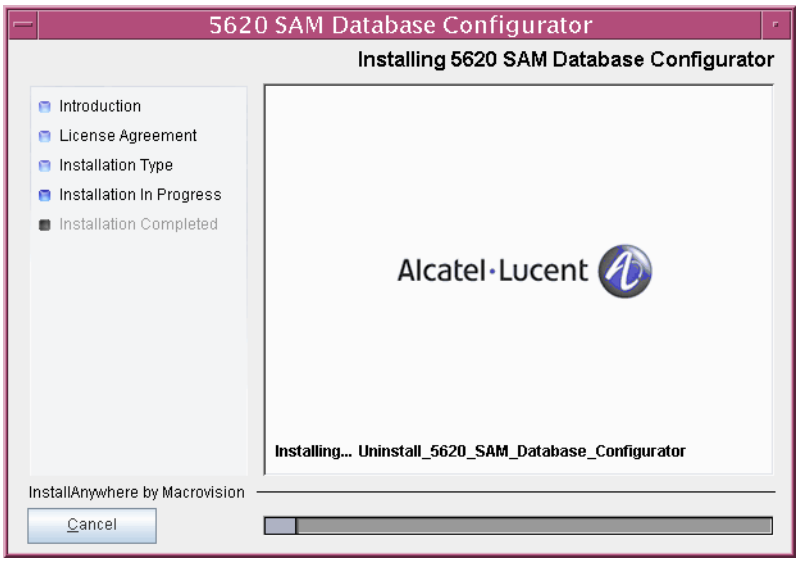
9 Specify the base directory in which to install the 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 4-199. If the restore is part of a redundant 5620 SAM upgrade, you must specify the directory that contained the recently uninstalled database software. Click on the Install button to continue.

Figure 4-199 Specify the Base Directory for 5620 SAM Database Files



The installer prepares to restore the database, as shown in Figure 4-200.

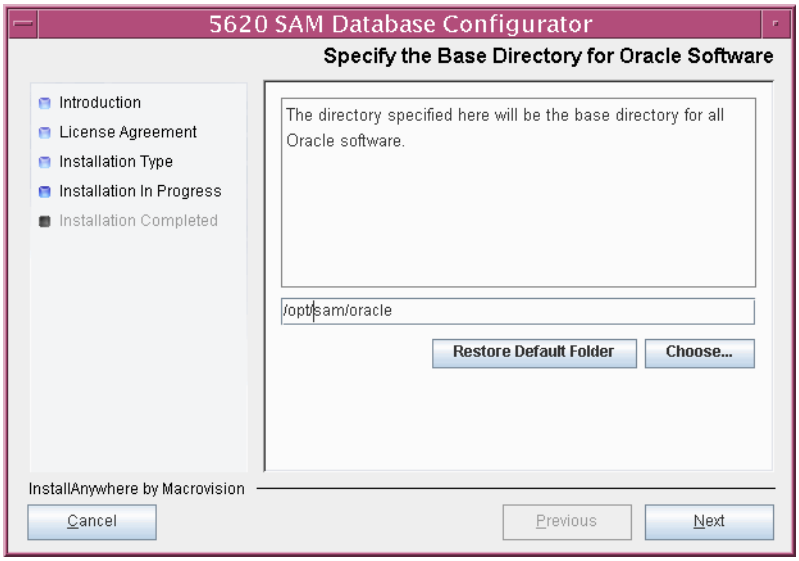
Figure 4-200 Installing 5620 SAM Database Configurator



10 Specify the base directory in which the existing 5620 SAM Oracle software is installed (typically /opt/5620sam/oracle), as shown in Figure 4-201. Click on the Next button to continue.

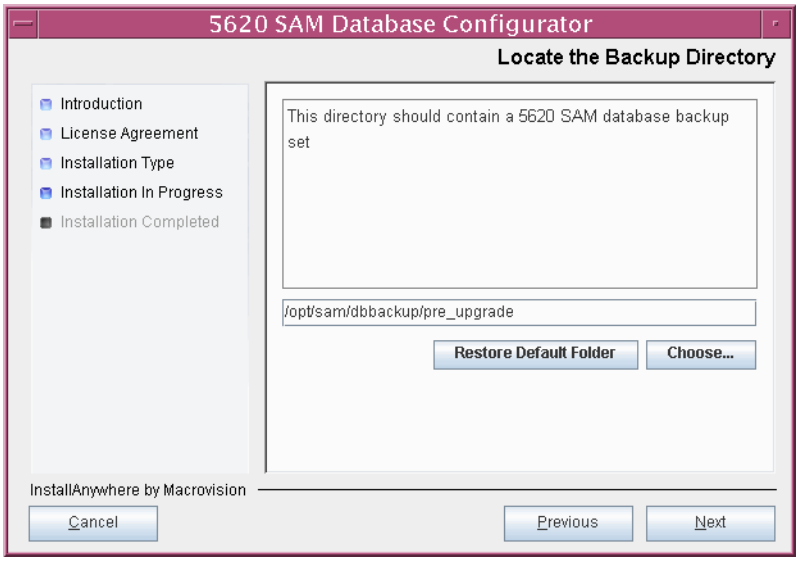
Note — If you are upgrading the 5620 SAM from a version later than Release 5.0 R1, the existing Oracle software directory is chosen for you and cannot be changed.

Figure 4-201 Specify the Base Directory for Oracle Software



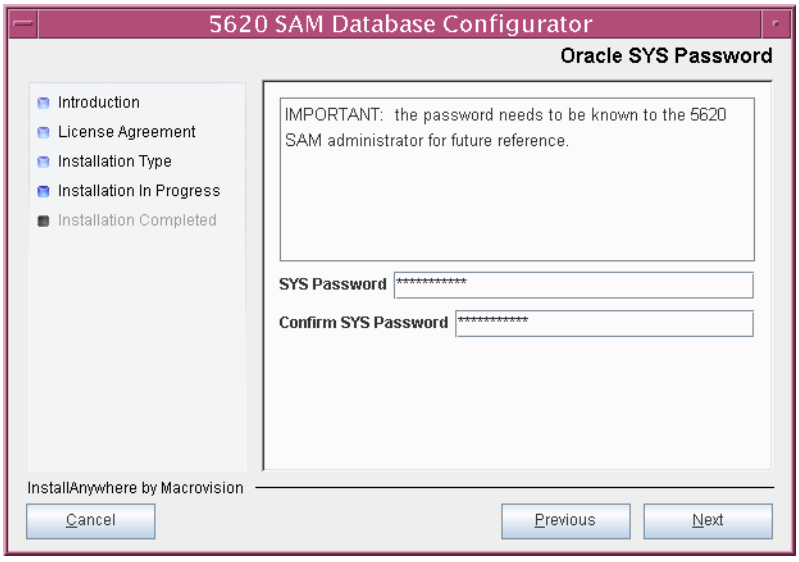
11 If you are performing the restore as part of a redundant 5620 SAM upgrade, specify the directory recorded in step 3 of Procedure 4-5 that contains the database backup copied from the primary database station, as shown in Figure 4-202. Click on the Next button to continue.

Figure 4-202 Locate the Backup Directory



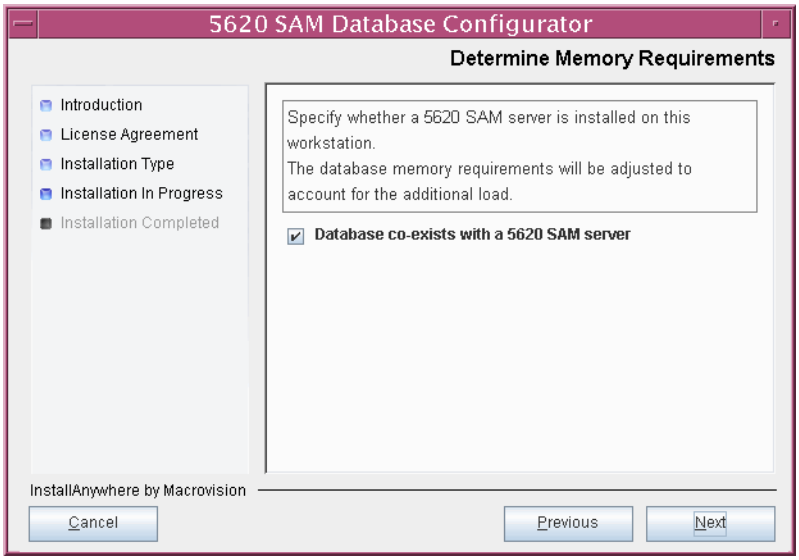
12 Specify and confirm the SYS password, as shown in Figure 4-203, then click on the Next button to continue.

Figure 4-203 Oracle SYS Password



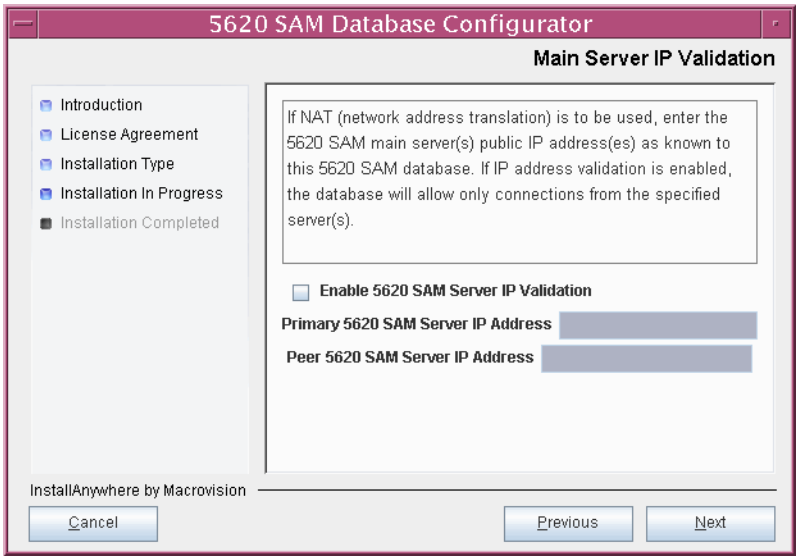
13 If the 5620 SAM database and server are collocated, enable the “Database co-exists with a 5620 SAM server” parameter shown in Figure 4-204, then click on the Next button to continue.

Figure 4-204 Determining Memory Requirements



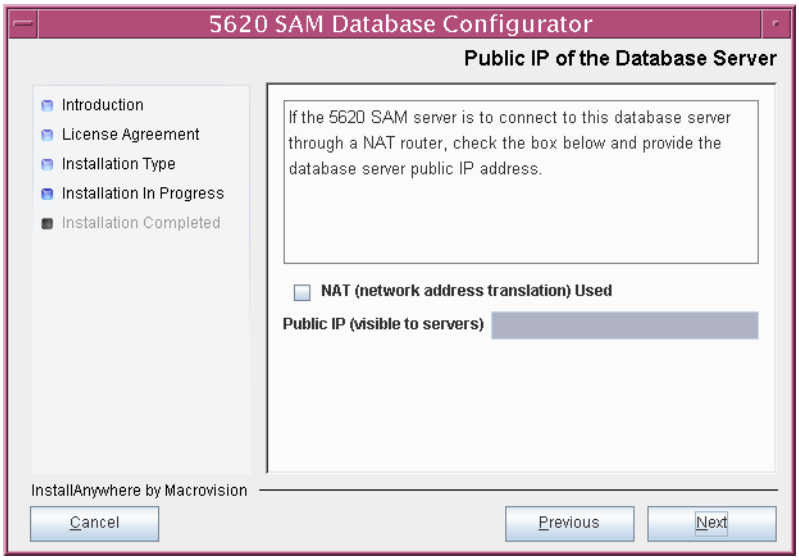
14 The panel in Figure 4-205 is displayed. It is not necessary to configure the parameters on this panel for a database restore. Click on the Next button to continue.

Figure 4-205 Main Server IP Validation



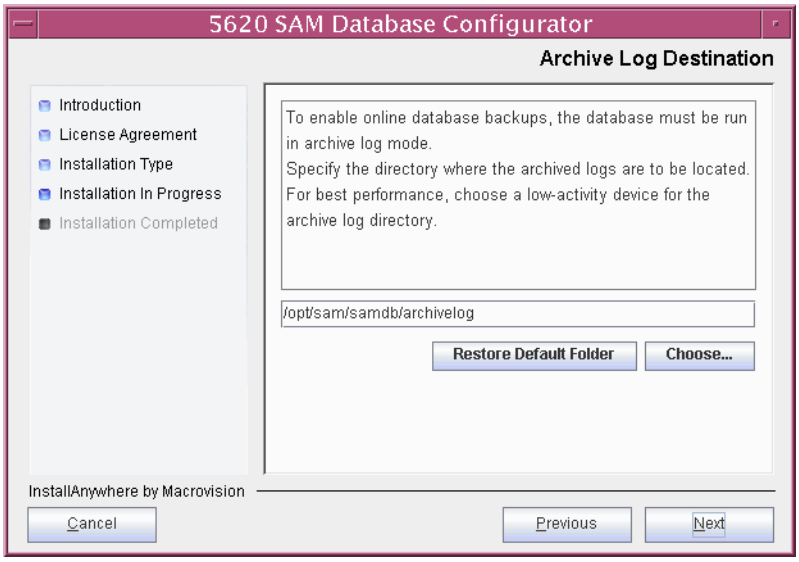
15 If NAT is used between the 5620 SAM server and database, enable the "NAT (network address translation) Used" parameter shown in Figure 4-206 and enter the public IP address of the database. Click on the Next button to continue.

Figure 4-206 Public IP Address of the Database Server



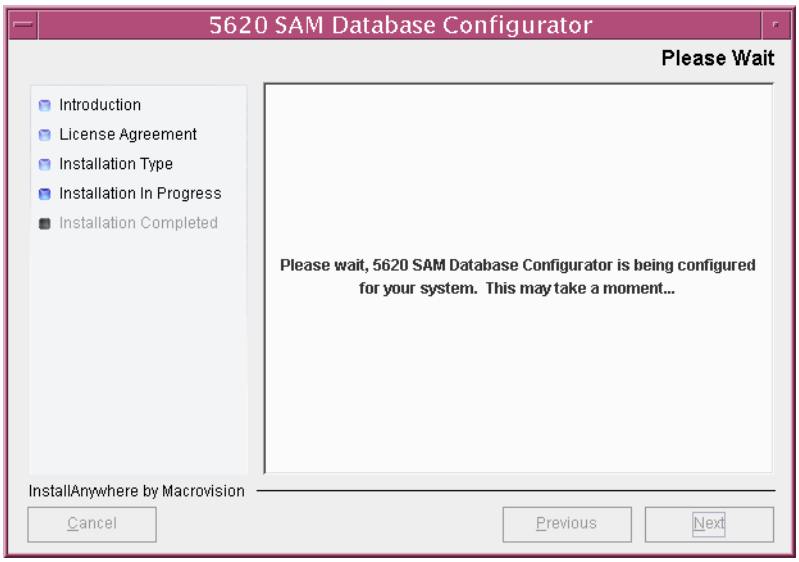
16 Specify the directory to be used as the archive log destination (typically /opt/5620sam/samdb/archivelog), as shown in Figure 4-207. The default is the directory specified during the existing installation. Click on the Next button to continue.

Figure 4-207 Archive Log Destination



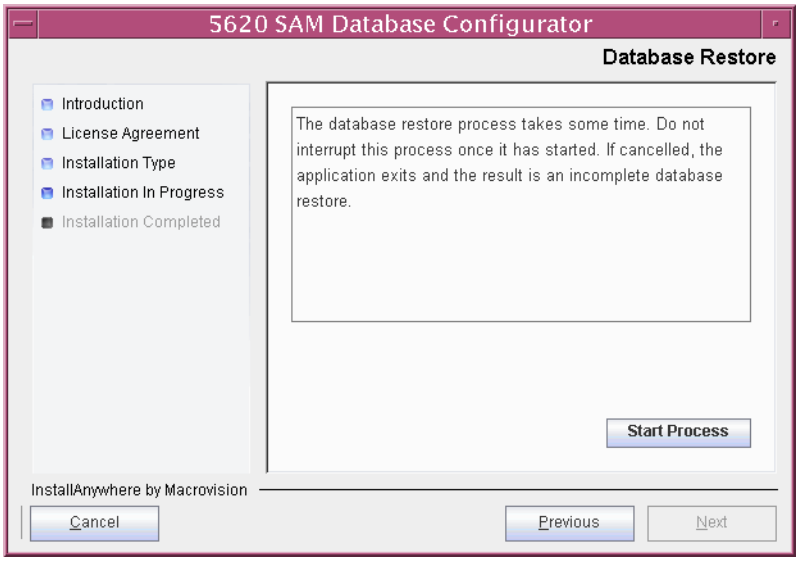
The installer prepares to restore the database, as shown in Figure 4-208.

Figure 4-208 Please Wait



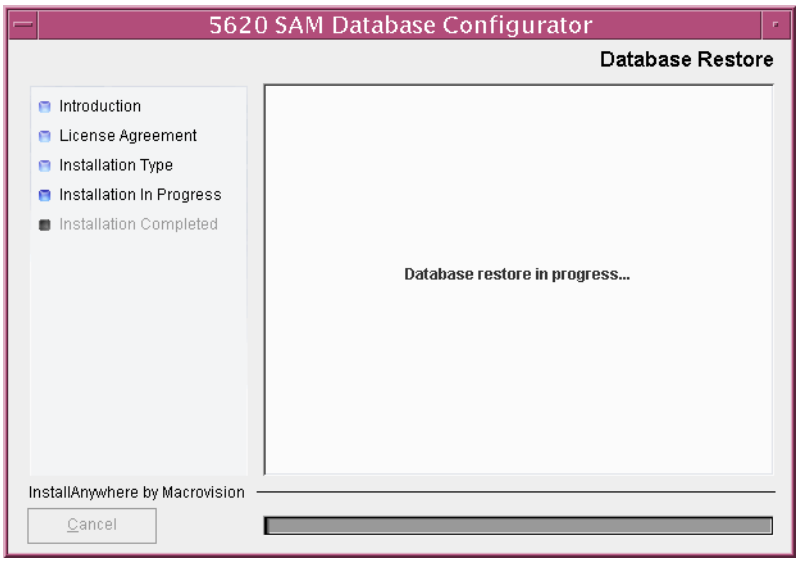
17 You are prompted to begin the database restore, as shown in Figure 4-209. A database restore can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 4-209 Database Restore



Database configuration progress is indicated as shown in Figure 4-210.

Figure 4-210 Database Restore

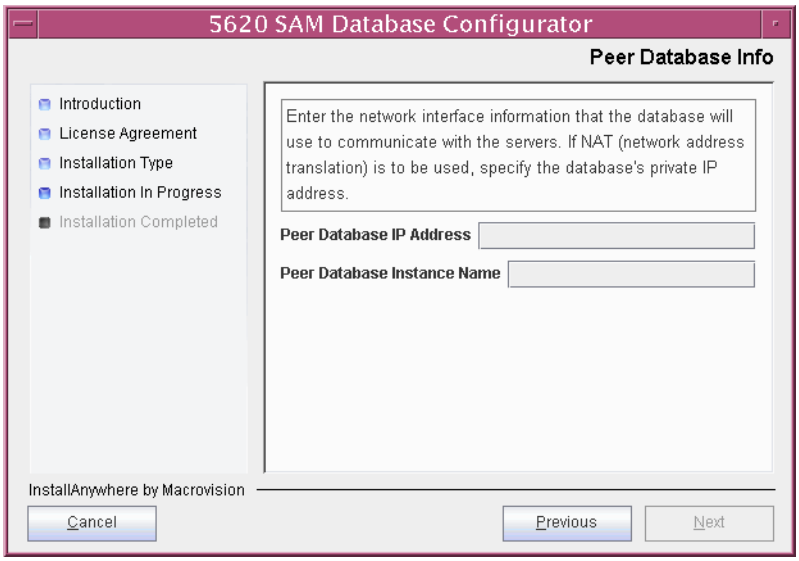


18 If the database restore is part of a redundant 5620 SAM upgrade, configure the following parameters shown in Figure 4-211, then click on the Next button:

- Peer Database IP Address (the IP address of the network interface on the other database station that is used by the database on that station)
- Peer Database Instance Name (the name of the database instance on the other database station after the redundant upgrade)

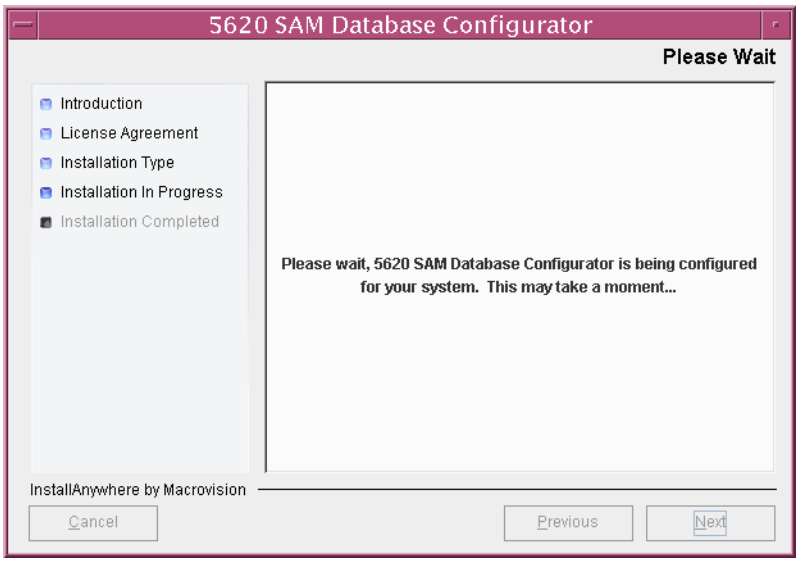
Note — Make note of the Peer Database Instance Name value that you specify in this step; it is used as the Standby Database Instance Name later in the upgrade procedure.

Figure 4-211 Peer Database Info



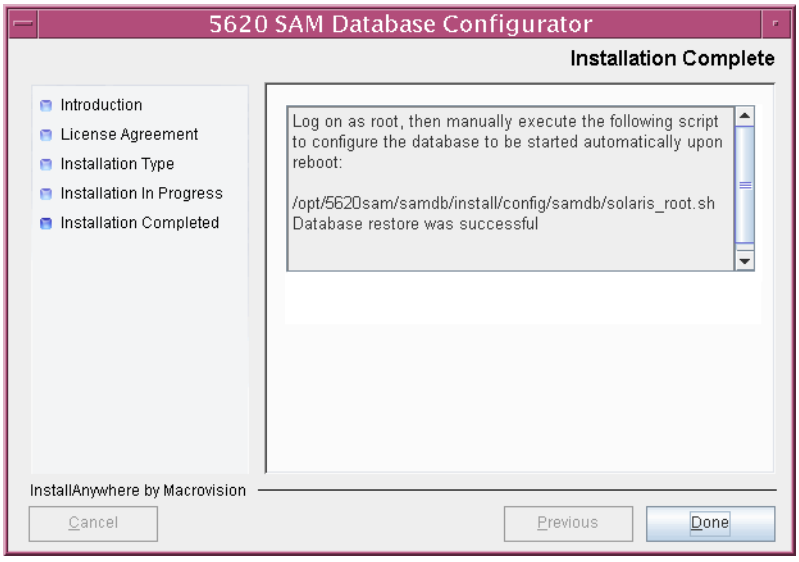
The installer prepares to restore the database, as shown in Figure 4-212.

Figure 4-212 Please Wait



19 When the database restore is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 4-213. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the database installer.

Figure 4-213 Installation Complete



4.8 5620 SAM auxiliary server upgrade

Procedure 4-8 describes how to upgrade the 5620 SAM auxiliary server software on a Solaris station. You require root-equivalent user privileges to upgrade an auxiliary server.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 4-8 To upgrade a 5620 SAM auxiliary server

Perform this procedure to upgrade the 5620 SAM auxiliary server software on a Solaris station. The auxiliary server can be joining a new or an existing 5620 SAM cluster.

1 Log in as a user with local privileges on the auxiliary server station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

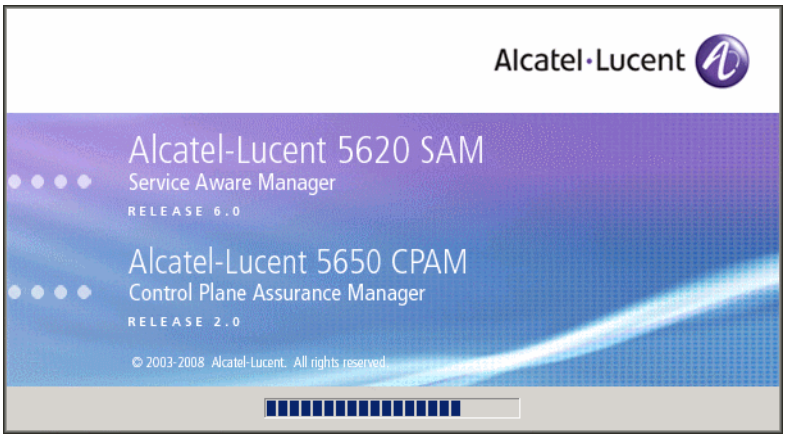
4 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

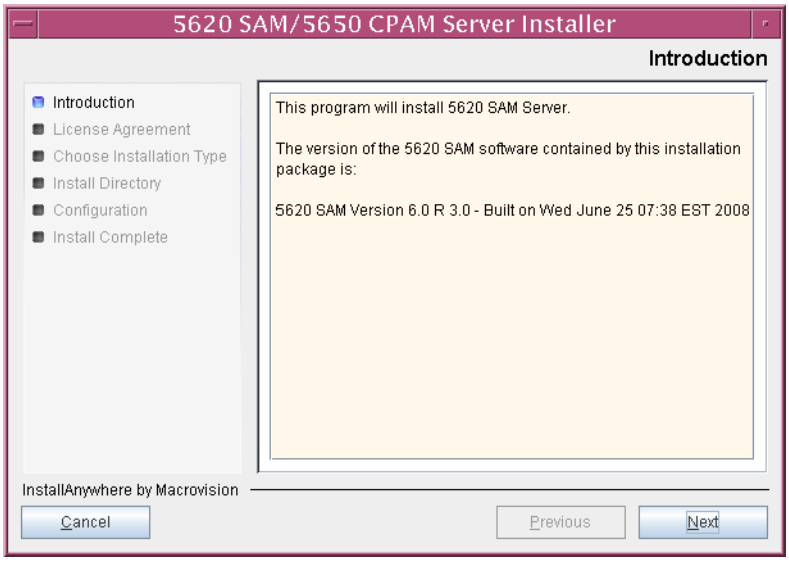
The splash screen in Figure 4-214 appears and the upgrade process begins.

Figure 4-214 5620 SAM Installer



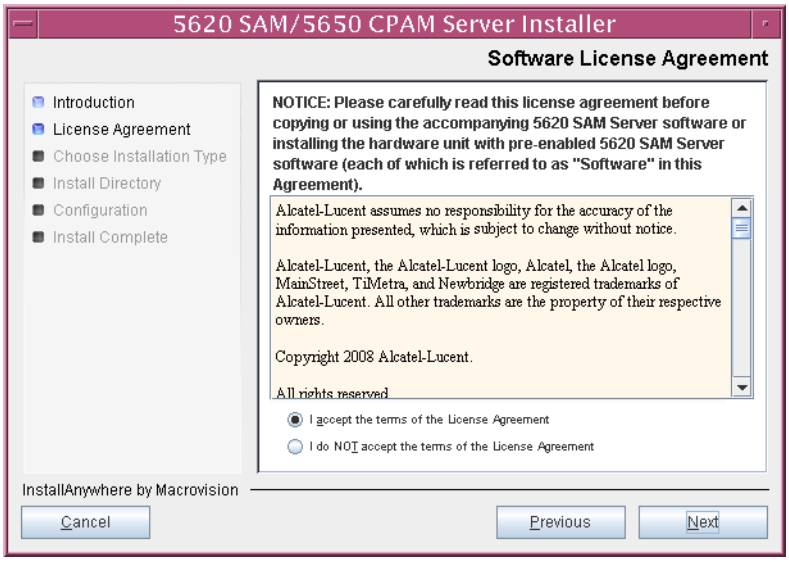
5 The 5620 SAM installer opens, as shown in Figure 4-215. The left pane indicates upgrade progress. The right pane displays version information about the software being upgraded. Click on the Next button to continue.

Figure 4-215 Introduction



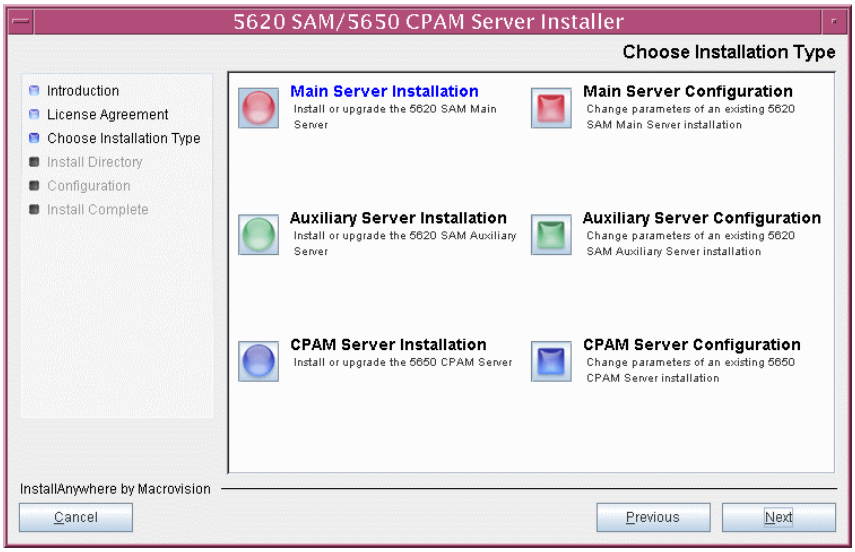
6 Review and accept the terms of the license agreement shown in Figure 4-216, then click on the Next button.

Figure 4-216 Software License Agreement



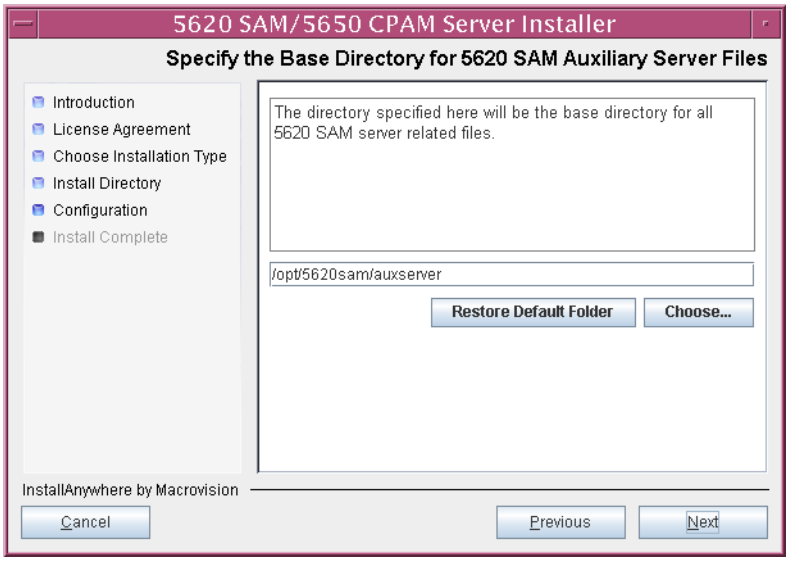
7 Select Auxiliary Server Installation and Configuration, as shown in Figure 4-217, then click on the Next button.

Figure 4-217 Choose Installation Type



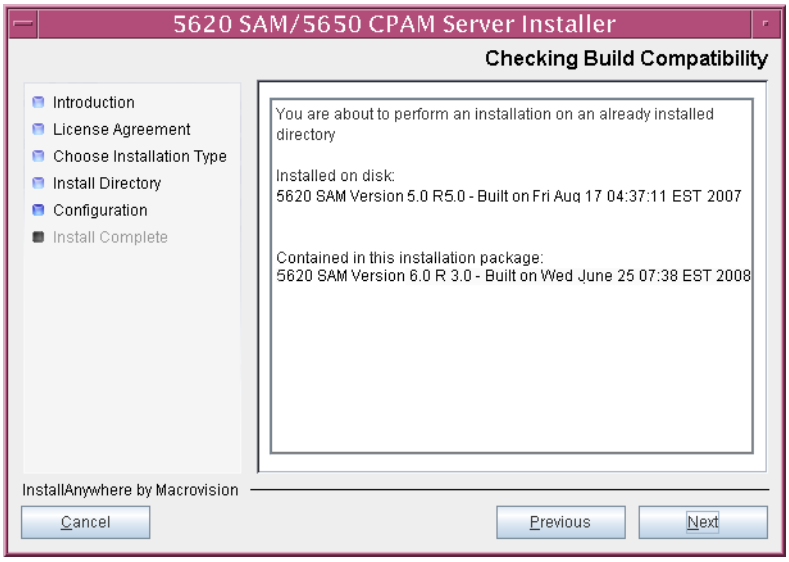
8 Specify the base directory in which the existing 5620 SAM auxiliary server software is installed (typically /opt/5620sam/auxserver), as shown in Figure 4-218. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 4-218 Specify the Base Directory for 5620 SAM Auxiliary Server Files



9 As shown in Figure 4-219, the installer displays the version of the 5620 SAM auxiliary server software that is to be upgraded. Verify the information, then click on the Next button.

Figure 4-219 Checking Build Compatibility



10 Configure the parameters shown in Figure 4-220:

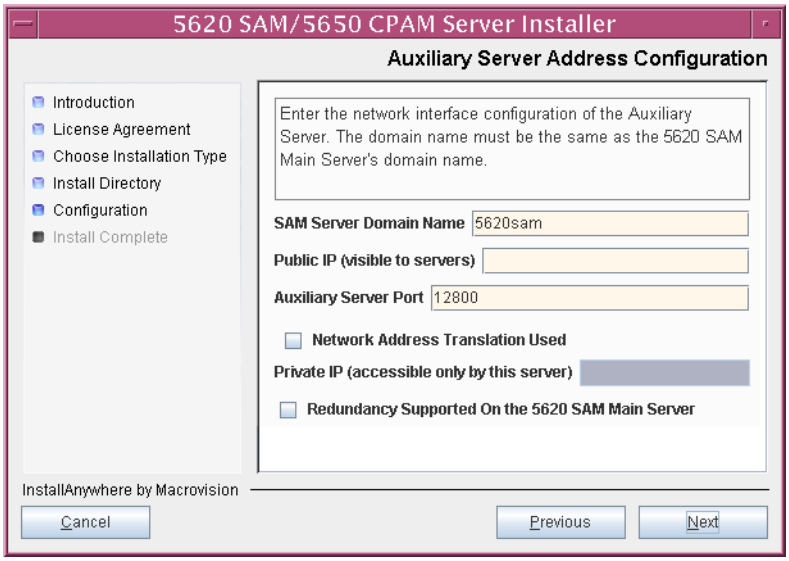
- SAM Server Domain Name (typically 5620sam)
- Public IP (visible to servers)
- Auxiliary Server Port (typically 12800)

i If NAT is used between this 5620 SAM auxiliary server and the main 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of this auxiliary server.

ii Enable the “Redundancy Supported On the 5620 SAM Main Server” parameter to specify whether this auxiliary server is joining a redundant 5620 SAM configuration.

iii Click on the Next button to continue.

Figure 4-220 Auxiliary Server Address Configuration

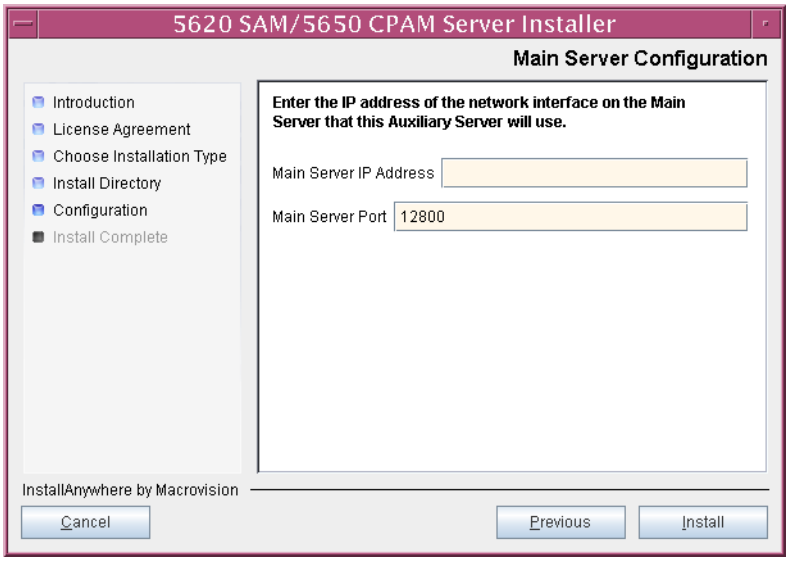


11 Perform one of the following actions.

a If the “Redundancy Supported On the 5620 SAM Main Server” parameter shown in step 10 is disabled, configure the following parameters shown in Figure 4-221:

- Main Server IP Address
- Main Server Port (typically 12800)

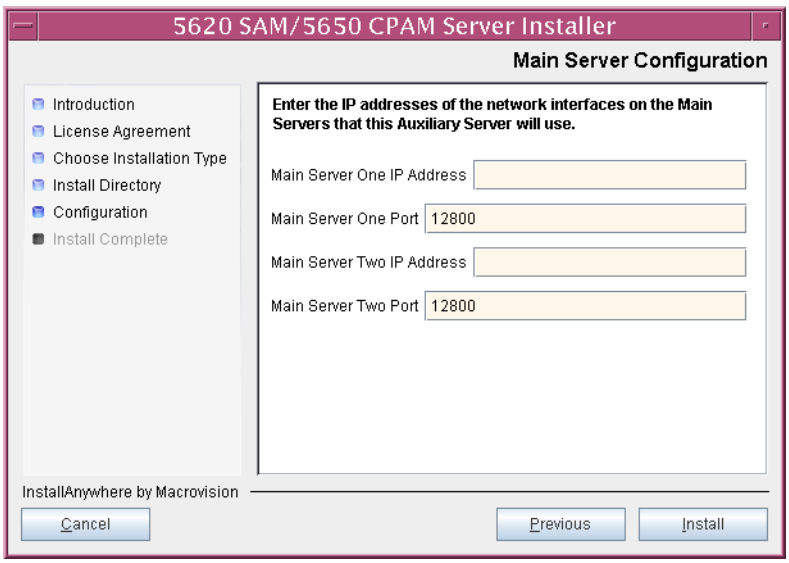
Figure 4-221 Main Server Configuration



b If redundancy is enabled, configure the following parameters shown in Figure 4-222:

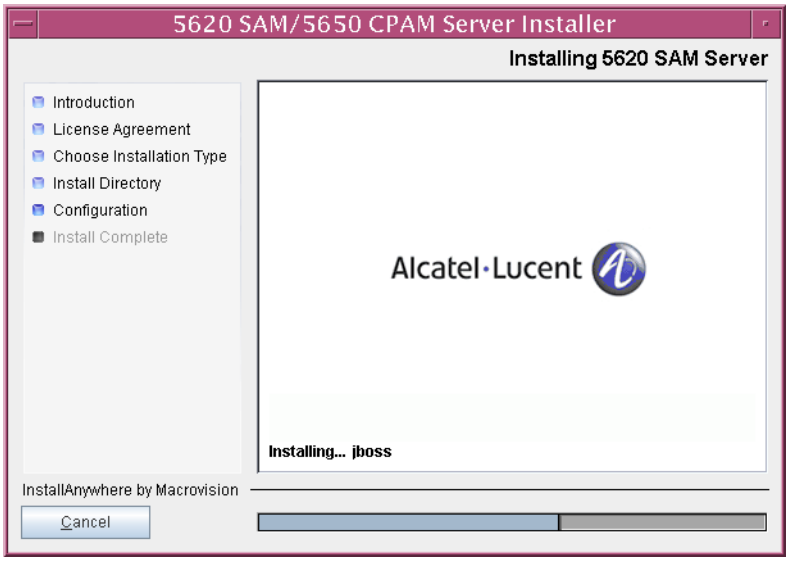
- Main Server One IP Address
- Main Server One Port (typically 12800)
- Main Server Two IP Address
- Main Server Two Port (typically 12800)

Figure 4-222 Main Server Configuration



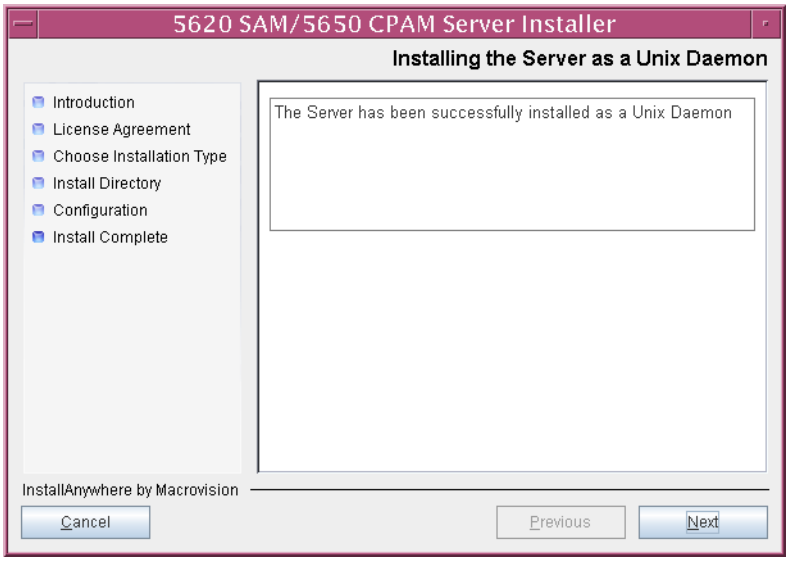
12 Click on the Install button to proceed with the server upgrade. The next panel displays server upgrade progress, as shown in Figure 4-223.

Figure 4-223 Installing 5620 SAM Server



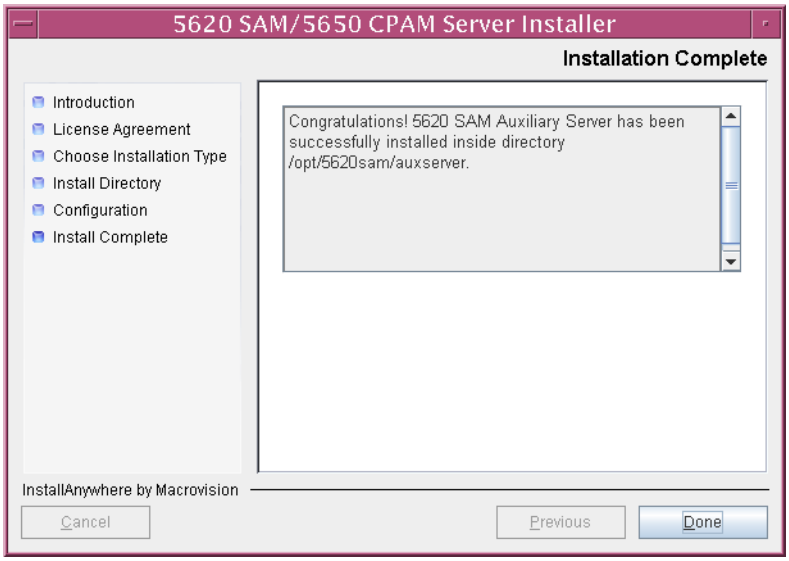
13 As shown in Figure 4-224, the 5620 SAM auxiliary server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 4-224 Installing the Server as a Unix Daemon



14 When the auxiliary server upgrade is complete, as shown in Figure 4-225, click on the Done button to close the installer.

Figure 4-225 Installation Complete



5 — 5620 SAM system conversion to redundancy

5.1 5620 SAM system conversion to redundancy overview 5-2

5.2 5620 SAM system conversion to redundancy procedures list 5-2

5.3 Workflow for 5620 SAM system conversion to redundancy 5-2

5.4 5620 SAM system conversion to redundancy procedures 5-3

5.1 5620 SAM system conversion to redundancy overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.

Caution 1 — A 5620 SAM system conversion to redundancy requires that you thoroughly understand the general and operating system-specific requirements of the task. It is essential that the conversion procedure be planned, documented and tested in advance on a lab system that is representative of the target live network.

Contact your Alcatel-Lucent support representative to assess the conversion requirements for your network implementation of the 5620 SAM software. Alcatel-Lucent offers an upgrade service and strongly recommends that it be engaged for conversions in larger or more complex networks.

Caution 2 — Alcatel-Lucent supports 5620 SAM software configuration only under the conditions described in chapter 1.

5.2 5620 SAM system conversion to redundancy procedures list

Table 5-1 lists the procedures required to perform the conversion of a standalone 5620 SAM system on a Solaris platform to a redundant system on a Solaris platform.

Table 5-1 5620 SAM system conversion to redundancy procedures list

Procedure	Purpose
To convert a standalone 5620 SAM system on Solaris to a redundant system	Convert the existing standalone 5620 SAM server and database components to primary components in a redundant 5620 SAM system, and install the standby 5620 SAM components.

5.3 Workflow for 5620 SAM system conversion to redundancy

The following is an overview of the steps required to convert a standalone 5620 SAM system on Solaris to a redundant system. A section heading in quotation marks refers to a section in Procedure 5-1.

1 Back up the 5620 SAM configuration files. See "Back up configuration files" for more information.

2 Gather the system information required for the upgrade. See "Gather required information" for more information.

3 Upgrade or install a 5620 SAM client. See "Upgrade or install client" for more information.

4 Back up the 5620 SAM database. See "Back up database" for more information.

5 Copy the database backup to the station that is to be the standby database station See "Copy database backup to standby database station" for more information.

6 Disable the 5620 SAM server startup daemon. See "Disable server daemon" for more information.

7 Shut down the 5620 SAM server. See "Shut down server" for more information.

8 Convert the standalone database to a primary database. See "Convert standalone database to primary database" for more information.

9 Create an Oracle management user account and configure the associated system parameters on the standby database station. See "Prepare standby database station for standby database installation" for more information.

10 Install the standby database. See "Install standby database" for more information.

11 Convert the standalone server to a primary server. See "Convert standalone server to primary server" for more information.

12 Start the primary server. See "Start primary server" for more information.

13 Start the new 5620 SAM client and perform sanity testing on the new primary server/database pair. See "Start new client and perform sanity testing" for more information.

14 Reinstantiate the database on the standby database station. See "Reinstantiate database on standby database station" for more information.

15 Install the standby server. See "Install standby server" for more information.

16 Start the standby server. See "Start standby server" for more information.

17 Upgrade or install additional 5620 SAM clients as required. See "Upgrade or install additional clients" for more information.

18 Upgrade or install a client delegate, if required. See Procedure 3-4 for more information.

5.4 5620 SAM system conversion to redundancy procedures

Procedure 5-1 describes how to convert a standalone 5620 SAM system on Solaris to a redundant system.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 5-1 To convert a standalone 5620 SAM system on Solaris to a redundant system

Perform this procedure to convert a standalone 5620 SAM system on a Solaris platform to a redundant 5620 SAM system. This involves converting the standalone main server and database components to primary components and installing the standby main server and database components.

Note — This procedure requires the DVD-ROM used for the installation of the existing 5620 SAM system. The Solaris directory on this DVD-ROM may be in a high-level directory other than the root directory, depending on the 5620 SAM software DVD-ROM version.

The operator who performs this procedure requires the following user-account privileges:

On the server stations:

- root or root-equivalent

On the database stations:

- root or root-equivalent
- Oracle management

Note 1 — The Oracle management user account is created on the standby database station during this procedure.

Note 2 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Ensure that you record all information that you specify during this procedure, for example, directories, passwords, and IP addresses.

Back up configuration files

1 Make a backup copy of the *path*/nms/config/nms-server.xml configuration file on the server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the file in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station.

2 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device backup files collected by the 5620 SAM in the *path*/nms/sr-backup directory on the server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device backup files to the 5620 SAM database.

3 If you are upgrading a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device software image files stored by the 5620 SAM in the *path*/nms/sr-images directory on the server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the upgrade. See the *5620 SAM User Guide* for more information about importing device software image files to the 5620 SAM database.

4 Make a copy of any custom XML configuration files in the *path*/nms/jboss directory on the server station

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Note — The upgrade process re-installs and potentially modifies the format of the XML files in the jboss directory. You can use the copy of the pre-upgrade XML files as a reference for restoring your custom configuration, but you cannot use the files as part of the upgraded server installation. Copying the files into the new jboss directory after the upgrade does not restore the configuration specified in the XML files.

Ensure that you store the files in a secure location that is unaffected by 5620 SAM upgrade activity, such as a non-5620 SAM station.

Gather required information

5 Obtain the following information from the server station and record it for use during the upgrade:

- hostname
- IP addresses
  - server IP addresses used by the current and new 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
  - server IP address used by 5620 SAM GUI and OSS clients to reach this server (public IP address, if NAT is used)
  - server IP address used by 5620 SAM auxiliary servers to reach this server (public IP address, if NAT is used)
  - private server IP address (if NAT is used)
- root user password

6 Obtain the following information from the database station and record it for use during the upgrade:

- hostname
- IP addresses
  - database IP addresses used by the current and new 5620 SAM servers to reach the database on this station (public IP addresses, if NAT is used)
  - database IP address used by 5620 SAM auxiliary servers to reach the database on this station (public IP address, if NAT is used)
  - private database IP address (if NAT is used)
- root user password
- UNIX user name for Oracle management account (default value at installation is oracle)
- Oracle database user ID (default value at installation is samuser)
- Oracle database user password
- Oracle SYS password
- Oracle base installation directory name (default value at installation is /opt/5620sam/oracle)
- 5620 SAM database installation directory name (default value at installation is /opt/5620sam/samdb)

7 Close all unrequired open 5620 SAM client sessions.

i Open a 5620 SAM client session using an account with security management privileges, such as admin.

ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.

iii Click on the Sessions tab button.

iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.

v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.

vi Close the client sessions as required by selecting them and clicking on the Close Session button. A dialog box appears.

- If you are performing a standalone upgrade, you must close all open 5620 SAM client sessions.
- If you are performing a redundant upgrade, you must close all open 5620 SAM client sessions except for those required for monitoring the network during the upgrade.

Note — One of the listed sessions is the session that you are using. Do not attempt to close this session.

vii Click on the Yes button to confirm the action.

viii Click on the Search button to refresh the list of open client sessions.

Upgrade or install client

8 Upgrade an existing 5620 SAM client, or install a new 5620 SAM client, for sanity testing and network monitoring after the 5620 SAM server and database are upgraded to the new version. Perform one of the following actions.

a Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.

b Perform Procedure 2-7 to upgrade a 5620 SAM client on a Windows station.

c Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.

d Perform Procedure 4-3 or 4-4 to upgrade a 5620 SAM client on a Solaris or Linux station.

Note 1 — You must specify the IP address of the current standalone 5620 SAM server as the primary main server IP address when you install or upgrade the client. The current standalone server is the new primary server after the upgrade.

Note 2 — The procedures listed in this step include a step that opens the 5620 SAM client. Do not perform the step that opens the 5620 SAM client; the 5620 SAM client is not to be started at this time.

Back up database

9 Back up the 5620 SAM database. The resulting database backup is used to create the standby 5620 SAM database later in the procedure.

Caution — When backing up a 5620 SAM database, specify a backup directory that does not include the 5620 SAM database installation directory, or data loss may occur. A typical 5620 SAM database installation directory is /opt/5620sam/samdb.

Perform one of the following actions.

a Use a 5620 SAM client GUI to back up the database. See the *5620 SAM User Guide* for information about performing database backups using the client GUI.

b Use a CLI script to back up the database.

i Log in as a user with root-equivalent privileges on the database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Enter the following at the CLI prompt to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

10 Record the *backup_directory* value specified in step 9 b iv. This information is required in steps 13 and 85.

11 Copy the database backup files from the backup directory specified in step 9 b iv to a secure location, such as a non-5620 SAM station, for safekeeping.

Copy database backup to standby database station

12 Log in as a user with root-equivalent privileges on the station that is to be the standby database station.

13 Copy the database backup created in step 9 from the standalone database station to the same directory structure on the standby database station. The database backup paths and file names must be identical on both stations.

Verify managed-device compatibility

14 Ensure that the new 5620 SAM software version supports the software version of each 5620 SAM-managed device. Perform one of the following actions for each unsupported device before you attempt the upgrade, or a service disruption may occur. See the *5620 SAM NE Compatibility Guide* for information about managed-device release and 5620 SAM release compatibility.

a Upgrade the device to a software version that the new 5620 SAM software supports. See the appropriate device documentation for information about device software upgrades.

b Remove the device from the 5620 SAM managed network. See the *5620 SAM User Guide* for information about performing the following steps.

i Use a 5620 SAM client to unmanage the device.

ii When the device is unmanaged, use the 5620 SAM client to remove the device from the 5620 SAM network.

Note 1 — If you have a Release 5.0 R4 or earlier 5620 SAM system that manages one or more 7250 SAS-ES, Release 2.0 devices, you must unmanage the 7250 SAS-ES, Release 2.0 devices in your network before you attempt to upgrade the 5620 SAM software.

You can resume management of the devices when the 5620 SAM upgrade is complete.

You do not need to unmanage a 7250 SAS-STD device before you upgrade the 5620 SAM software.

Note 2 — If you have a 5620 SAM system that manages one or more OS 6850 devices as generic NEs, you must unmanage and delete the OS 6850 generic NEs before you upgrade the 5620 SAM software.

You can manage the devices directly, rather than as generic NEs, when the 5620 SAM upgrade is complete.

Open port for client/server communication

15 Ensure that the firewalls between the 5620 SAM main server and client allow traffic to the HTTP or HTTPS port used for performing automatic client updates. Otherwise, you cannot perform a client installation. By default, the auto-update utility uses HTTP. See the SSL configuration for secure messaging chapter of the *5620 SAM User Guide* for information about configuring HTTP and HTTPS for client/server communication.

Disable server daemon

16 Disable the 5620 SAM server startup daemon. This ensures that the 5620 SAM server does not automatically start in the event of a power disruption during the conversion.

i Log in to the server station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Disable the 5620 SAM server daemon by renaming it. Enter the following at the CLI prompt:

```
# mv S975620SAMServerWrapper
inactive.S975620SAMServerWrapper ↵
```

Shut down server

17 Stop the 5620 SAM server application.

i Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt to stop the 5620 SAM server:

```
# ./nmsserver.bash stop ↵
```

iii Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

iv The 5620 SAM server application is stopped when the command in step 17 iii returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 17 iii. Do not proceed unless the console displays the above text.

18 If the 5620 SAM server and database are located on the same station, or collocated, go to step 21.

Convert standalone database to primary database

19 Before you perform a 5620 SAM database conversion on Solaris, you must run a pre-installation script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database conversion to fail.

Log in as a user with root-equivalent privileges on the database station.

20 Open a console window.

21 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

22 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh upgrade ↵
```

23 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — Running the script may generate messages that are similar to the following; these are not error messages and can be ignored.

- WARNING: Group dba already exists locally.
- WARNING: Oracle user with the specified name already exists locally.
- projadd: Duplicate project name "Oracle10R2"

24 After the script execution completes, enter the following at the CLI prompt to restart the new database station:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

25 After the database station reboots, log in as the Oracle management user on the database station.

26 Open a console window.

27 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
bash$ cd Solaris ↵
```

28 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

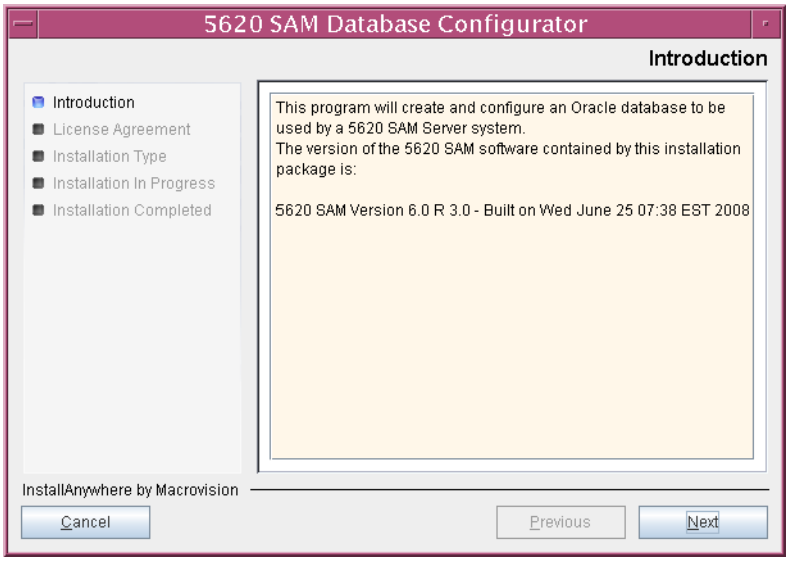
where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 5-1 appears and the conversion process begins.

Figure 5-1 5620 SAM Installer

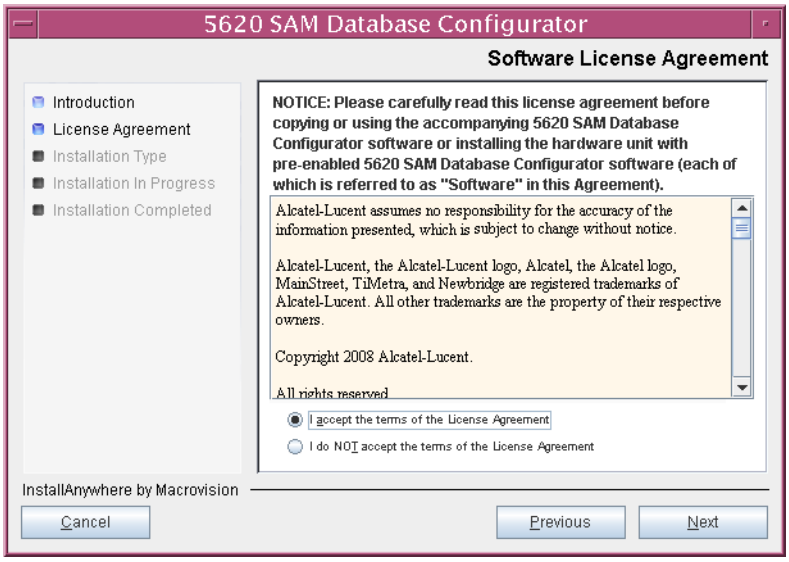
29 The 5620 SAM installer opens, as shown in Figure 5-2. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 5-2 Introduction



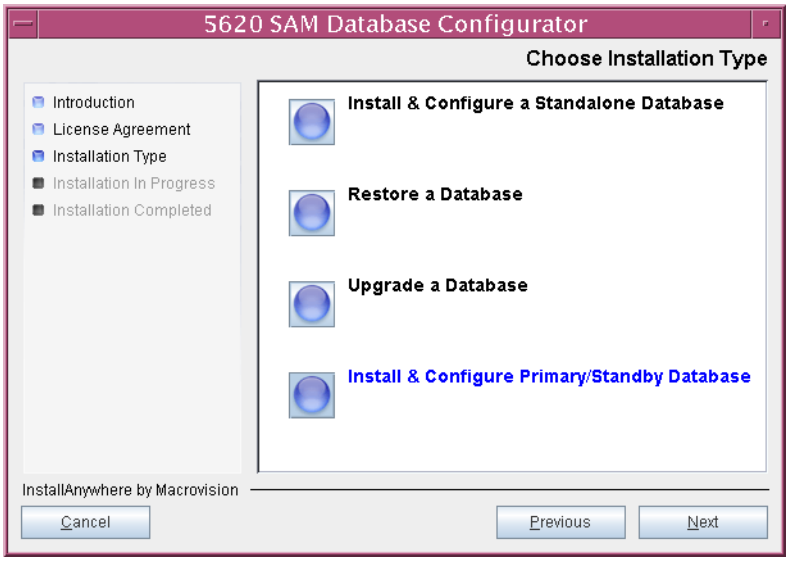
30 Review and accept the terms of the license agreement shown in Figure 5-3, then click on the Next button.

Figure 5-3 Software License Agreement



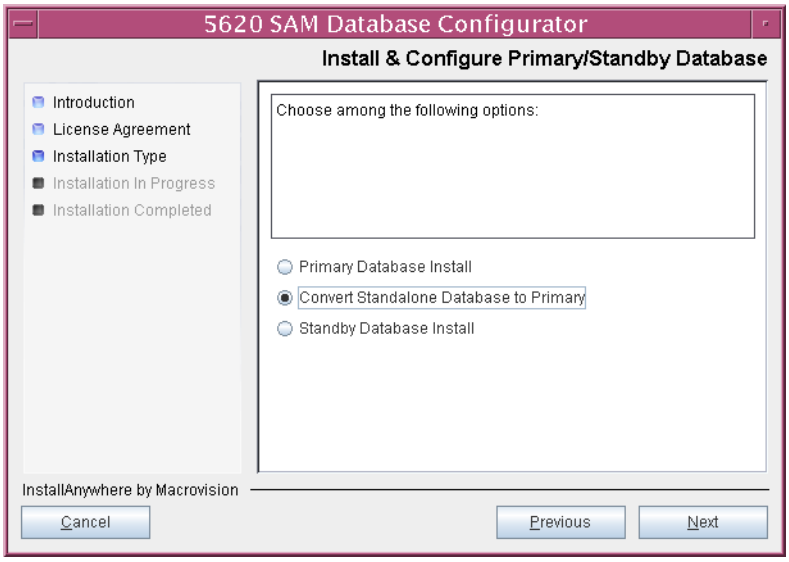
31 Select Install & Configure Primary/Standby Database, as shown in Figure 5-4, then click on the Next button.

Figure 5-4 Choose Installation Type



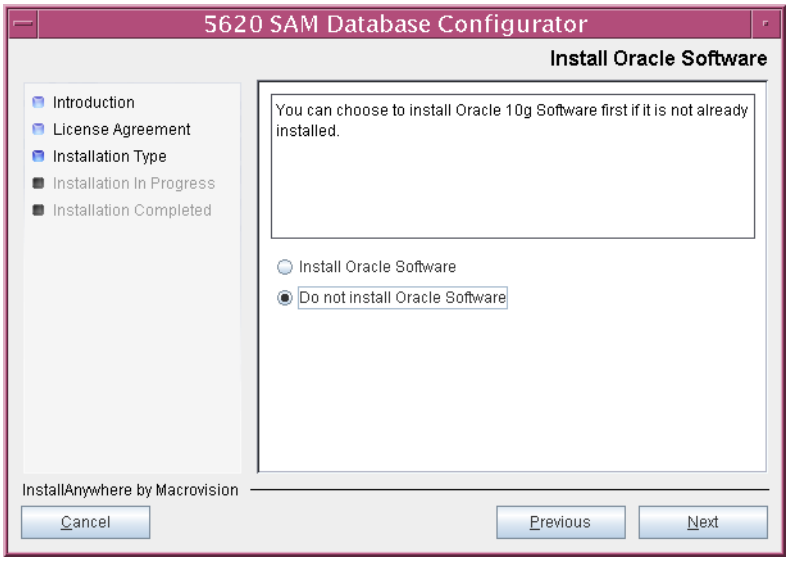
32 Select Convert Standalone Database to Primary, as shown in Figure 5-5, then click on the Next button.

Figure 5-5 Install & Configure Primary/Standby Database



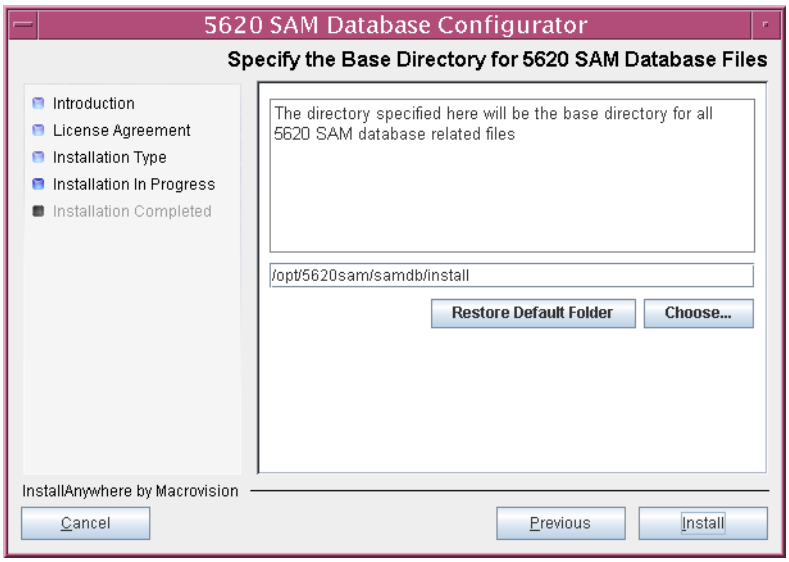
33 Select Do not install Oracle Software, as shown in Figure 5-6, then click on the Next button.

Figure 5-6 Install Oracle Software



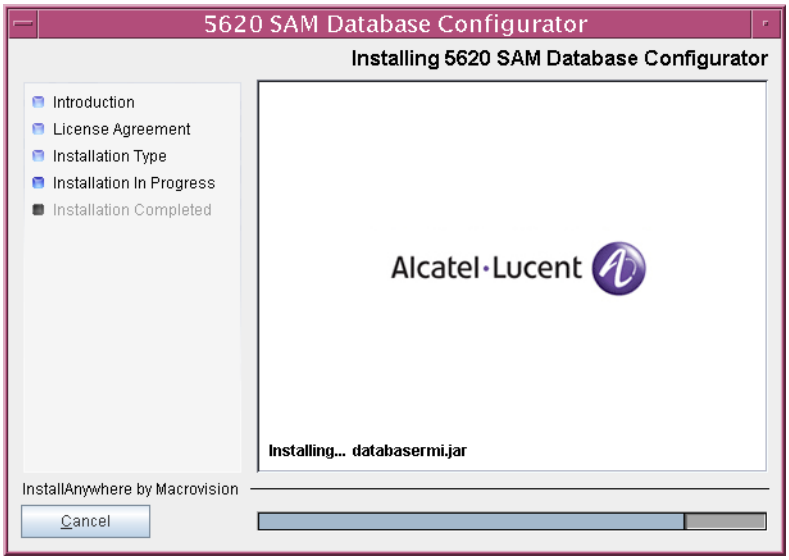
34 Specify the base directory in which the existing 5620 SAM database software is installed (typically /opt/5620sam/samdb/install), as shown in Figure 5-7. Click on the Install button to proceed.

Figure 5-7 Specify the Base Directory for 5620 SAM Database Files



The next panel displays database software installation progress, as shown in Figure 5-8.

Figure 5-8 Installing 5620 SAM Database Configurator

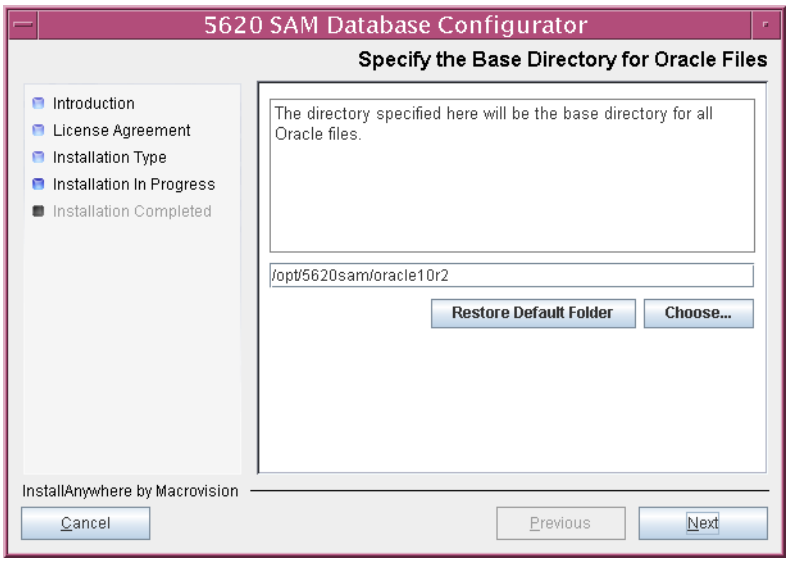


35 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 5-9. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note 1 — If you are upgrading the 5620 SAM from a version earlier than Release 5.0 R1, a new Oracle software directory is chosen for you. You can specify an alternate directory. The directory must be empty.

Note 2 — If you are upgrading the 5620 SAM from a version later than Release 5.0 R1, the existing Oracle software directory is chosen for you and cannot be changed.

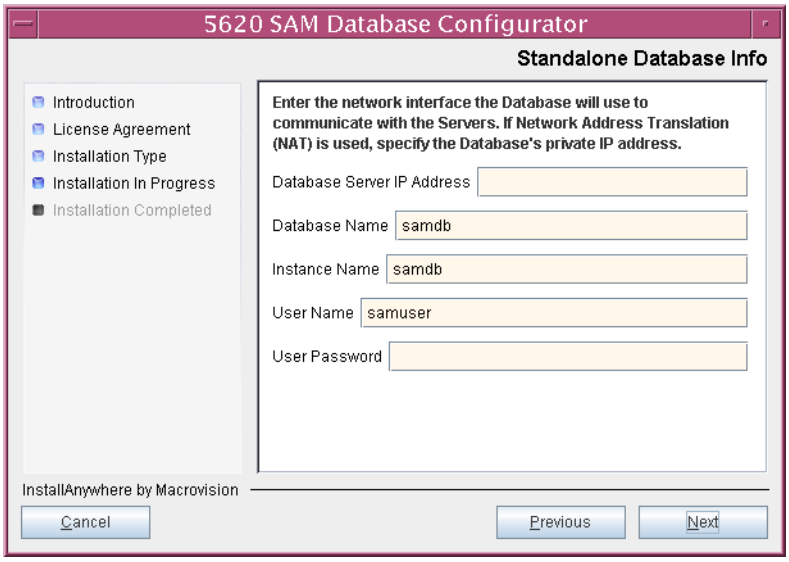
Figure 5-9 Specify the Base Directory for Oracle Files



36 Configure the following parameters shown in Figure 5-10, then click on the Next button:

- Database Server IP Address
- Database Name (typically samdb)
- Instance Name (typically samdb)
- User Name (typically samuser)
- User Password

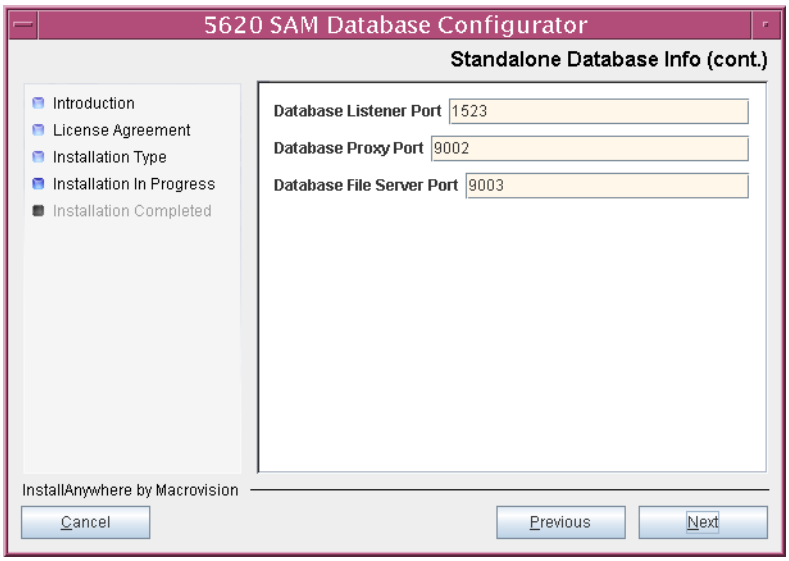
Figure 5-10 Standalone Database Info



37 Configure the following parameters shown in Figure 5-11, then click on the Next button:

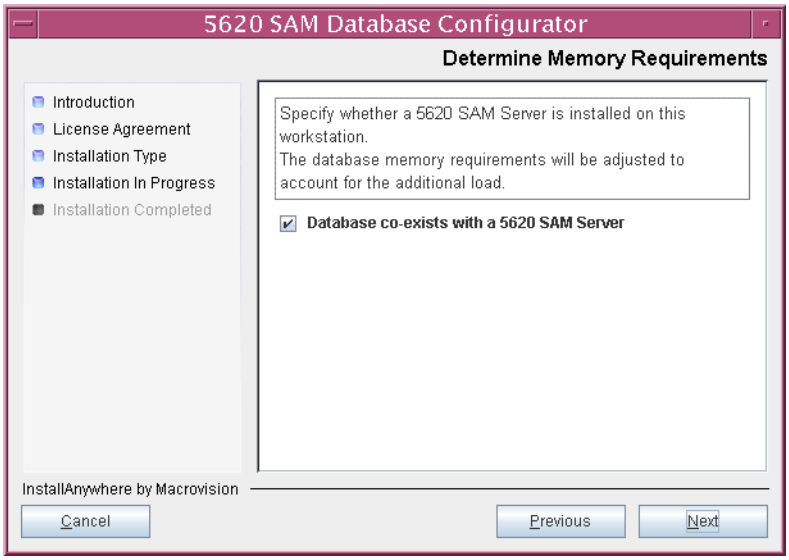
- Database Listener Port (typically 1523)
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 5-11 Standalone Database Info (continued)



38 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 5-12. Click on the Next button to continue.

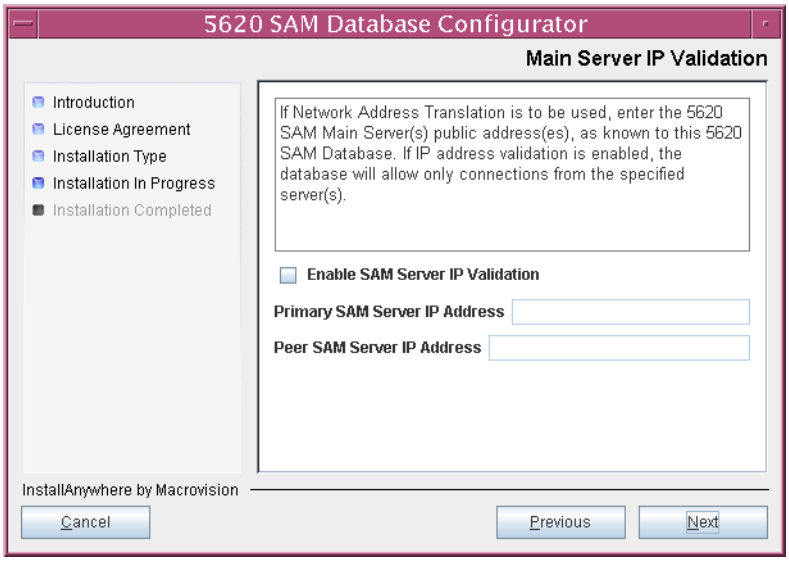
Figure 5-12 Determine Memory Requirements



39 If the “Enable SAM Server IP Validation” parameter shown in Figure 5-13 is enabled, only the specified servers can connect to the database. If required, enable it and the following parameters. Click on the Next button to continue.

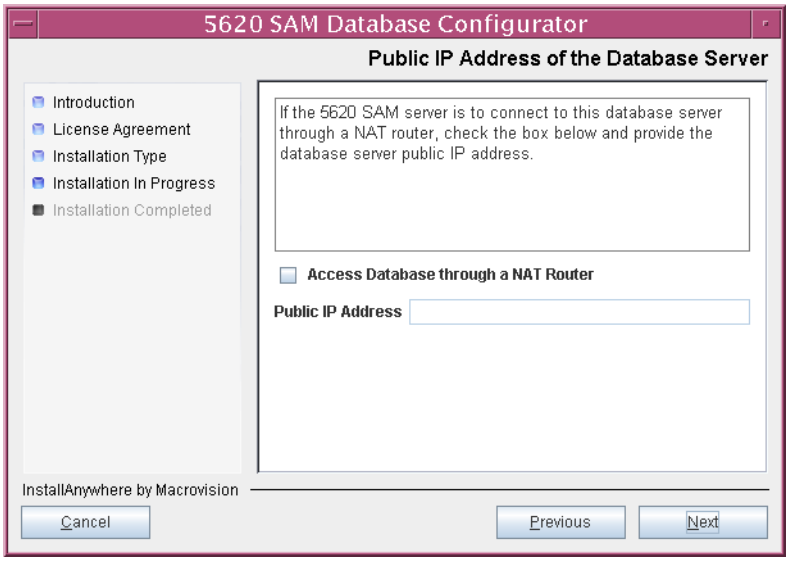
- Primary SAM Server IP Address
- Peer SAM Server IP Address

Figure 5-13 Main Server IP Validation



40 If NAT is used between the 5620 SAM server and database, enable the “Access Database through a NAT Router” parameter shown in Figure 5-14 and enter the public IP address of the database. Click on the Next button to continue.

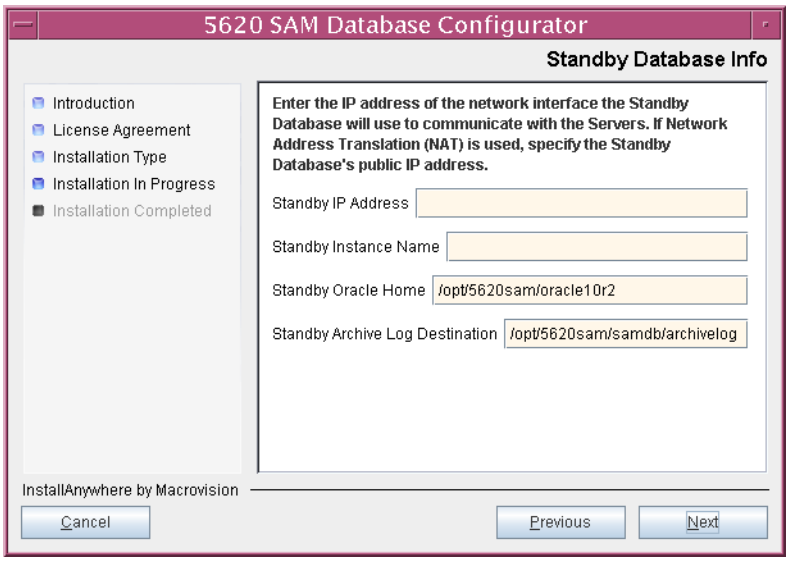
Figure 5-14 Public IP Address of the Database Server



41 Configure the following standby database parameters shown in Figure 5-15, record the information for use later in the procedure, then click on the Next button:

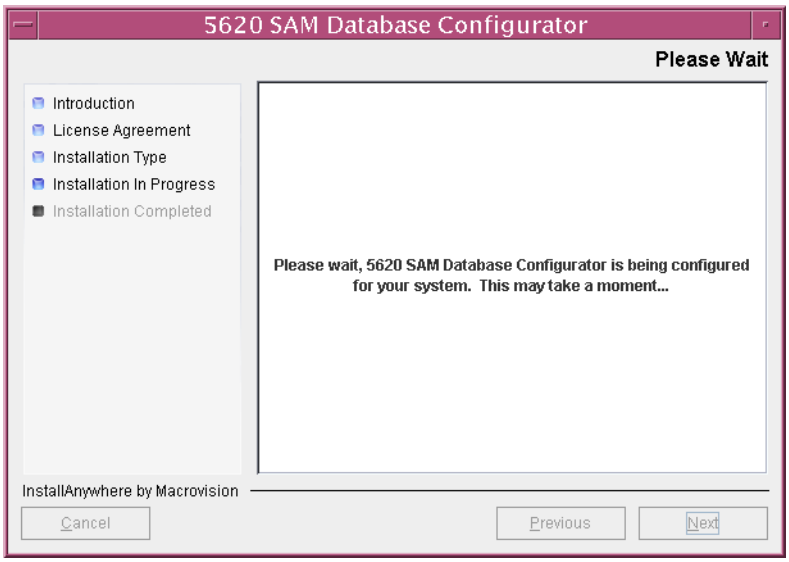
- Standby IP Address
- Standby Instance Name (typically samdb2)
- Standby Oracle Home (typically /opt/5620sam/oracle10r2)
- Standby Archive Log Destination (typically /opt/5620sam/samdb/archivelog)

Figure 5-15 Standby Database Info



The installer prepares to convert the database, as shown in Figure 5-16.

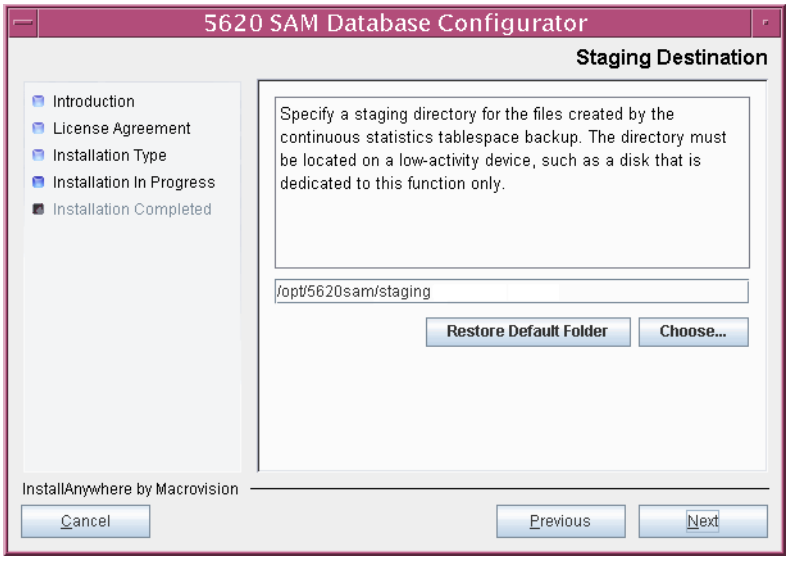
Figure 5-16 Please Wait



42 If the panel in Figure 5-17 is displayed, specify a directory for the continuous statistics tablespace backup. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/dbbackup partition, such as /opt/5620sam/dbbackup/staging.

Figure 5-17 Staging Destination

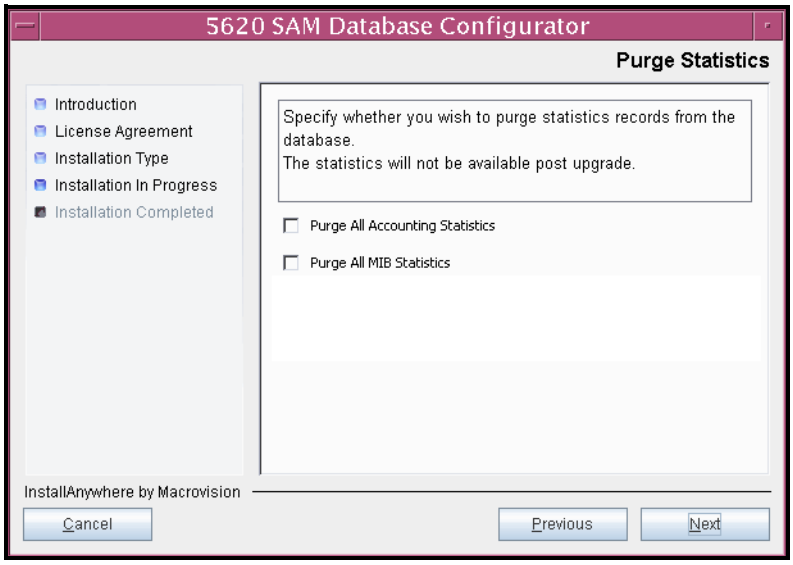


43 To speed the database upgrade, you can purge the statistics data that the 5620 SAM currently stores. Configure the following parameters shown in Figure 5-18, then click on the Next button to continue.

- Purge All Accounting Statistics
- Purge All MIB Statistics

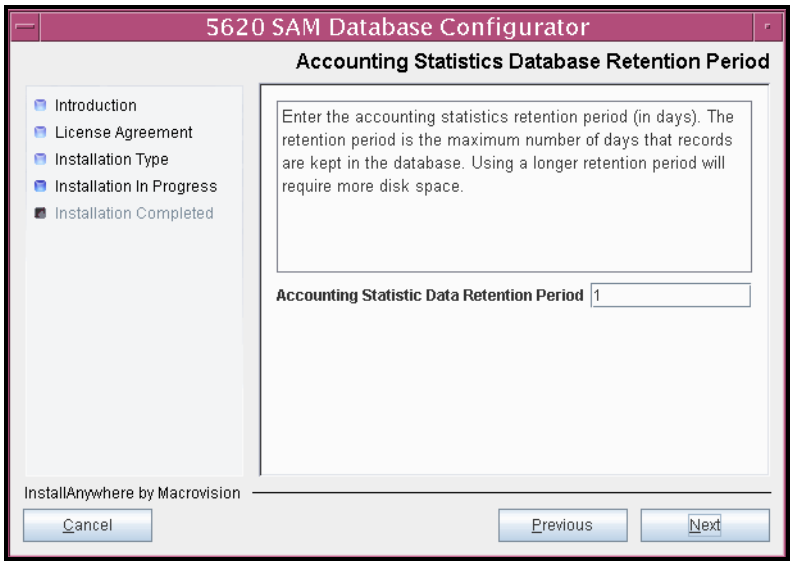
Note — The statistics data for the selected statistics types are permanently deleted from the 5620 SAM.

Figure 5-18 Purge Statistics



44 Configure the “Accounting Statistic Database Retention Period” parameter shown in Figure 5-19. Click on the Next button to continue.

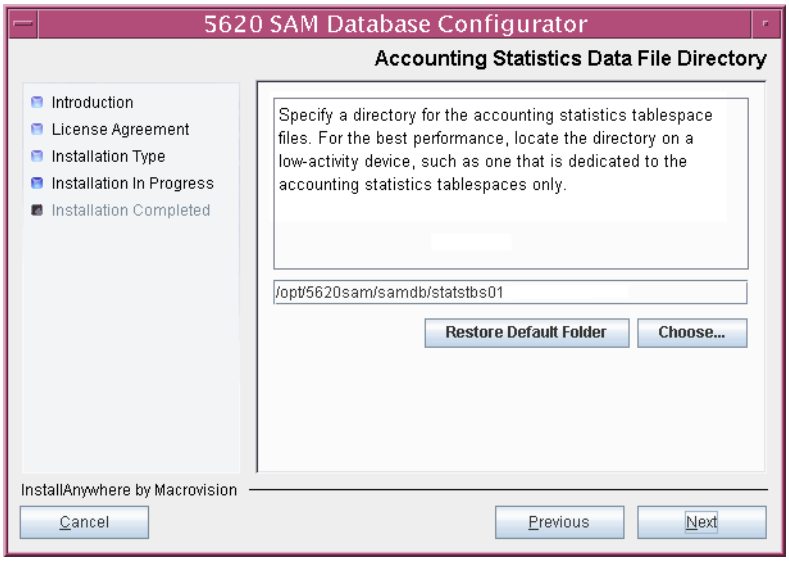
Figure 5-19 Accounting Statistics Database Retention Period



45 If the panel in Figure 5-20 is displayed, specify a directory for the accounting statistics tablespace files. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Note — If the database disk layout has four or fewer disks, you must specify a directory in the /opt/5620sam/samdb/tablespace partition, such as /opt/5620sam/samdb/tablespace/statstbs01.

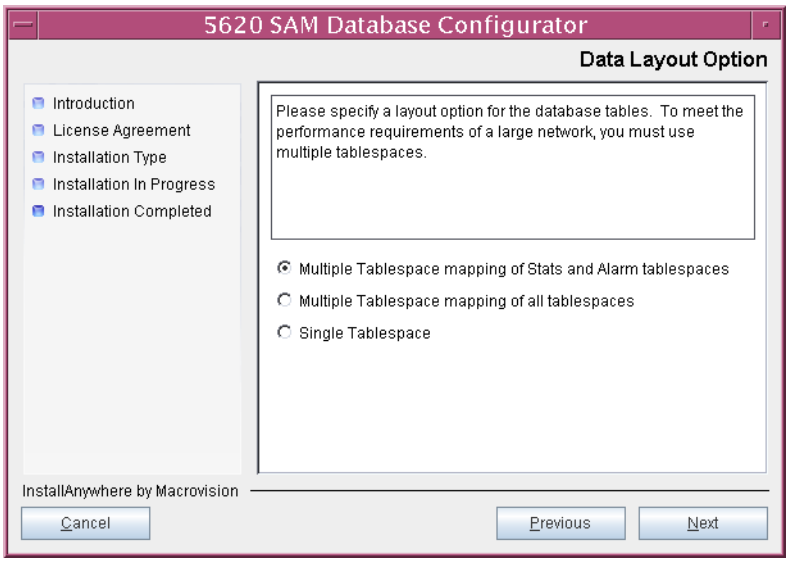
Figure 5-20 Accounting Statistics Data File Directory



46 Depending on the previous configuration options, the panel shown in Figure 5-21 appears. Otherwise, go to step 50.

Choose a data layout option, then click on the Next button. Contact your Alcatel-Lucent support representative for information about data layout options.

Figure 5-21 Data Layout Option



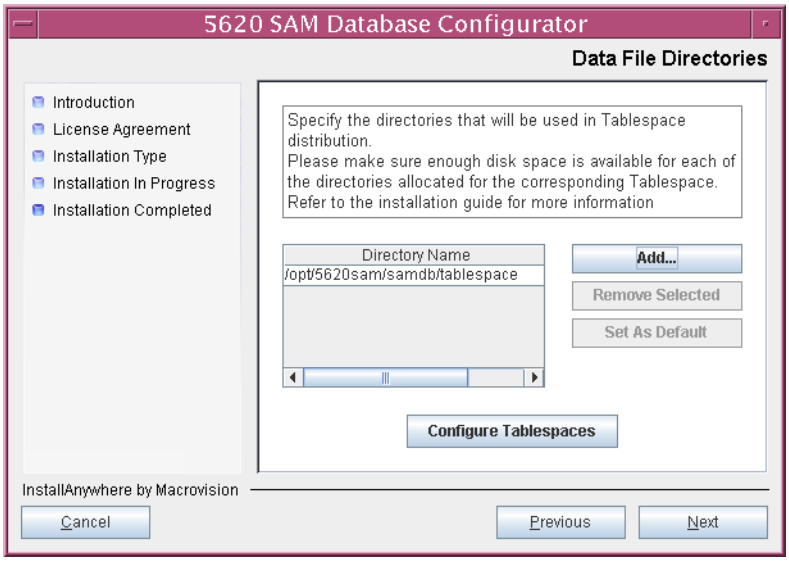
47 Choose the tablespace directories.

i Click on the Add button shown in Figure 5-22 and use the browser form that opens to specify a directory for association with a tablespace.

ii If the option chosen in step 46 is Single Tablespace, go to step 49.

iii Repeat step 47 i as required to specify additional tablespace directories.

Figure 5-22 Data File Directories



48 Associate tablespaces with the directories specified in step 47.

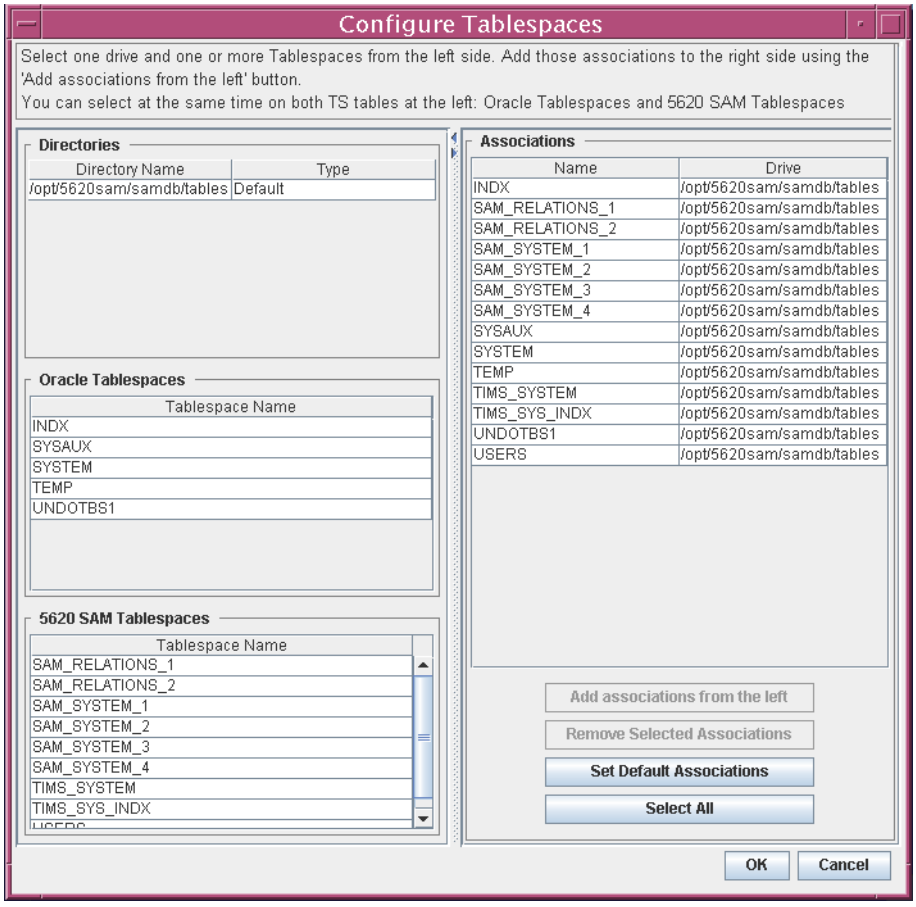
i Click on the Configure Tablespaces button. The tablespace configuration form opens, as shown in Figure 5-23.

Note — The lists of drives and tablespaces on the tablespace configuration form may differ from the lists shown in the figure below.

ii Follow the instructions at the top of the form to associate tablespaces with directories as required.

iii Click on the OK button. The tablespace configuration form closes and the Data File Directories panel in Figure 5-22 is again displayed.

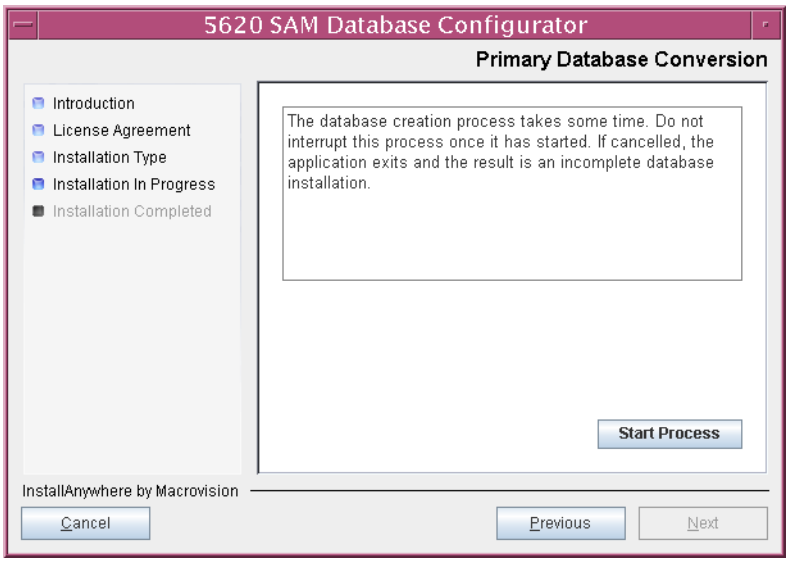
Figure 5-23 Configure Tablespaces



49 Click on the Next button to continue.

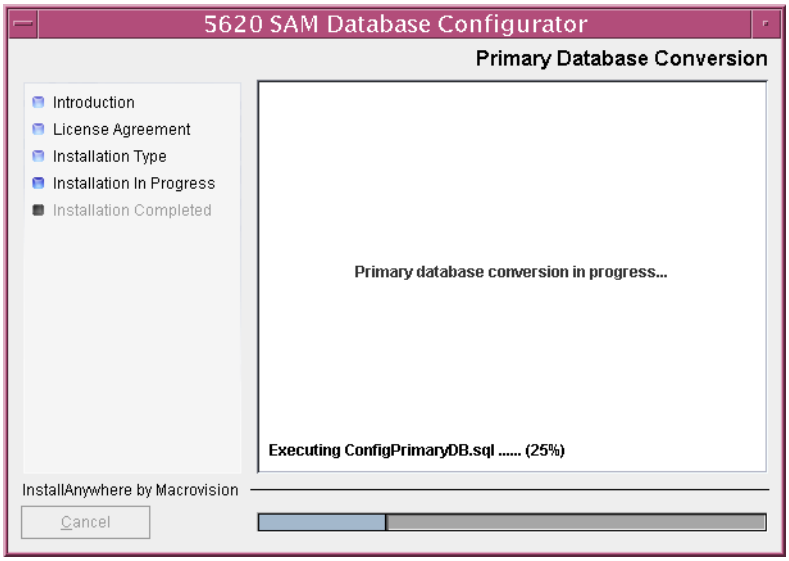
50 You are prompted to begin primary database conversion, as shown in Figure 5-24. Database conversion can take one hour or more to complete, depending on the tablespace configuration. Click on the Start Process button to proceed.

Figure 5-24 Primary Database Conversion



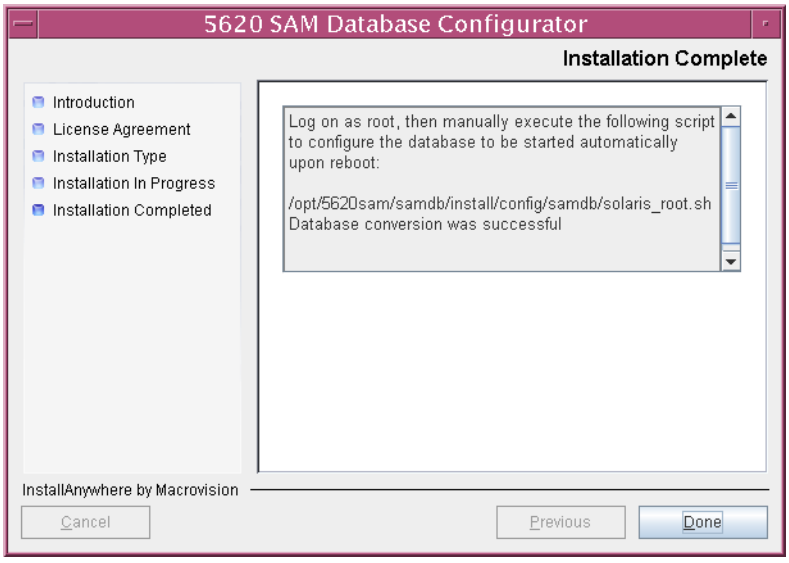
The next panel displays database conversion progress, as shown in Figure 5-25.

Figure 5-25 Primary Database Conversion



51 When the database conversion is complete, as shown in Figure 5-26, you are prompted to run a script that enables automatic database startup during system startup. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Done button to close the installer.

Figure 5-26 Installation Complete



The next section of the procedure describes the installation of the standby 5620 SAM database. The standby database must be installed on a station other than the one on which the primary database is installed.

Prepare standby database station for standby database installation

52 Before you perform a 5620 SAM database installation on Solaris, you must run a pre-installation script. This script creates and configures the UNIX account for the Oracle management user and adds configuration information to the /etc/system file.

Caution — Ensure that you run only the pre-installation script that is on the new 5620 SAM software DVD-ROM. Using a different version of the script may cause the database installation to fail.

Log in as a user with root-equivalent privileges on the station that is to be the standby database station.

53 Open a console window.

54 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

55 Enter the following at the CLI prompt to run the pre-installation script:

```
# ./Oracle10g_PreInstall.sh install ↵
```

56 The script prompts you to enter the following:

- group name (default is dba)
- user name (default is oracle)
- Oracle user home directory name (default is /opt/5620sam/oracle10r2)

Note — To reduce the complexity of subsequent software upgrades and technical-support activities, Alcatel-Lucent recommends that you press ↵ to accept the default value for each parameter.

If you supply a value other than the default, you must record the value for use when the Oracle10g_PreInstall.sh script is run during a software upgrade, or when the Oracle management user information is required by Alcatel-Lucent technical support.

The script updates the system configuration.

Note — If you receive a "failed to create group" message, ensure that NIS is disabled and re-run the pre-installation script. For more information about NIS, contact your Alcatel-Lucent customer support representative.

57 After the script execution completes, enter the following at the CLI prompt to restart the new database station:

```
# shutdown -y -i6 -g0 ↵
```

The station reboots.

58 Before the standby database installation can occur, the Oracle management user and group created by the pre-installation script require ownership of the directory that is to hold the database.

After the station reboots, log in to the station as a user with root-equivalent privileges.

59 Open a console window on the new database station.

60 Enter the following at the CLI prompt to change the current directory to /opt:

```
# cd /opt ↵
```

61 Enter the following at the CLI prompt to specify the required user and group ownership of the 5620sam directory and subdirectories:

```
# chown -R user:group 5620sam ↵
```

where
user is the user name value from step 56, typically oracle
group_name is the group name value from step 56, typically dba

62 Navigate to the 5620sam directory below /opt. Enter the following at the CLI prompt:

```
# cd 5620sam ↵
```

63 Confirm that the Oracle management user home directory has the correct user and group ownerships. Enter the following at the CLI prompt:

```
# ls -l ↵
```

If the command output is not as shown below, repeat steps 58 to 63. Do not proceed unless the output is as shown, or the installation fails.

```
drwxr-xr-x   2 user     group        512 Apr 11 11:15 directory
```

where
user is the user name specified in step 56, typically oracle
group is the group name specified in step 56, typically dba
directory is the Oracle management user home directory name specified in step 56, typically /opt/5620sam/oracle10r2

Install standby database

64 Switch to the Oracle management user created by the pre-installation script. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

65 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

66 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
bash$ ./DBConfig_SAM_6_0_revision_ID.bin ↵
```

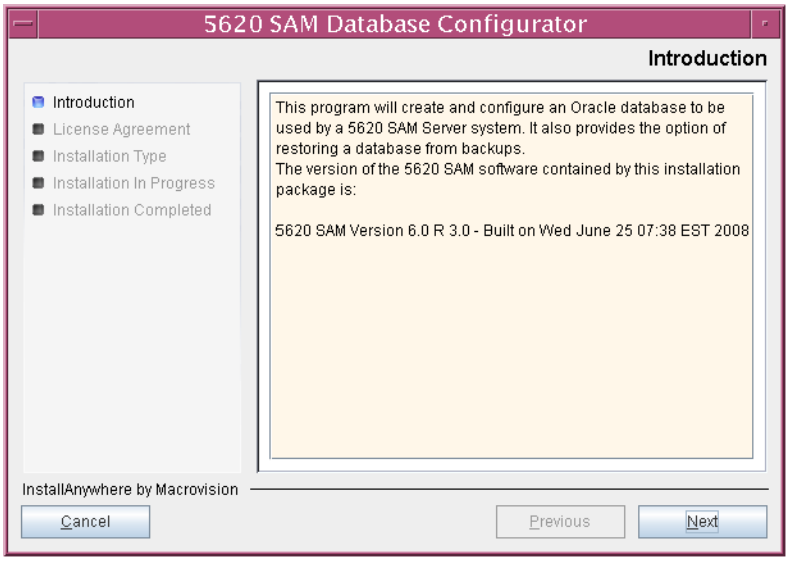
where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

The splash screen in Figure 5-27 appears and the installation process begins.

Figure 5-27 5620 SAM Installer

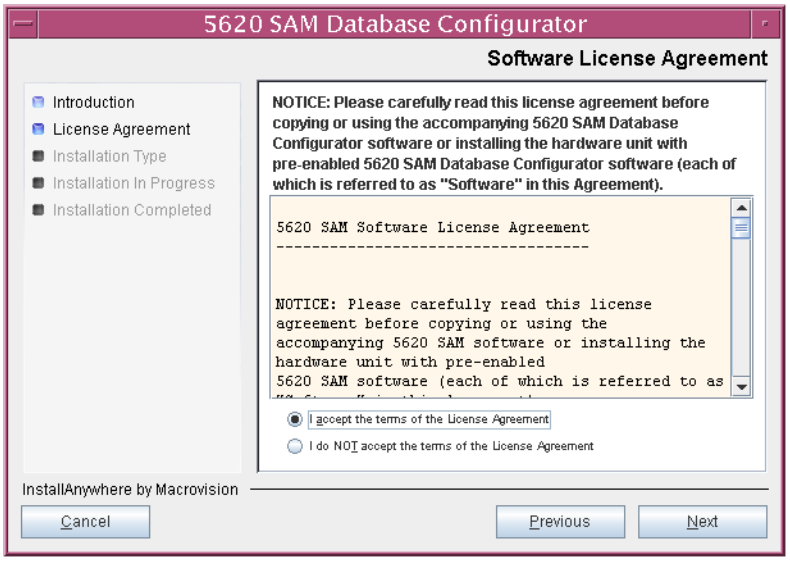
67 The 5620 SAM installer opens, as shown in Figure 5-28. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 5-28 Introduction



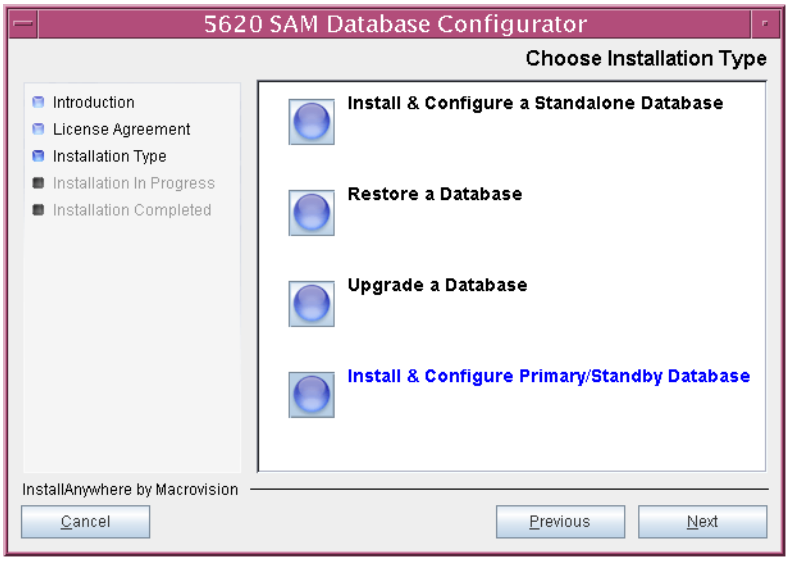
68 Review and accept the terms of the license agreement shown in Figure 5-29, then click on the Next button.

Figure 5-29 Software License Agreement



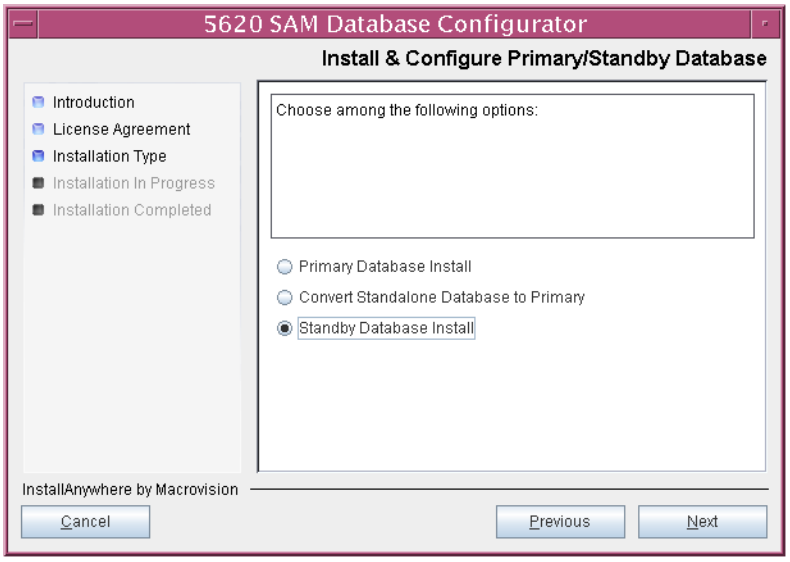
69 Select Install & Configure Primary/Standby Database, as shown in Figure 5-30, then click on the Next button.

Figure 5-30 Choose Installation Type



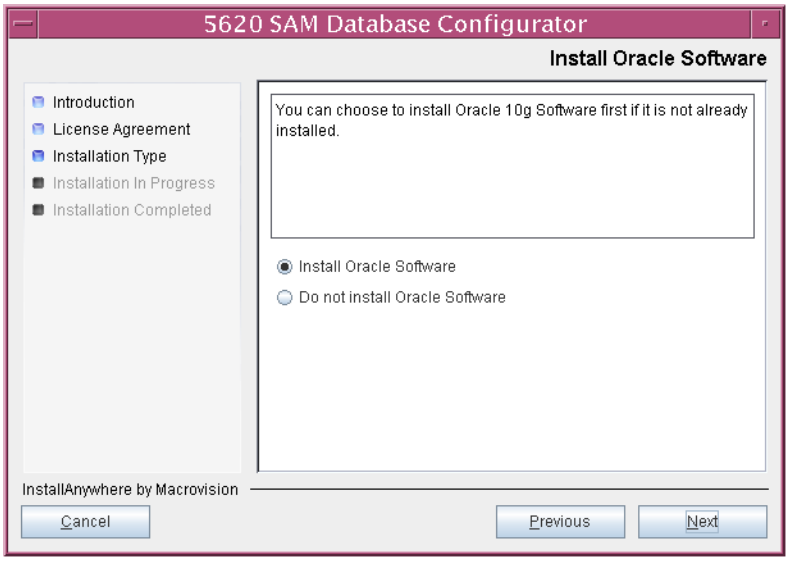
70 Select Standby Database Install, as shown in Figure 5-31, then click on the Next button.

Figure 5-31 Install & Configure Primary/Standby Database



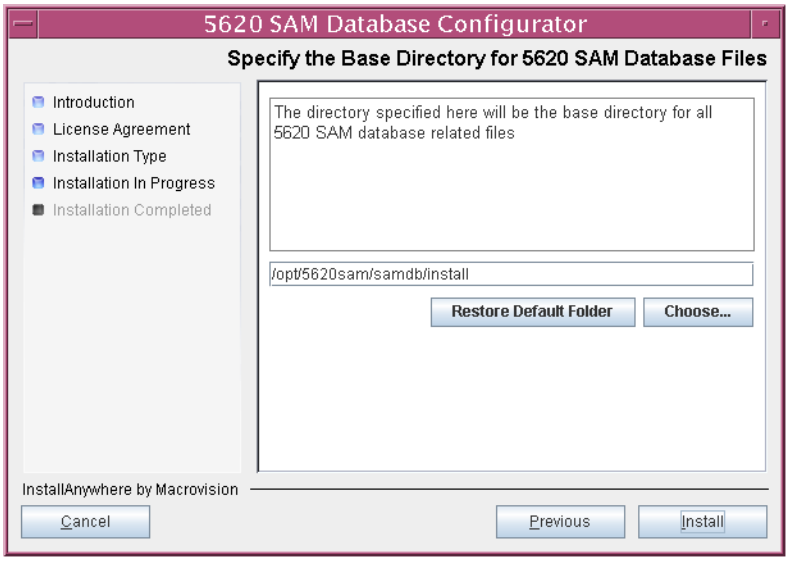
71 Select Install Oracle Software, as shown in Figure 5-32, then click on the Next button.

Figure 5-32 Install Oracle Software



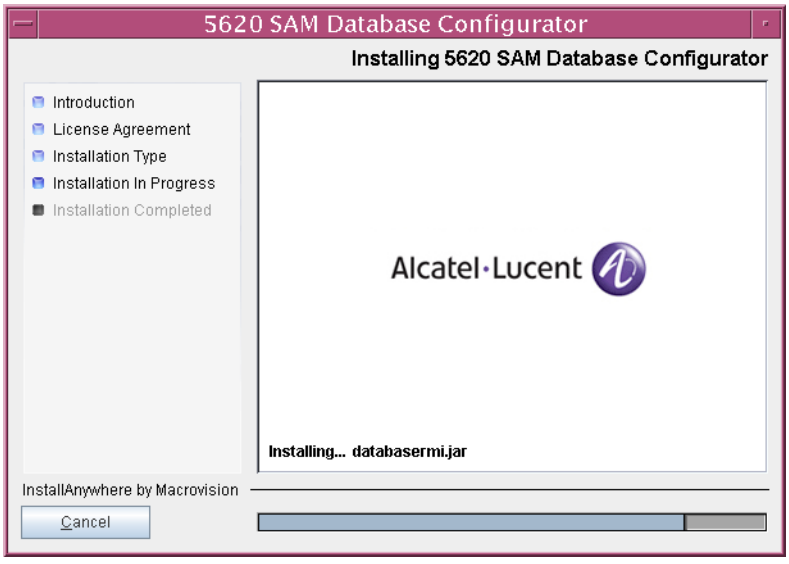
72 Specify a base directory in which to install the standby 5620 SAM database software (typically /opt/5620sam/samdb/install), as shown in Figure 5-33. You are prompted to create the directory if it does not exist. Click on the Install button to proceed.

Figure 5-33 Specify the Base Directory for 5620 SAM Database Files



The next panel displays database software installation progress, as shown in Figure 5-34.

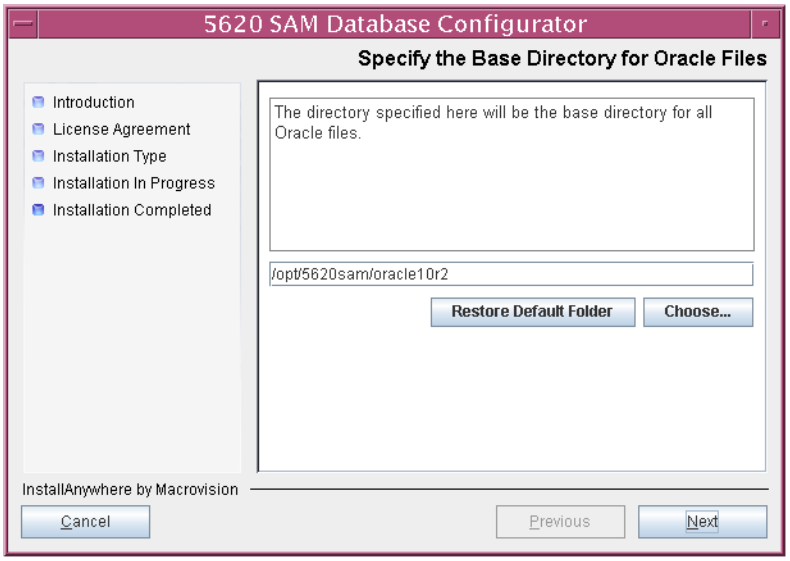
Figure 5-34 Installing 5620 SAM Database Configurator



73 Specify a base directory in which to install the Oracle software (typically /opt/5620sam/oracle10r2), as shown in Figure 5-35. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

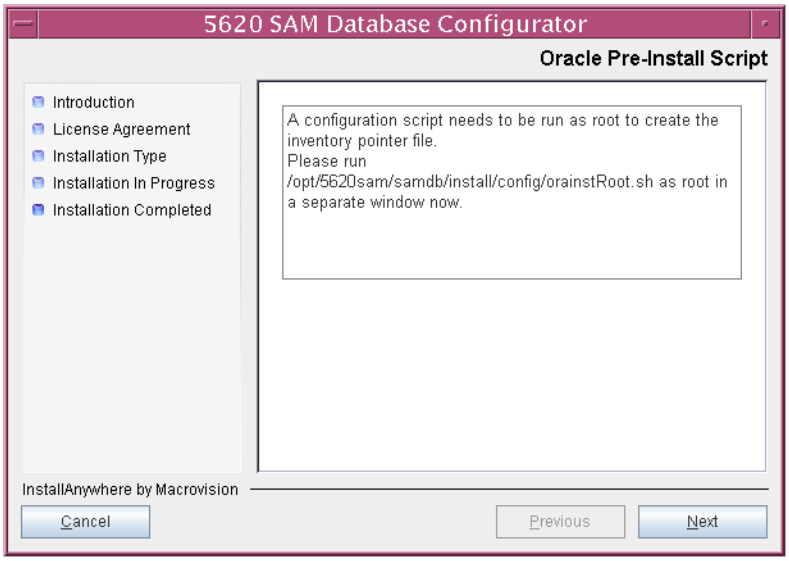
Caution — You must specify a directory other than the directory specified for the existing Oracle installation.

Figure 5-35 Specify the Base Directory for Oracle Files



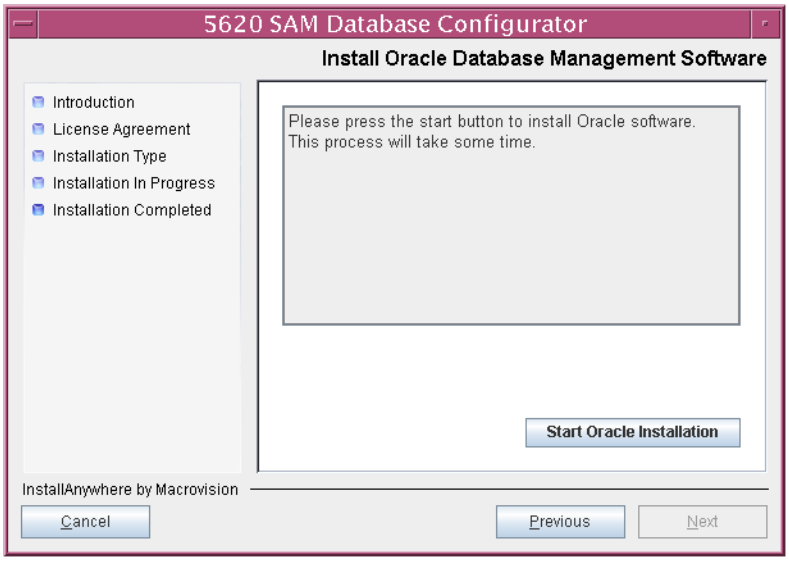
74 You may be prompted to run an Oracle pre-installation script, as shown in Figure 5-36. If so, run the script in a separate console window as a user with root-equivalent privileges. When script execution is complete, click on the Next button to continue.

Figure 5-36 Oracle Pre-Install Script



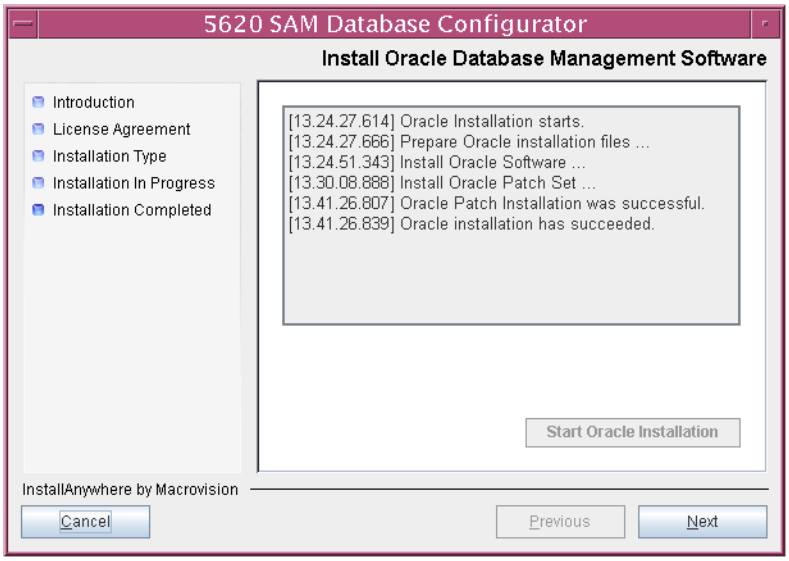
75 You are prompted to begin Oracle installation, as shown in Figure 5-37. Oracle installation can take one hour or more to complete. Click on the Start Oracle Installation button to proceed.

Figure 5-37 Install Oracle Database Management Software



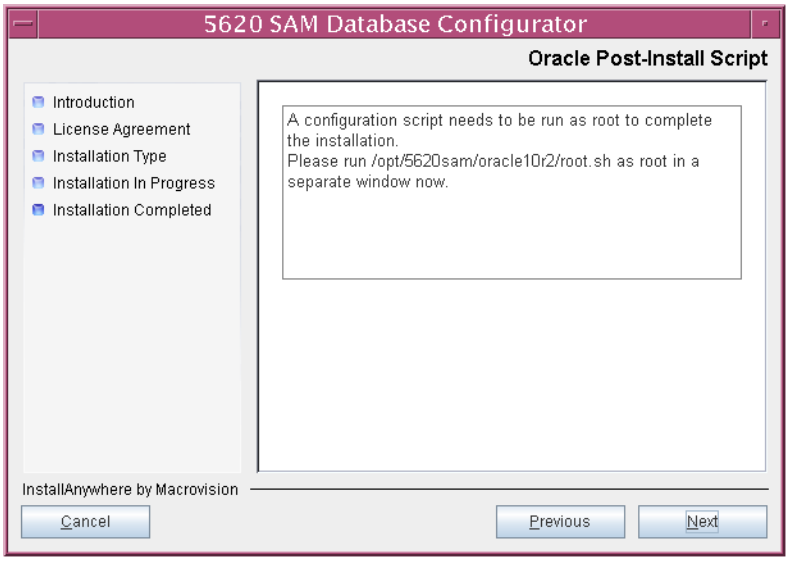
76 As shown in Figure 5-38, Oracle installation details are displayed as the installation progresses. When the installation is complete, click on the Next button to continue.

Figure 5-38 Install Oracle Database Management Software



77 You are prompted to run an Oracle post-installation script, as shown in Figure 5-39. Open a separate console window and run the script as a user with root-equivalent privileges. After the script execution completes, click on the Next button to continue.

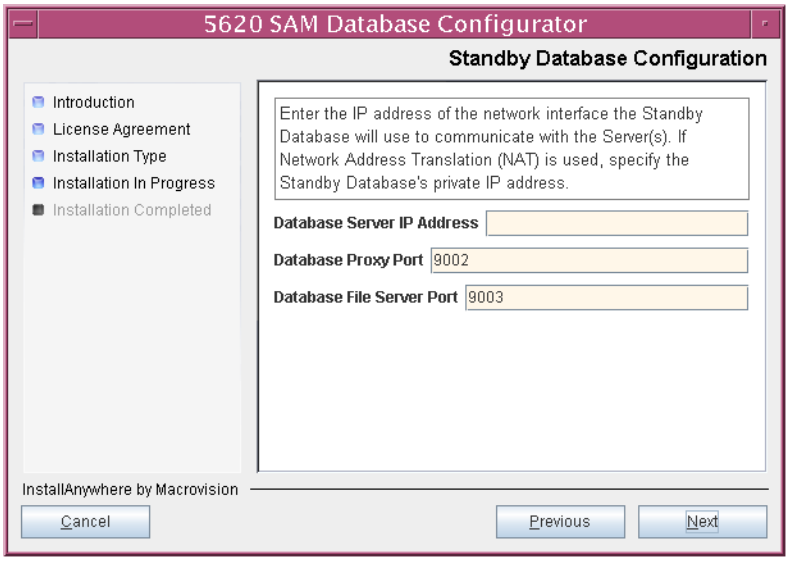
Figure 5-39 Oracle Post-Install Script



78 Configure the parameters shown in Figure 5-40, then click on the Next button to continue.

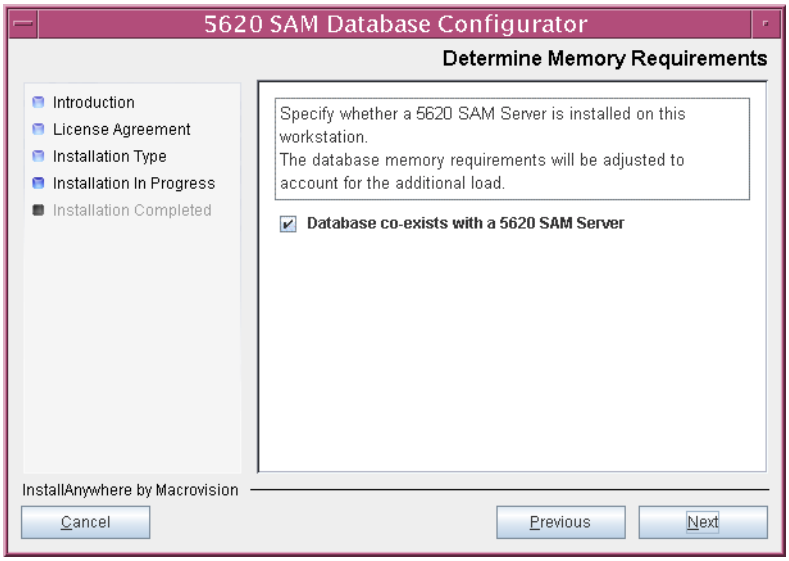
- Database Server IP Address
- Database Proxy Port (typically 9002)
- Database File Server Port (typically 9003)

Figure 5-40 Standby Database Configuration



79 If the 5620 SAM server and database are installed on the same station, enable the "Database co-exists with a 5620 SAM Server" parameter shown in Figure 5-41. Click on the Next button to continue.

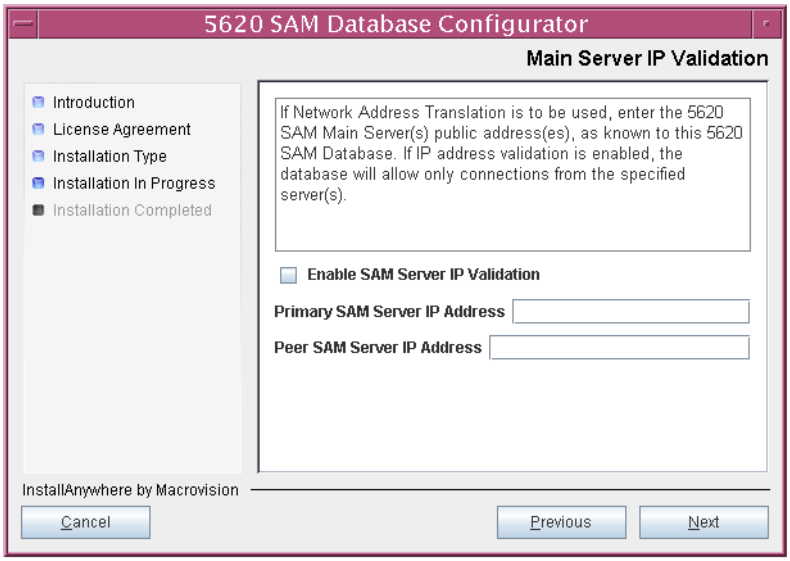
Figure 5-41 Determine Memory Requirements



80 If IP-address validation is required, enable the “Enable SAM Server IP Validation” parameter and configure the following parameters shown in Figure 5-42. Click on the Next button to continue.

- Primary SAM Server IP Address
- Peer SAM Server IP Address

Figure 5-42 Main Server IP Validation



81 If the “Enable SAM Server IP Validation” parameter shown in step 80 is enabled, perform one of the following actions.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Click on the Add button shown in Figure 5-43. The form shown in Figure 5-44 opens.

Figure 5-43 Auxiliary Server IP Validation

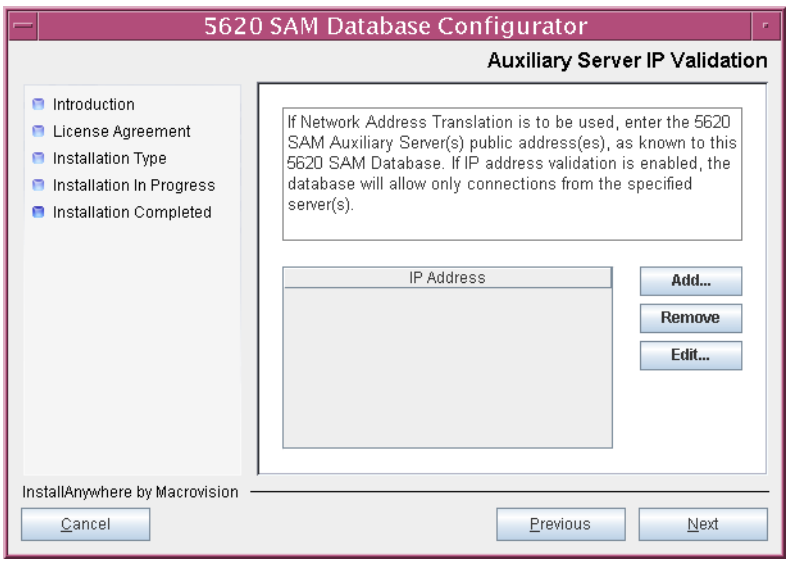
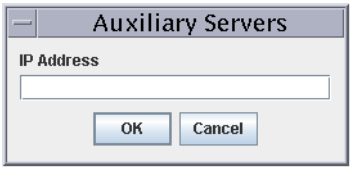


Figure 5-44 Auxiliary Servers



ii Enter the IP Address of the auxiliary server.

iii Click on the OK button to save the information and close the form.

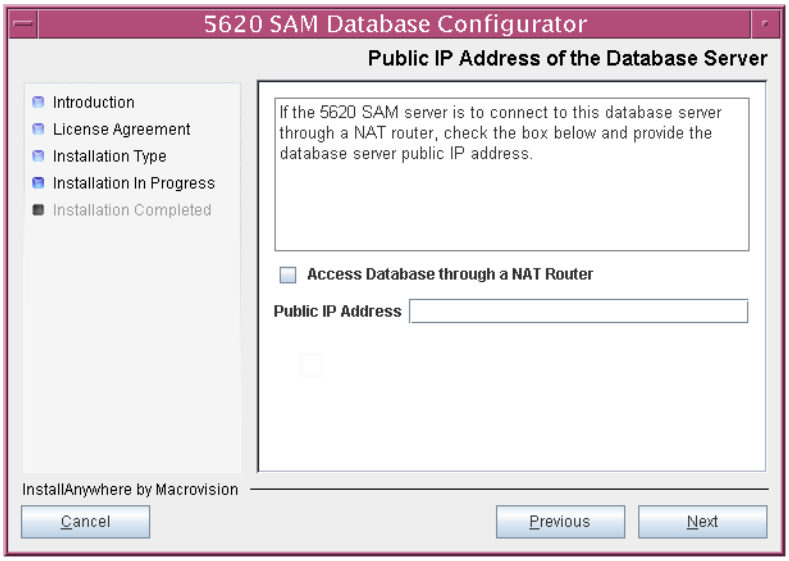
iv Repeat steps 81 a i to iii to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration.

82 Click on the Next button to continue.

83 If NAT is used between the 5620 SAM server and database, enable the "Access Database through a NAT Router" parameter shown in Figure 5-45 and enter the public IP address of the database. Click on the Next button to continue.

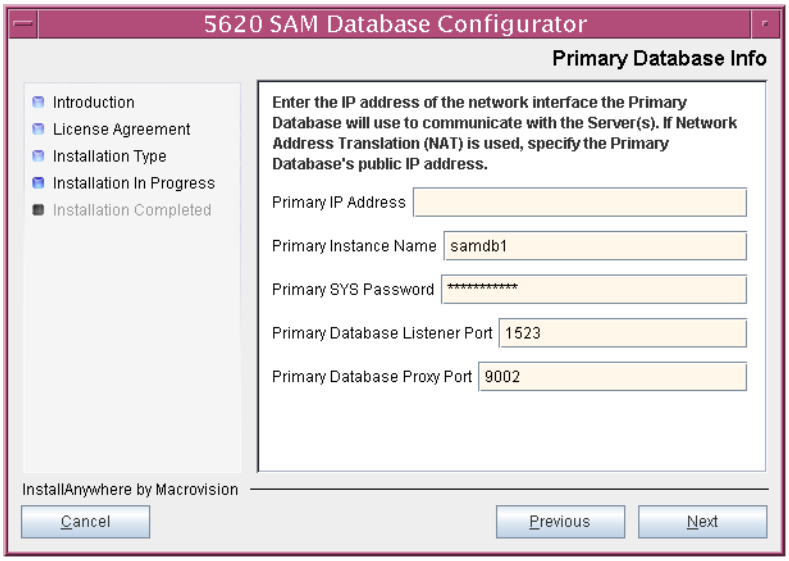
Figure 5-45 Public IP Address of the Database Server



84 Configure the following parameters, shown in Figure 5-46, using the recorded values from the primary database conversion. Click on the Next button to continue.

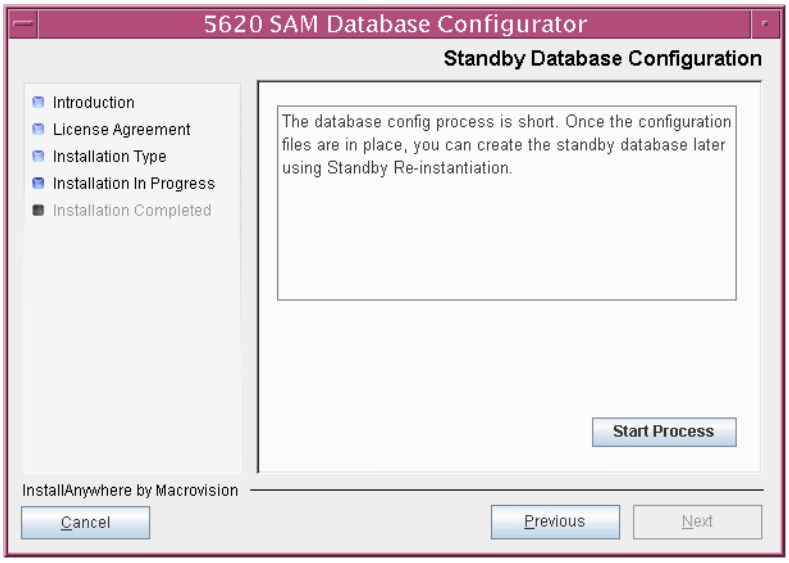
- Primary IP Address
- Primary Instance Name (typically samdb1)
- Primary SYS Password
- Primary Database Listener Port (typically 1523)
- Primary Database Proxy Port (typically 9002)

Figure 5-46 Primary Database Info



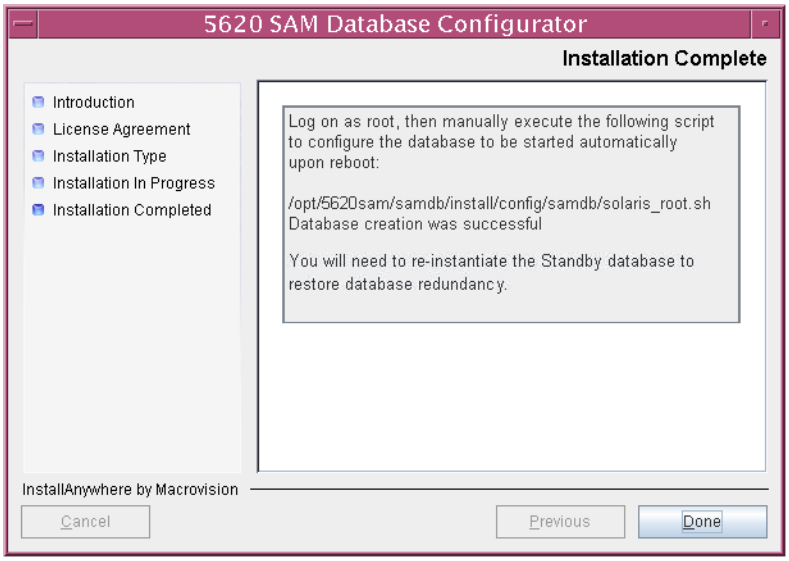
85 You are prompted to begin standby database creation, as shown in Figure 5-47. Click on the Start Process button to proceed.

Figure 5-47 Standby Database Configuration



86 When the database installation is complete, you are prompted to run a script that enables automatic database startup during system startup, as shown in Figure 5-48. Open a separate console window and run the script as a root-equivalent user. After the script execution completes, click on the Done button to close the installer.

Figure 5-48 Installation Complete



The next section of the procedure describes the conversion of the standalone 5620 SAM server to the primary 5620 SAM server. Server conversion requires root-equivalent privileges.

Convert standalone server to primary server

87 Log in as a user with root-equivalent privileges on the standalone server station.

88 Open a console window.

89 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

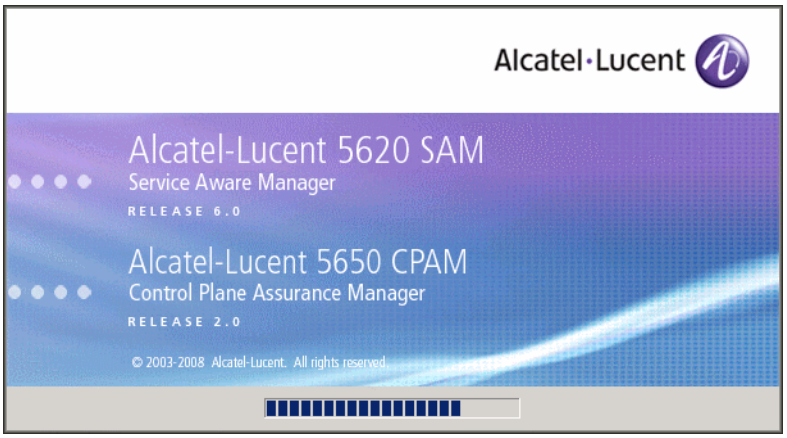
90 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

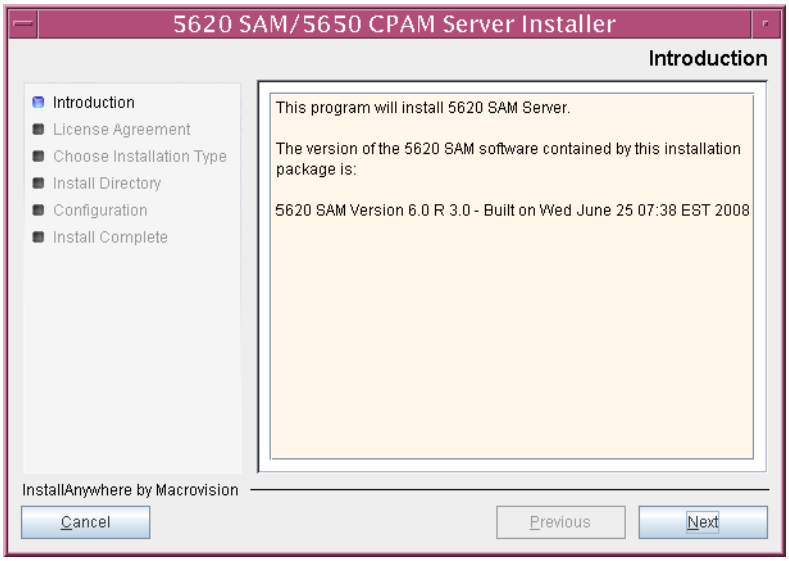
The splash screen in Figure 5-49 appears and the conversion process begins.

Figure 5-49 5620 SAM Installer



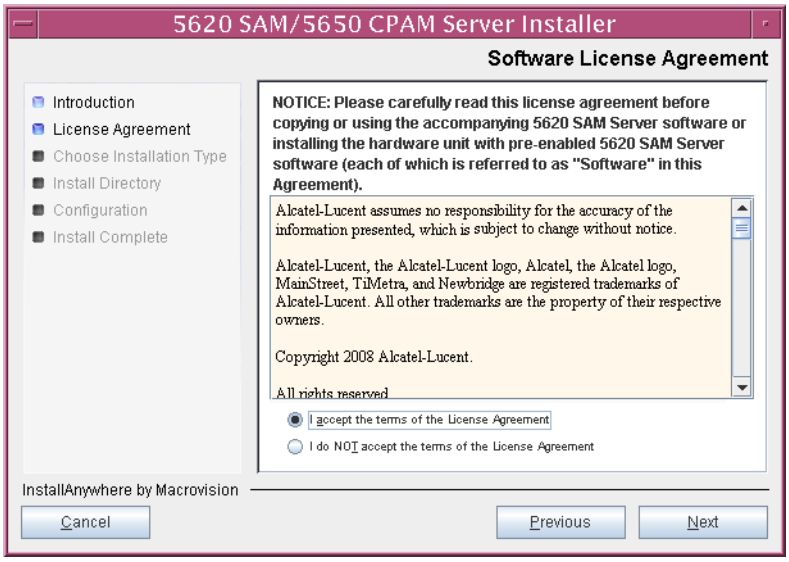
91 The 5620 SAM installer opens, as shown in Figure 5-50. The left pane indicates the installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 5-50 Introduction



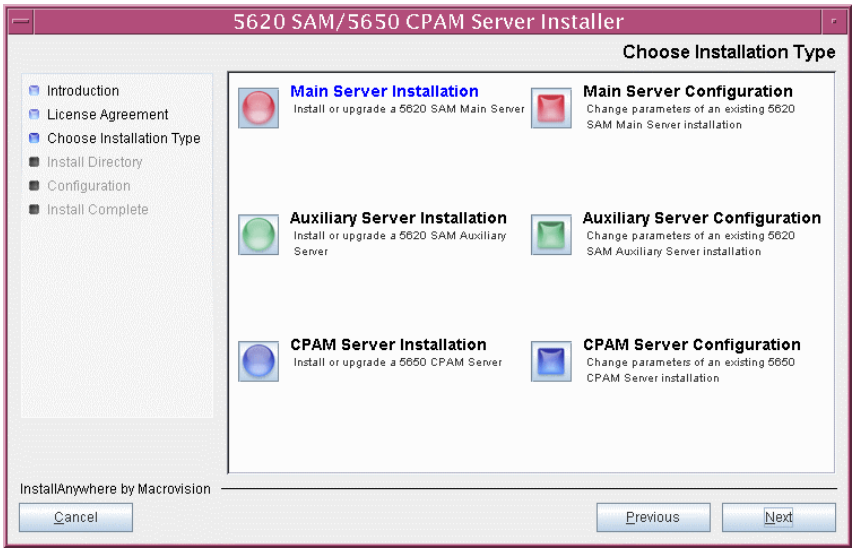
92 Review and accept the terms of the license agreement shown in Figure 5-51, then click on the Next button.

Figure 5-51 Software License Agreement



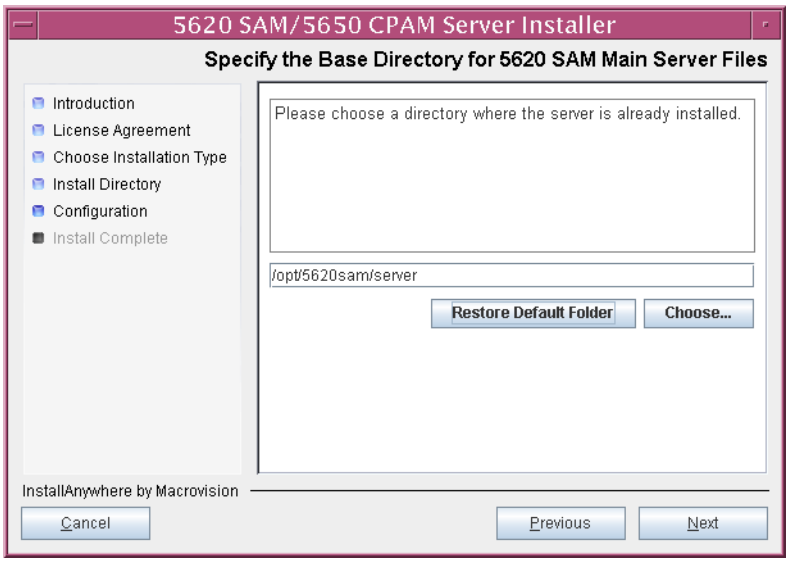
93 Select Main Server Configuration, as shown in Figure 5-52, then click on the Next button.

Figure 5-52 Choose Installation Type



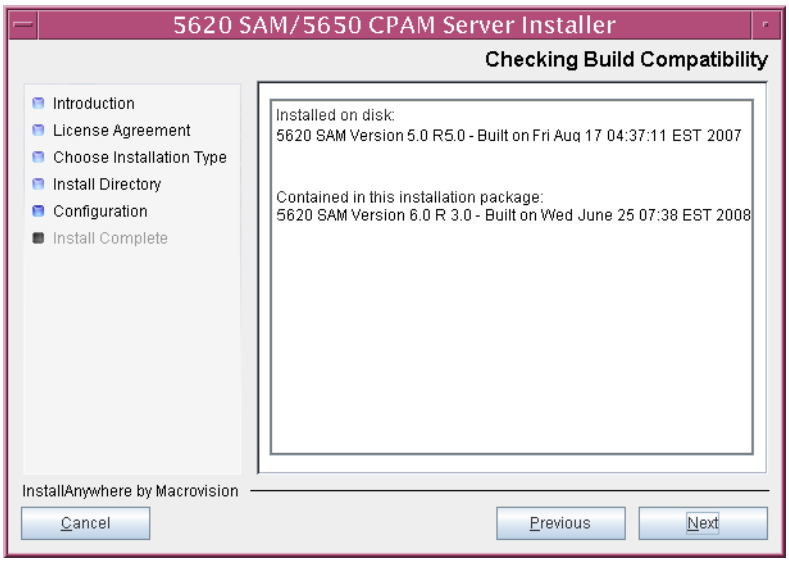
94 Specify the base directory in which the existing 5620 SAM main server software is installed (typically /opt/5620sam/server), as shown in Figure 5-53. Click on the Next button to continue.

Figure 5-53 Specify the Base Directory for 5620 SAM Main Server Files



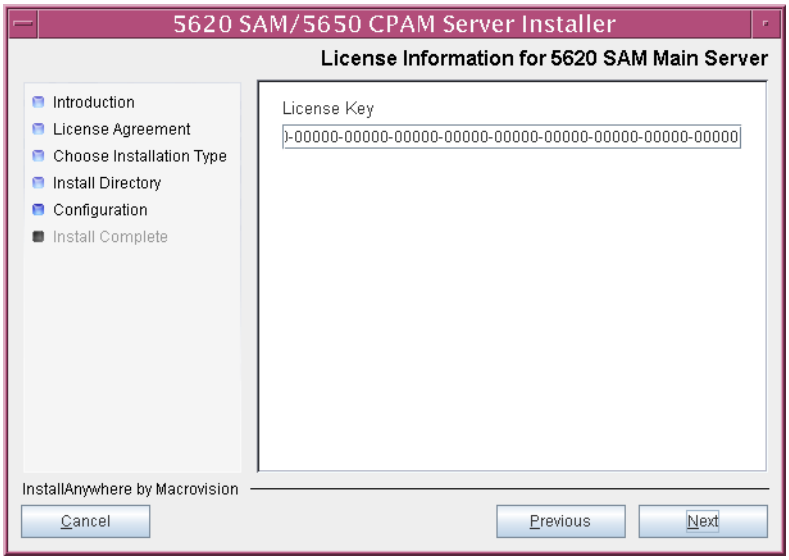
95 As shown in Figure 5-54, the installer displays the version of the 5620 SAM server software that is installed. Verify the information, then click on the Next button.

Figure 5-54 Checking Build Compatibility



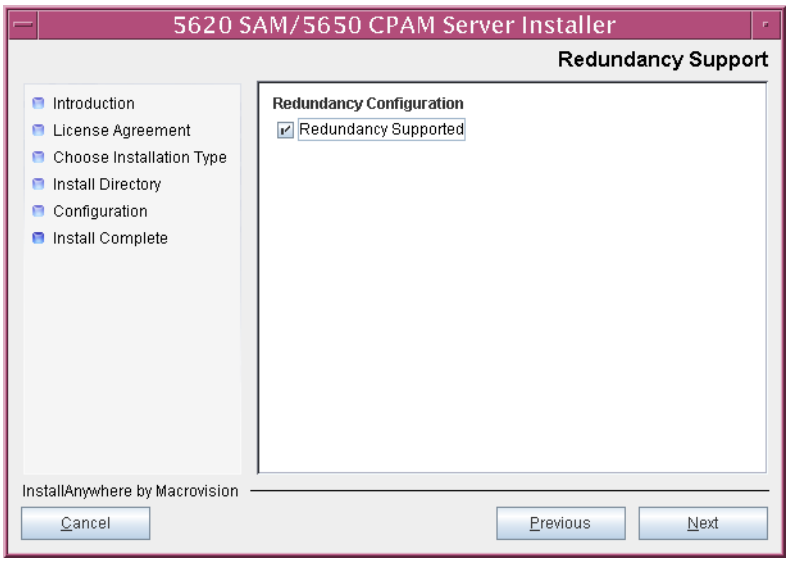
96 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 5-55. Click on the Next button to continue.

Figure 5-55 License information for 5620 SAM Main Server



97 Enable the “Redundancy Supported” parameter, as shown in Figure 5-56, then click on the Next button.

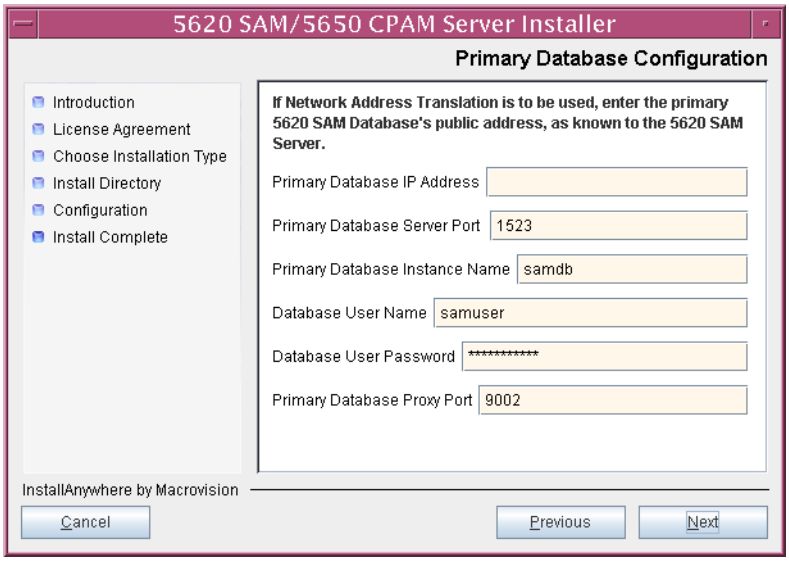
Figure 5-56 Redundancy Support



98 Configure the following parameters, shown in Figure 5-57, using the recorded values from the primary database installation. Click on the Next button to continue.

- Primary Database IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

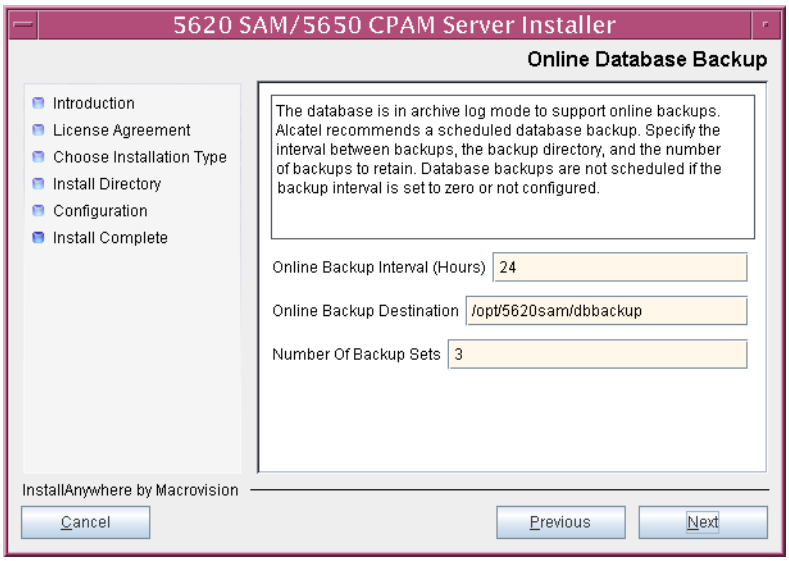
Figure 5-57 Primary Database Configuration



99 Depending on the existing configuration. the panel shown in Figure 5-58 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

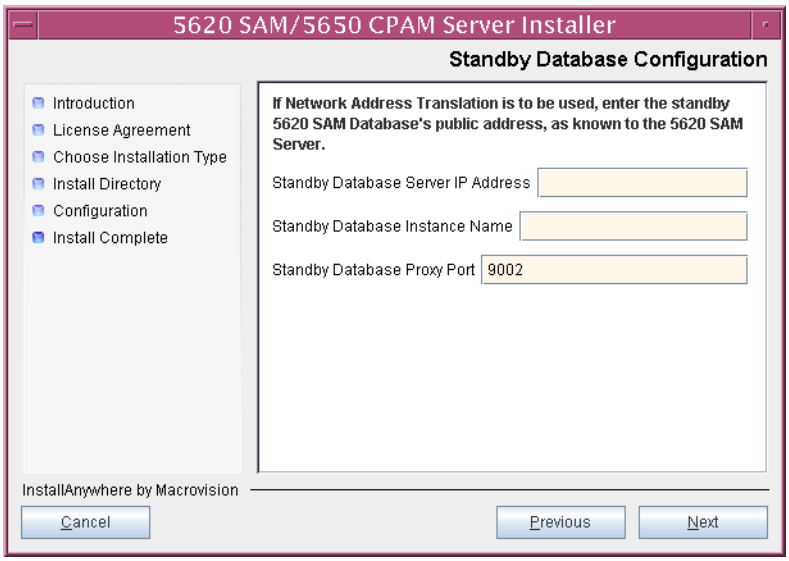
Figure 5-58 Online Database Backup



100 Configure the following parameters shown in Figure 5-59, then click on the Next button:

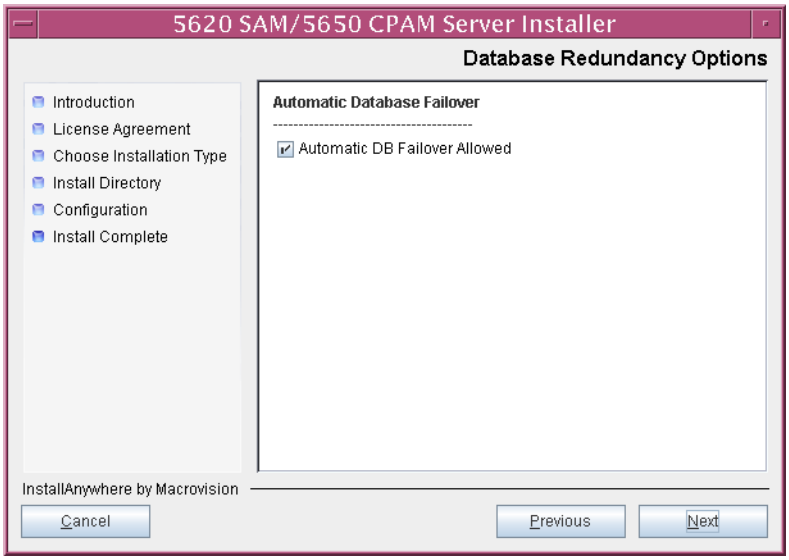
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 5-59 Standby Database Configuration



101 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 5-60, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 5-60 Database Redundancy Options

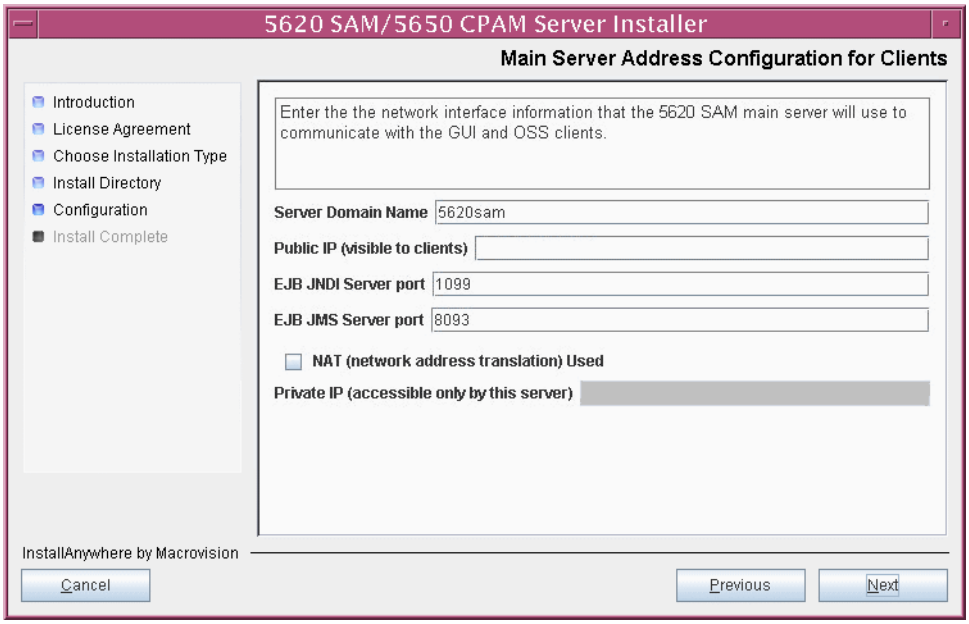


102 Configure the following parameters shown in Figure 5-61:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 5-61 Main Server Address Configuration for Clients

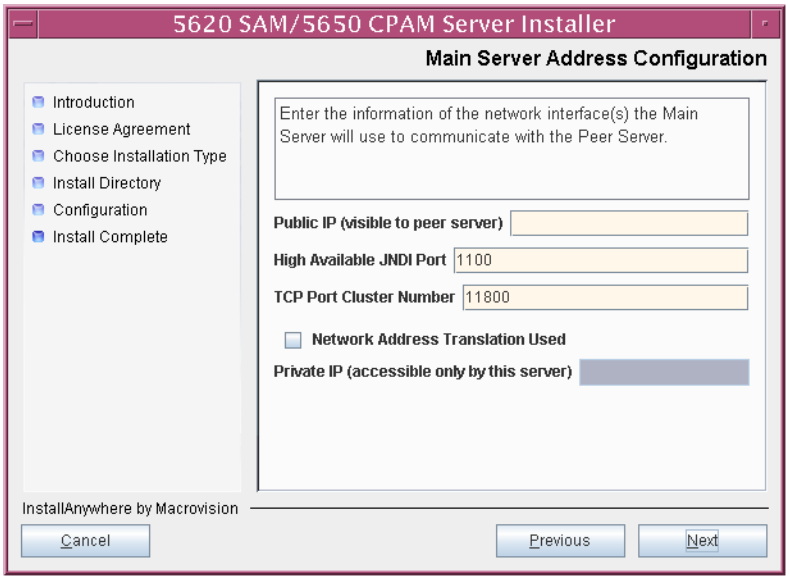


103 Configure the following parameters shown in Figure 5-62:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 5-62 Main Server Address Configuration



104 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

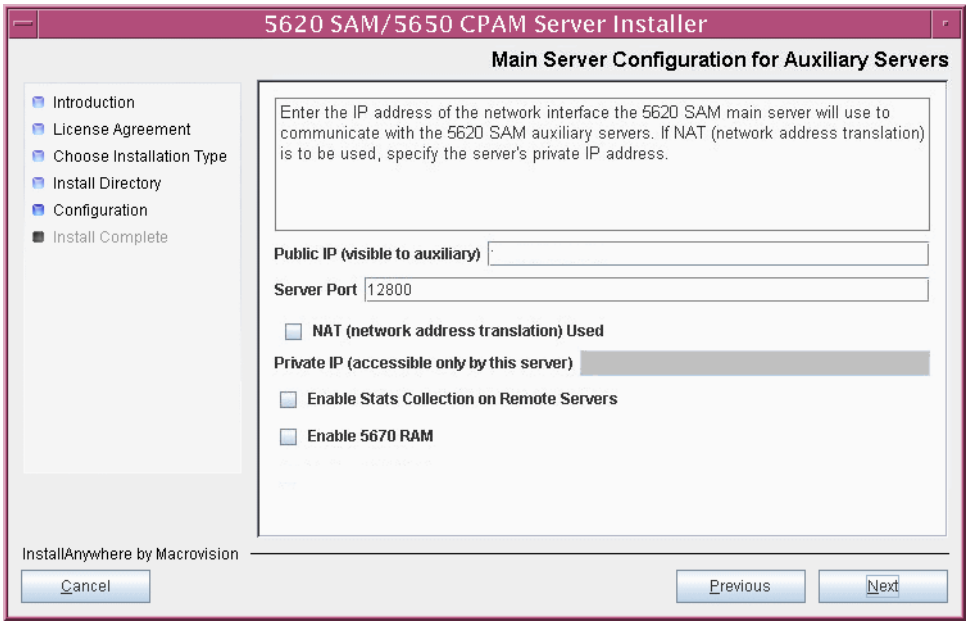
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 5-63:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the “Enable Stats Collection on Remote Servers” parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 5-63 Main Server Configuration for Auxiliary Servers



ii If NAT is to be used between this 5620 SAM server and the peer 5620 SAM server, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button.

iv Click on the Add button shown in Figure 5-64. The form shown in Figure 5-65 opens.

Figure 5-64 Auxiliary Servers

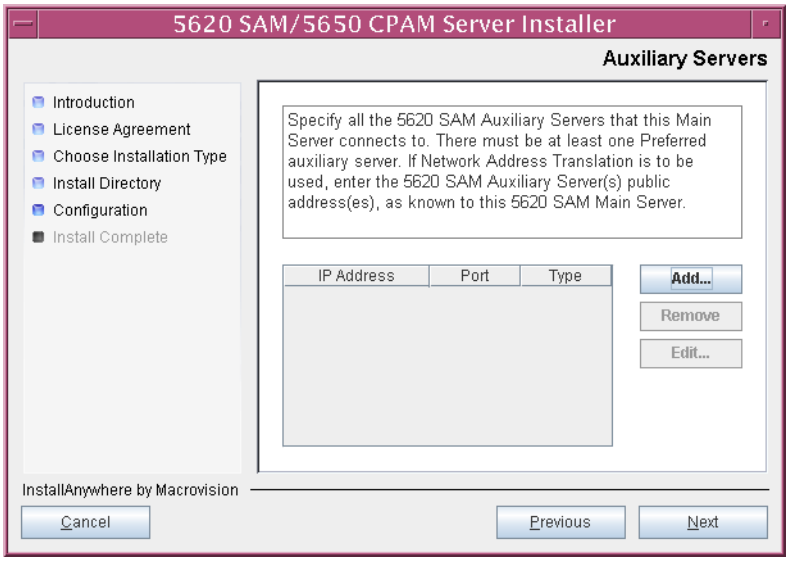
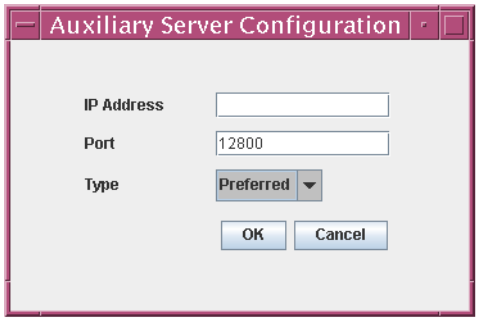


Figure 5-65 Auxiliary Server Configuration



v Configure the following parameters shown in Figure 5-65:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 104 a iv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

105 Click on the Next button to continue.

106 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 5-66.

ii If you want to accept the default user documentation location that is displayed, go to step 107.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

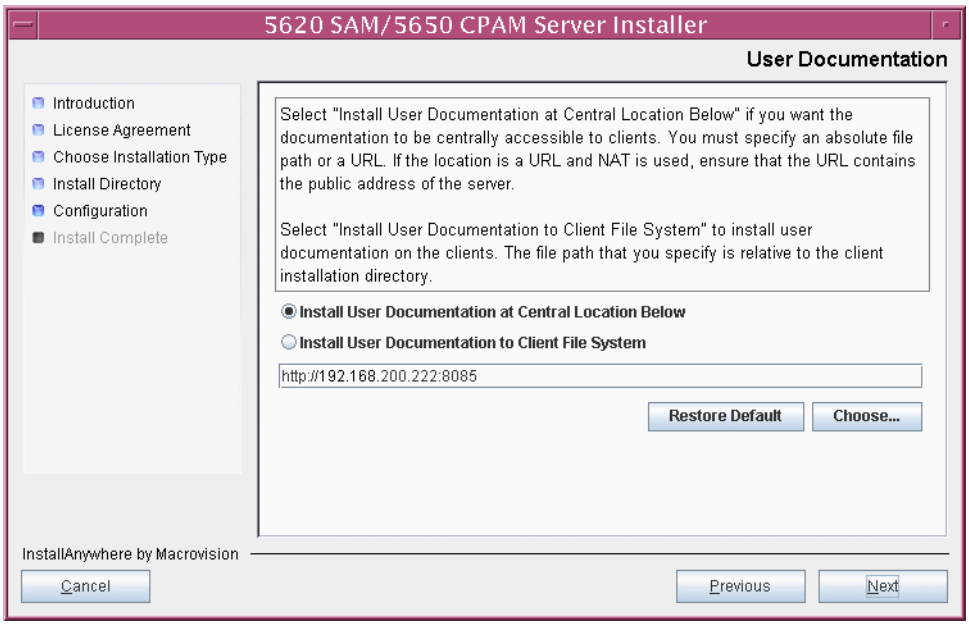
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 5-66.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

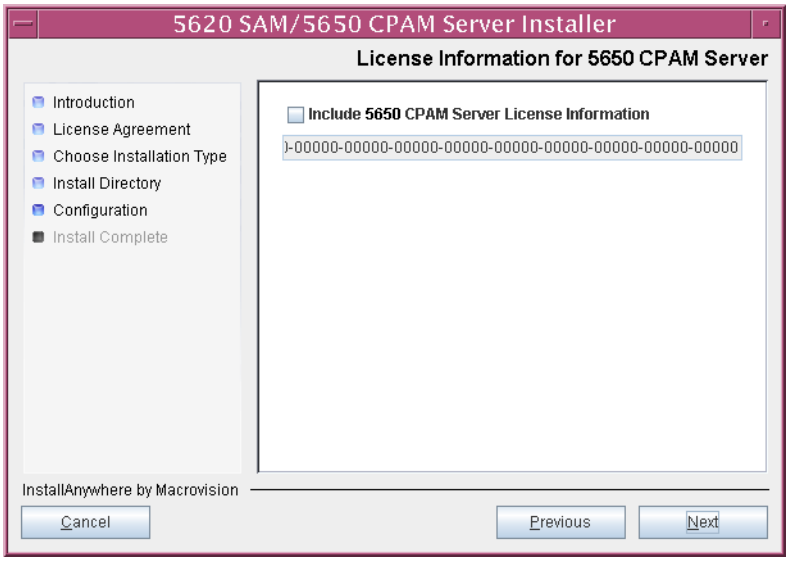
Figure 5-66 User Documentation



107 Click on the Next button to continue.

108 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 5-67. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

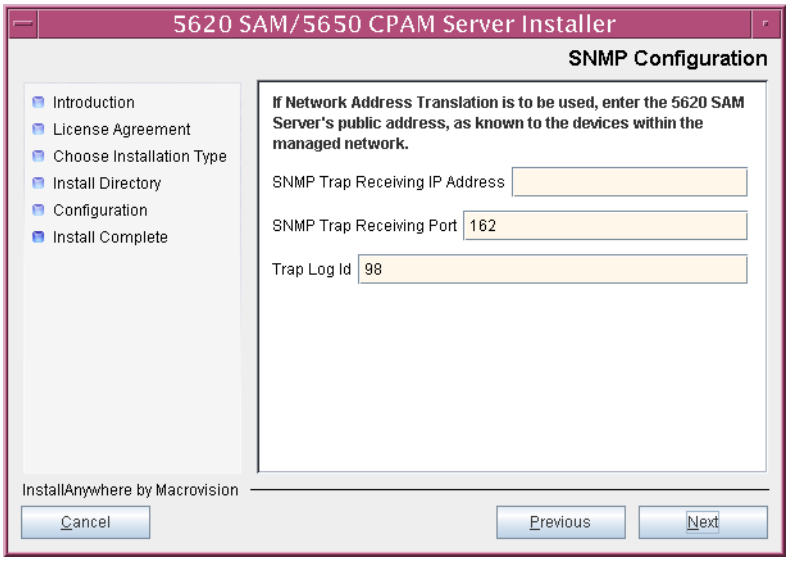
Figure 5-67 License Information for 5650 CPAM Server



109 Configure the following parameters shown in Figure 5-68, then click on the Next button:

- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

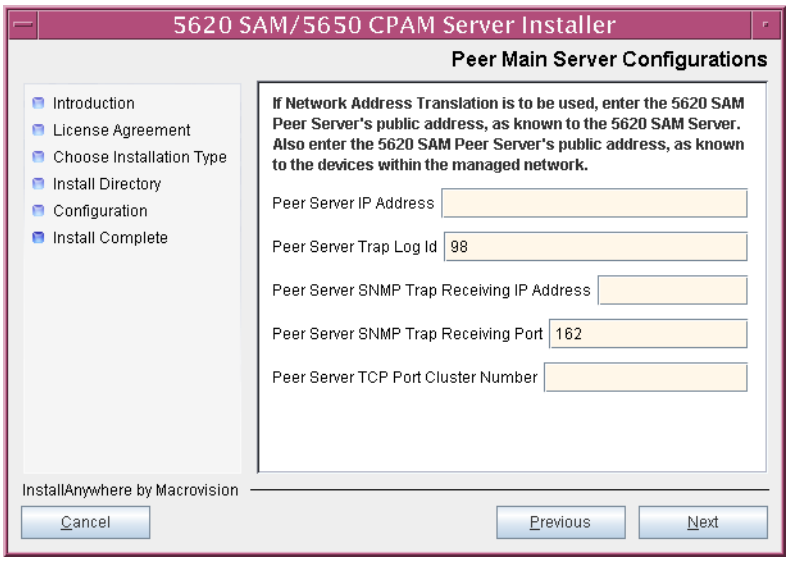
Figure 5-68 SNMP Configuration



110 Configure the following parameters shown in Figure 5-69, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

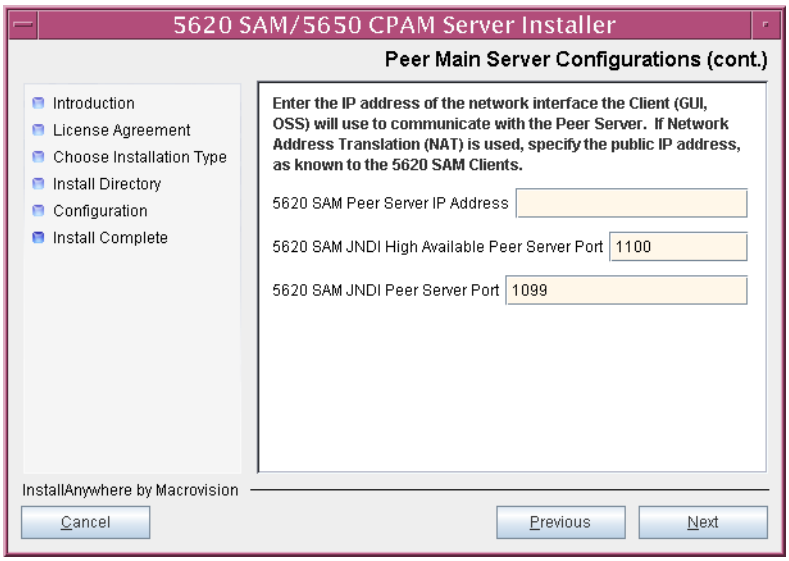
Figure 5-69 Peer Main Server Configurations



111 Configure the following parameters shown in Figure 5-70, then click on the Next button:

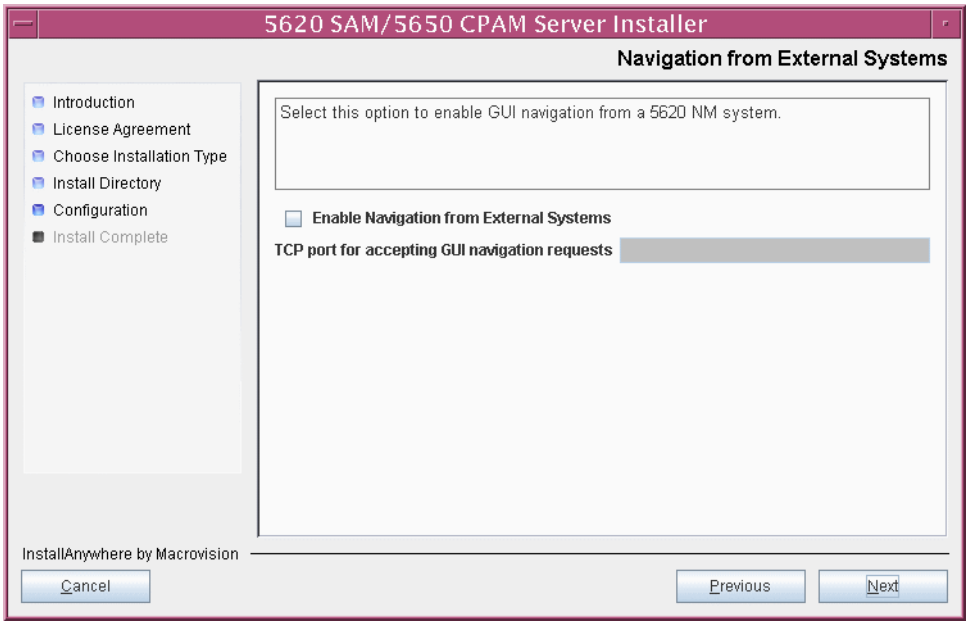
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 5-70 Peer Main Server Configurations (continued)



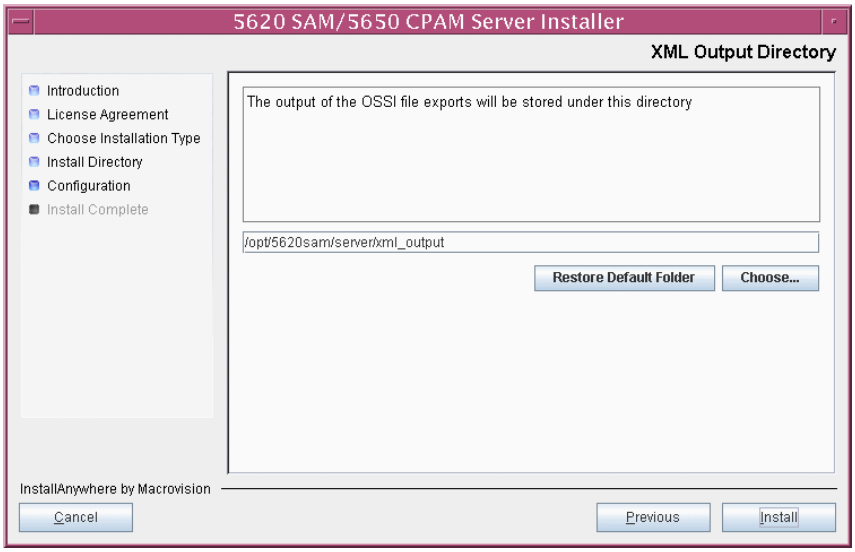
112 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 5-71 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 5-71 Navigation from External Systems



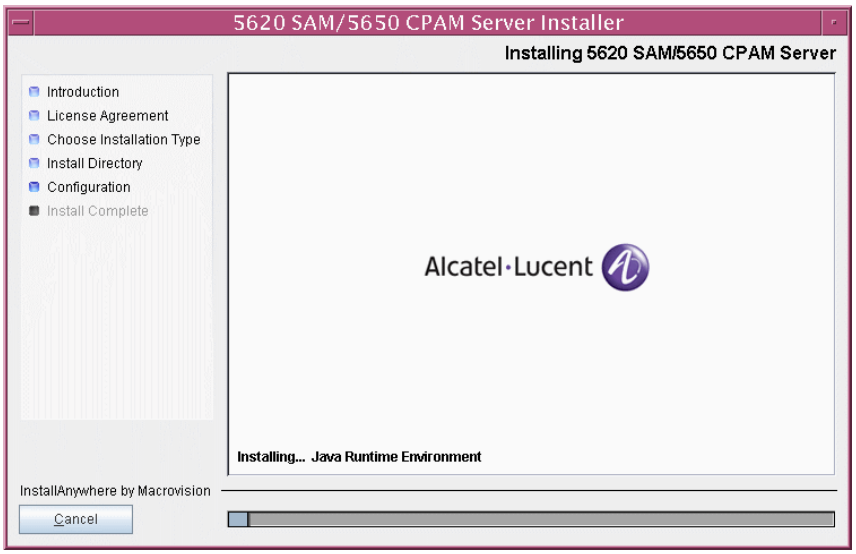
113 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 5-72. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 5-72 XML Output Directory



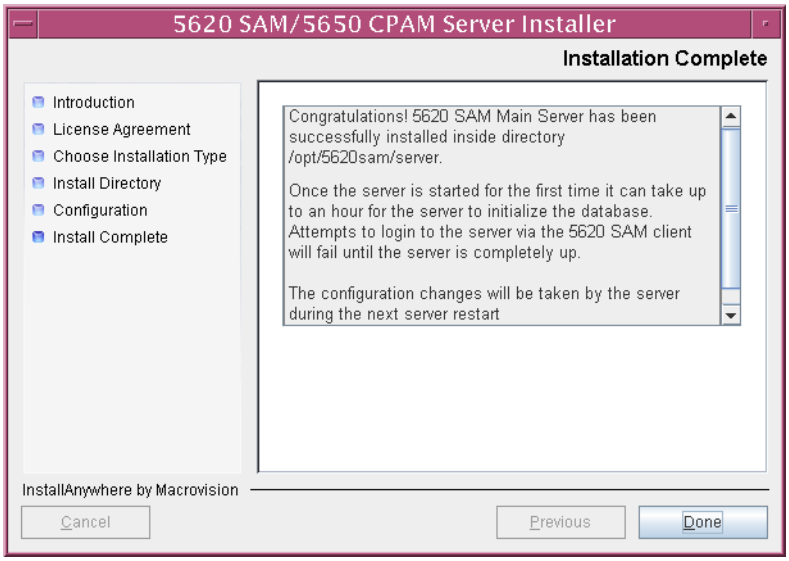
The next panel displays server installation progress, as shown in Figure 5-73.

Figure 5-73 Installing 5620 SAM/5650 CPAM Server



114 When the server installation is complete, as shown in Figure 5-74, click on the Done button to close the installer.

Figure 5-74 Installation Complete



Start primary server

115 Start the primary 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# nmsserver.bash start ↵
```

The primary 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

116 Verify that the primary 5620 SAM server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 115 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 115 i. Do not proceed unless the console displays the above text.

Start new client and perform sanity testing

117 When the new primary server is operational, start the 5620 SAM client that you upgraded or installed in step 8.

i Log in to the station as the user that upgraded or installed the client software.

ii Open a console window.

iii Enter the following at the CLI prompt:

```
# path/nms/bin/nmsclient.bash ↵
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

See the *5620 SAM User Guide* for information about client operation.

118 Perform sanity testing of the new primary 5620 SAM server and database pair as required.

The next section of the procedure describes the reinstantiation of the database on the standby database station.

Reinstantiate database on standby database station

119 Log in to a 5620 SAM client as the admin user.

120 Choose Administration→System Information from the 5620 SAM main menu. The System Information form opens with the General tab displayed.

121 Click on the Re-Instantiate Standby button. A dialog box appears.

122 Click on the Yes button. The database reinstantiation begins.

You can view the reinstantiation status on the client GUI status bar or on the System Information form. The Standby Re-instantiation State changes from In Progress to Success when reinstantiation is complete. The start time of the reinstantiation is shown by the Last Attempted Standby Re-instantiation Time indicator.

123 When the reinstantiation is complete, close the System Information form.

The next section of the procedure describes the installation of the standby 5620 SAM server. You can install the standby server on the same station that contains the standby database, or on a different station. Server installation requires root-equivalent privileges.

Install standby server

124 Log in as a user with root-equivalent privileges on the station that is to be the standby server station.

125 Open a console window.

126 Navigate to the Solaris directory on the new 5620 SAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

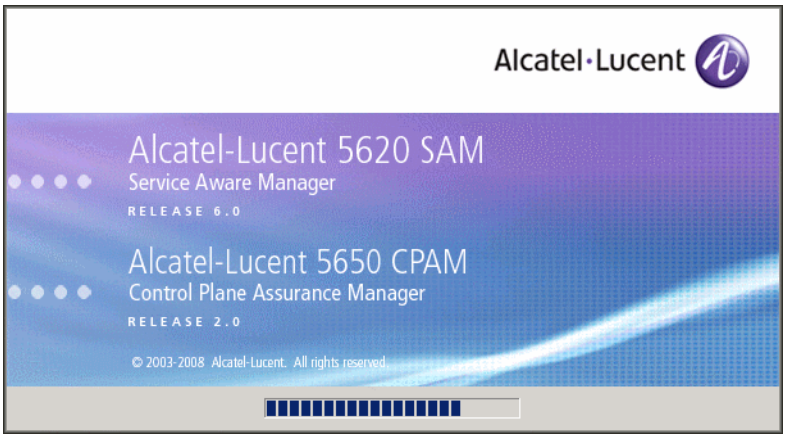
127 Enter the following at the CLI prompt to open the 5620 SAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

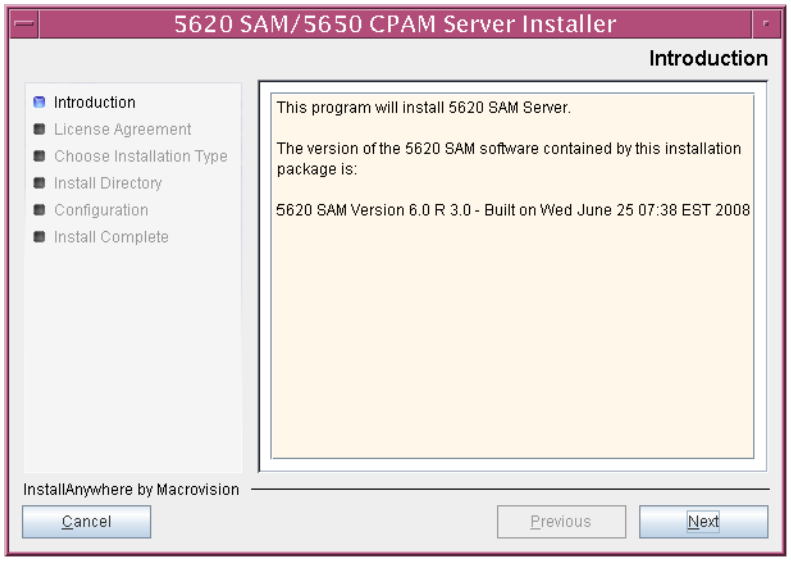
The splash screen in Figure 5-75 appears and the installation process begins.

Figure 5-75 5620 SAM Installer



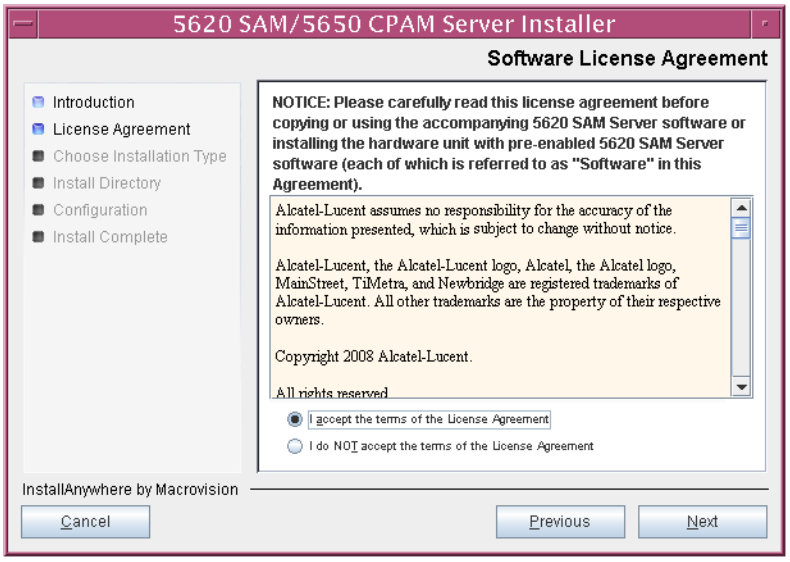
128 The 5620 SAM installer opens, as shown in Figure 5-76. The left pane indicates the installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 5-76 Introduction



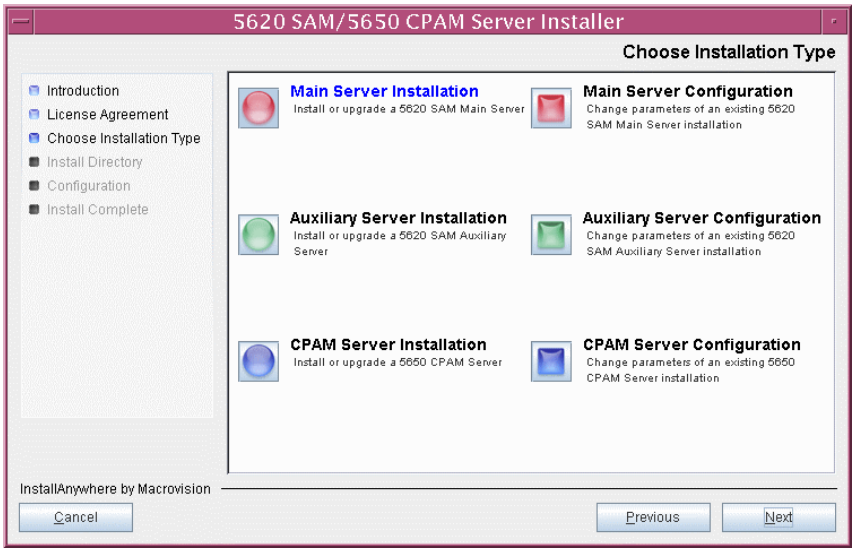
129 Review and accept the terms of the license agreement shown in Figure 5-77, then click on the Next button.

Figure 5-77 Software License Agreement



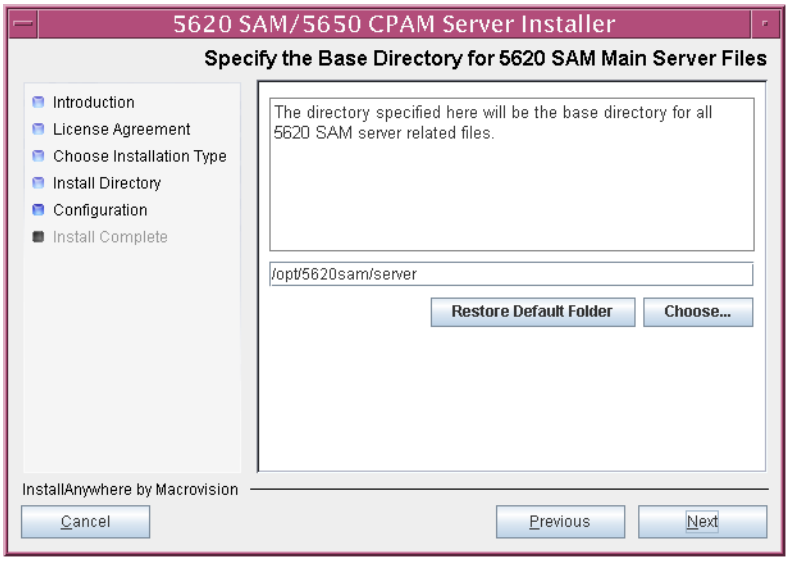
130 Select Main Server Installation, as shown in Figure 5-78, then click on the Next button.

Figure 5-78 Choose Installation Type



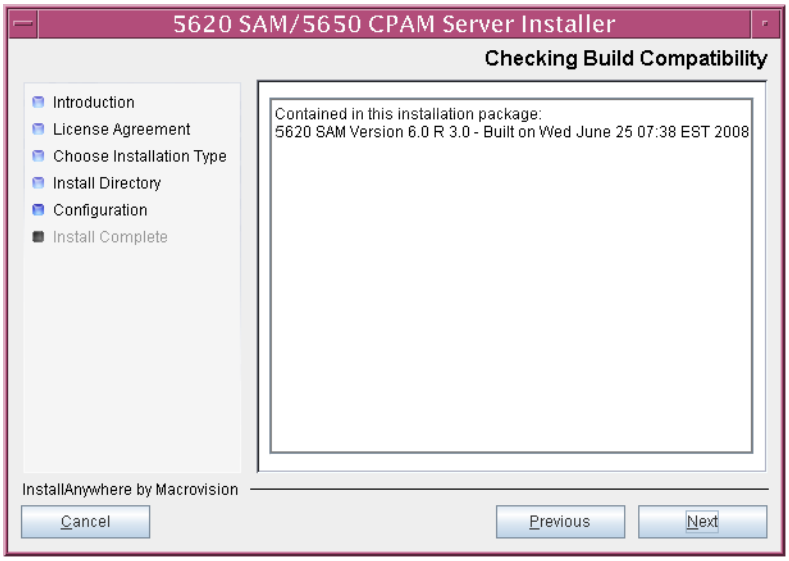
131 Specify a base directory in which to install the standby 5620 SAM main server software (typically /opt/5620sam/server), as shown in Figure 5-79. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 5-79 Specify the Base Directory for 5620 SAM Main Server Files



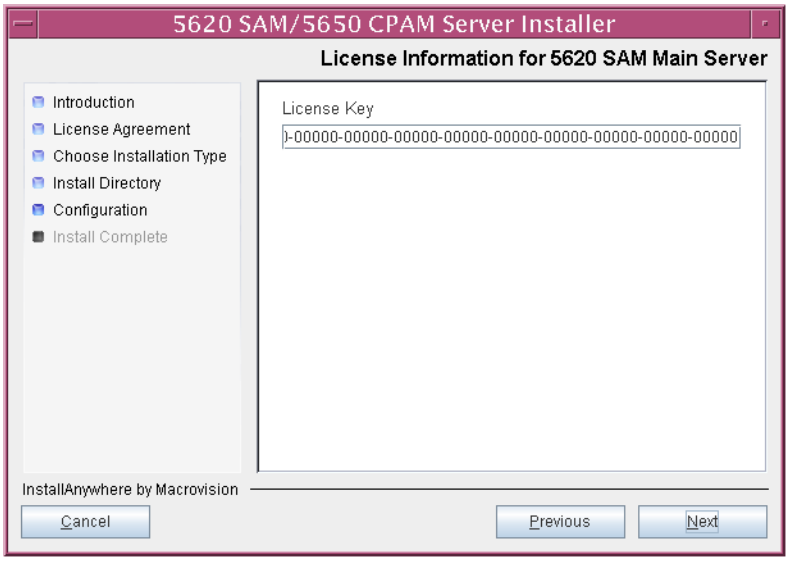
132 As shown in Figure 5-80, the installer displays the version of the 5620 SAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 5-80 Checking Build Compatibility



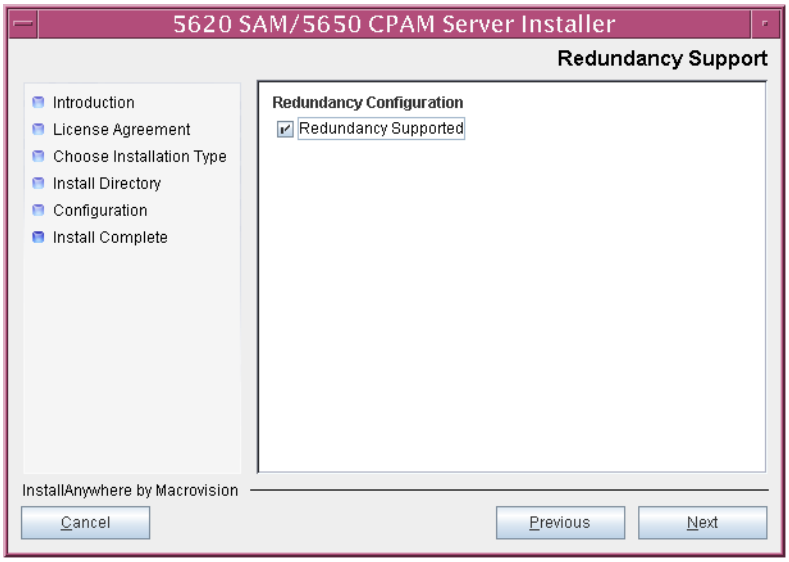
133 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 5-81. Click on the Next button to continue.

Figure 5-81 License Information for 5620 SAM Main Server



134 Enable the “Redundancy Supported” parameter, as shown in Figure 5-82, then click on the Next button.

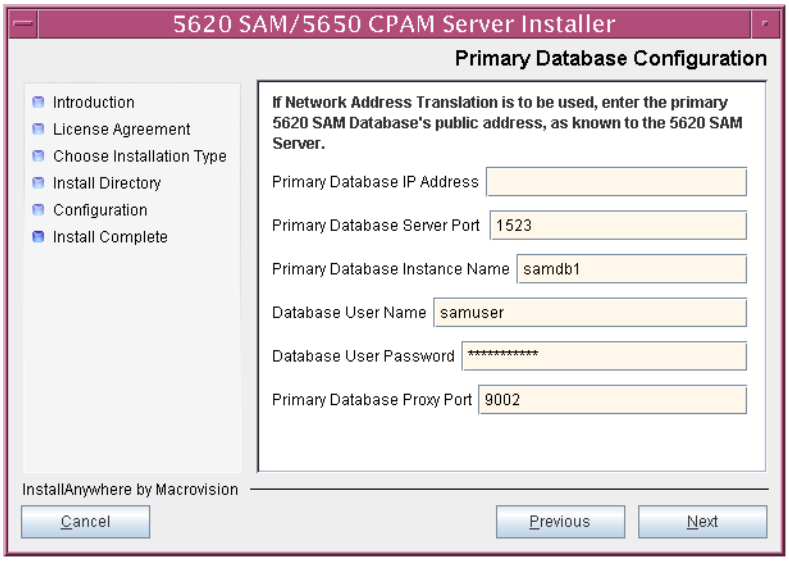
Figure 5-82 Redundancy Support



135 Configure the following parameters, shown in Figure 5-83, using the recorded values from the primary database installation. Click on the Next button to continue.

- Primary Database IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

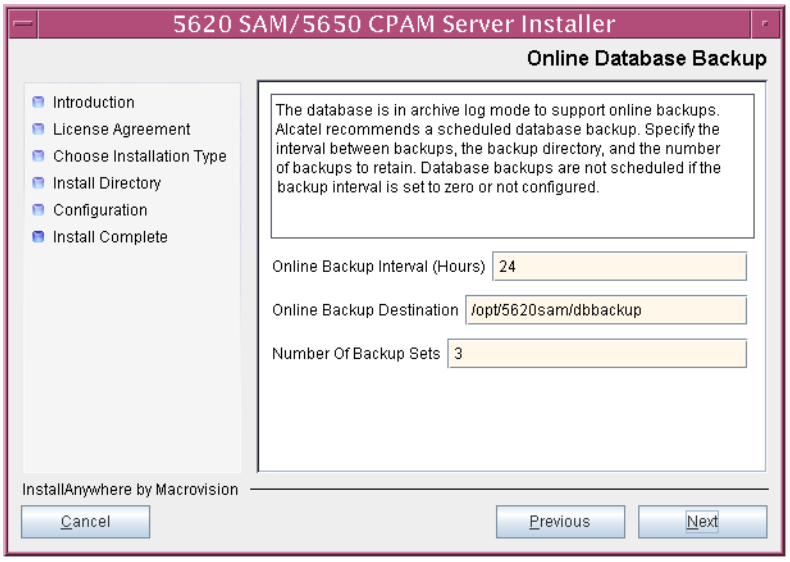
Figure 5-83 Primary Database Configuration



136 Depending on the existing configuration. the panel shown in Figure 5-84 appears. Configure the following parameters, if required, then click on the Next button:

- Online Database Backup Interval (hours) (typically 24)
- Online Backup Destination (typically /opt/5620sam/dbbackup)
- Number of Backup Sets (typically 3)

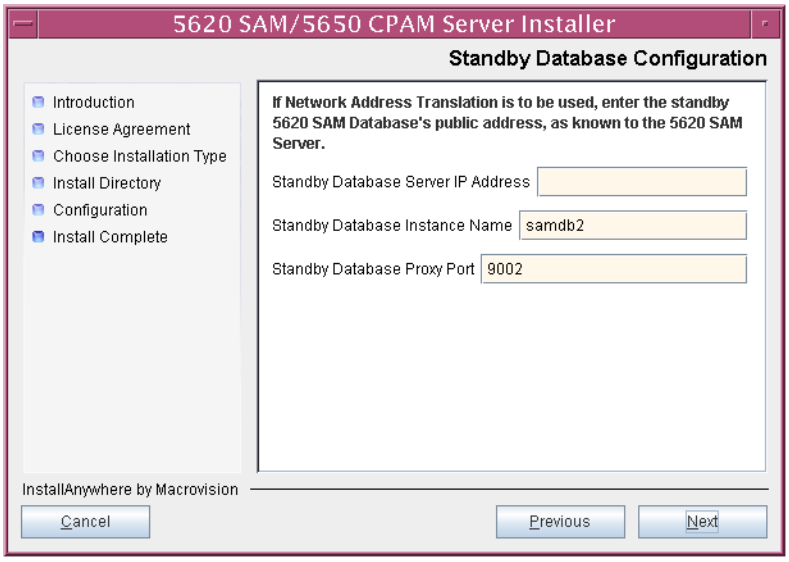
Figure 5-84 Online Database Backup



137 Configure the following parameters shown in Figure 5-85, then click on the Next button:

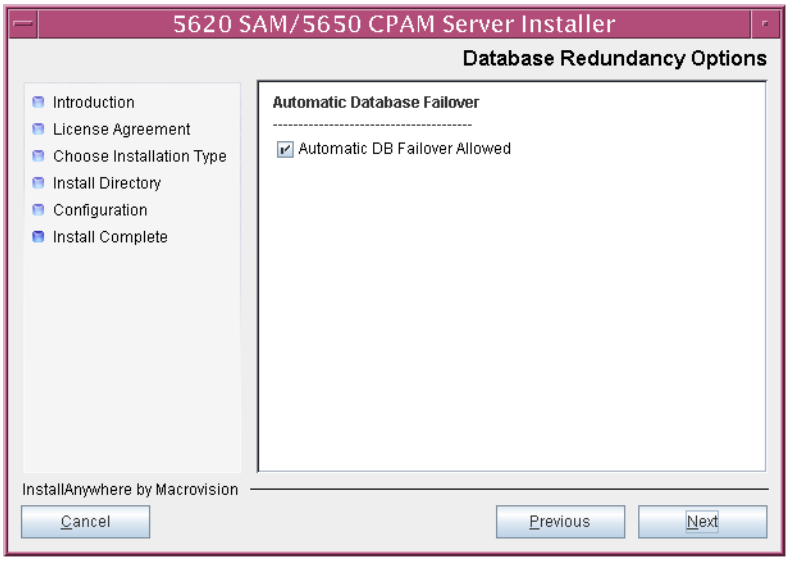
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 5-85 Standby Database Configuration



138 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 5-86, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 5-86 Database Redundancy Options

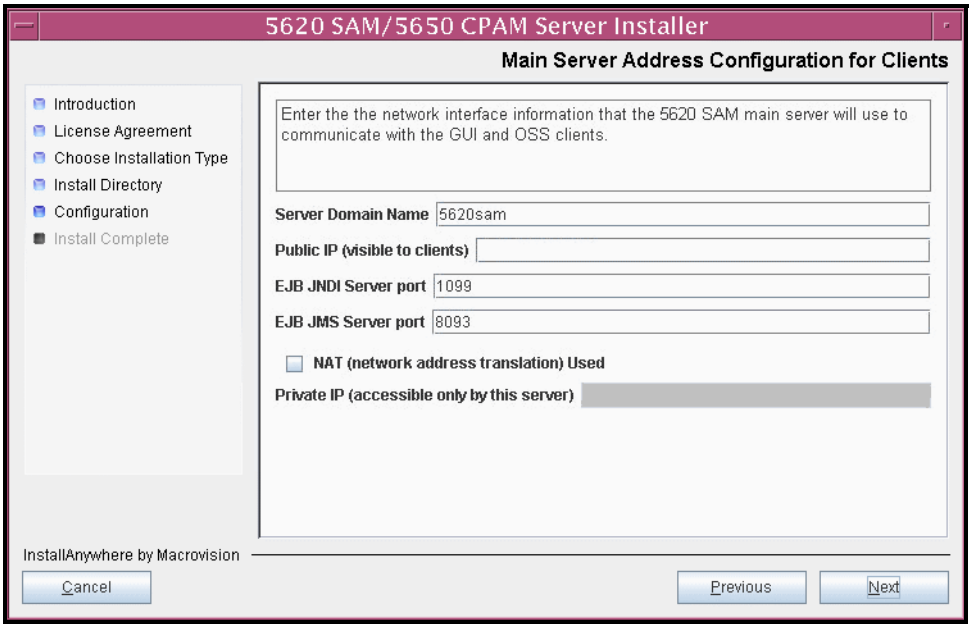


139 Configure the parameters shown in Figure 5-87:

- SAM Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 5-87 Main Server Address Configuration for Clients

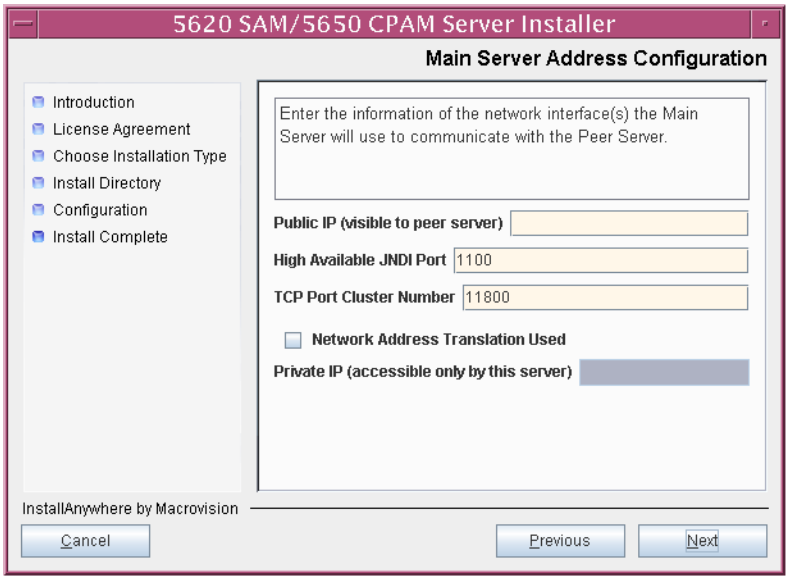


140 Configure the parameters shown in Figure 5-88:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is to be used between this 5620 SAM server and the peer 5620 SAM server, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 5-88 Main Server Address Configuration



141 Configure auxiliary servers, if required.

a Specify the auxiliary servers, if auxiliary servers are to be included in the 5620 SAM configuration.

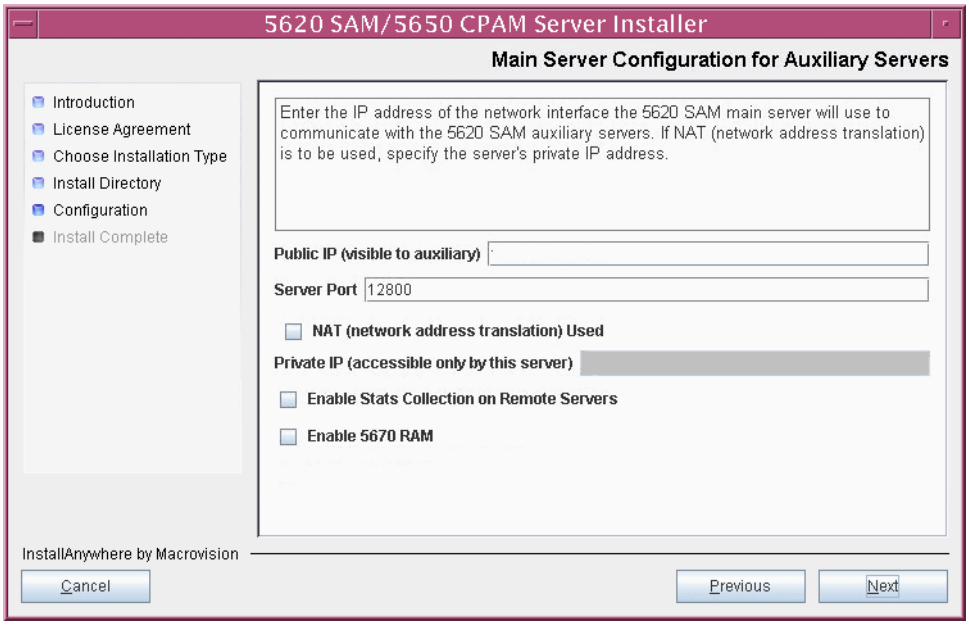
Note — The 5620 SAM supports a maximum of one preferred and one reserved auxiliary server per 5620 SAM cluster.

i Configure the following parameters shown in Figure 5-89:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable Stats Collection on Remote Servers
- Enable 5670 RAM

Note — You must select the “Enable Stats Collection on Remote Servers” parameter if you want to add an auxiliary server to the 5620 SAM cluster.

Figure 5-89 Main Server Configuration for Auxiliary Servers



ii If NAT is to be used between this 5620 SAM server and the peer 5620 SAM server, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the "Private IP" field.

iii Click on the Next button.

iv Click on the Add button shown in Figure 5-90 to specify an auxiliary server. The form shown in Figure 5-91 opens.

Figure 5-90 Auxiliary Servers

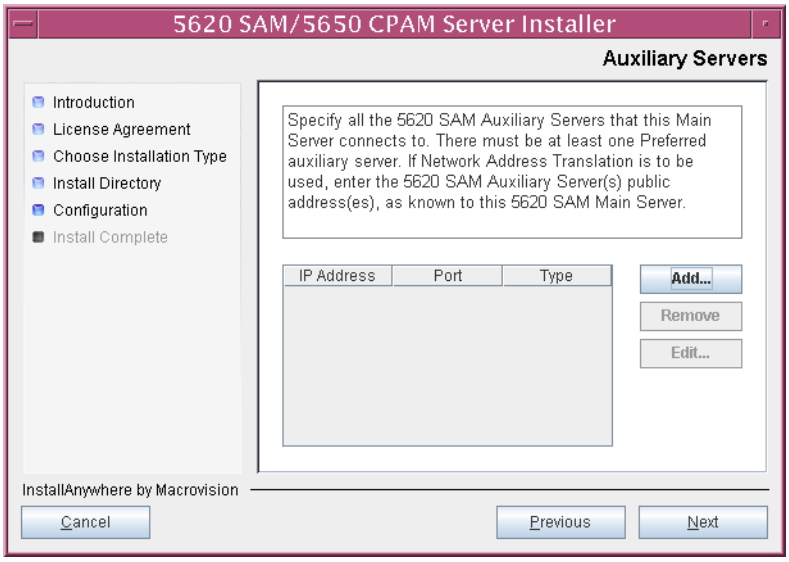
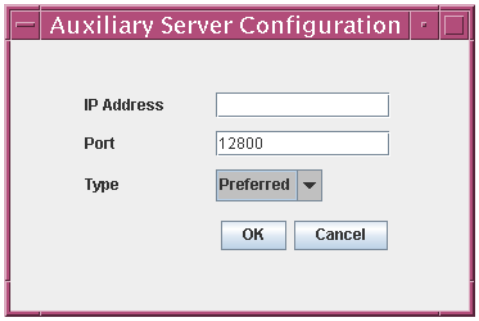


Figure 5-91 Auxiliary Server Configuration



v Configure the following parameters shown in Figure 5-91:

- IP Address
- Port (typically 12800)
- Type (Preferred or Reserved)

vi Click on the OK button to save the information and close the form.

vii Repeat steps 141 aiv to vi to specify an additional auxiliary server, if required.

b Do not specify auxiliary servers, if none are to be included in the 5620 SAM configuration. Ensure that the “Enable Stats Collection on Remote Servers” parameter is not selected.

142 Click on the Next button to continue.

143 Perform one of the following to specify where the 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the “Install User Documentation at Central Location Below” parameter, as shown in Figure 5-92.

ii If you want to accept the default user documentation location that is displayed, go to step 144.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the 5620 SAM user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

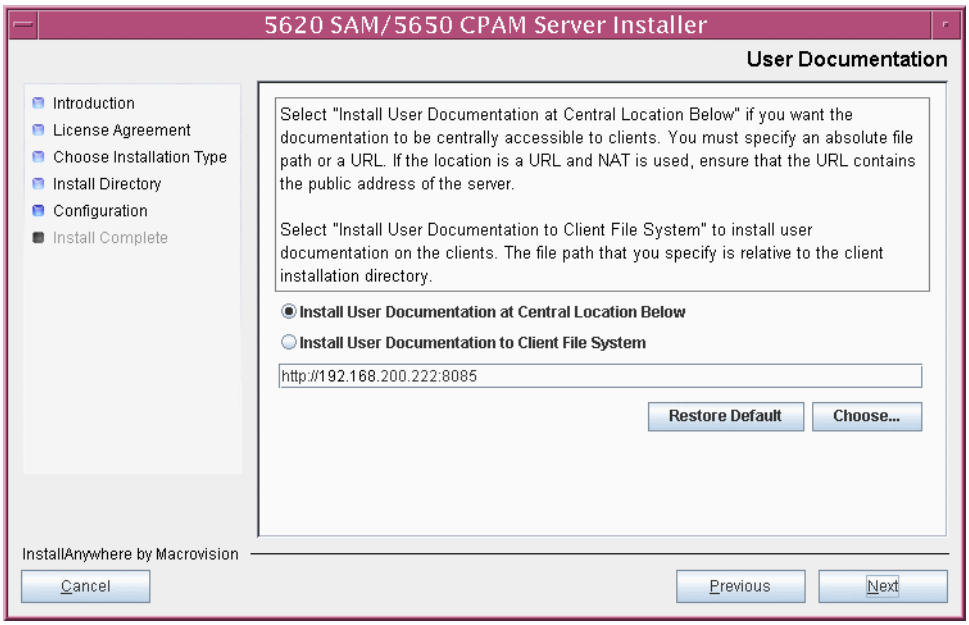
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 5-92.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

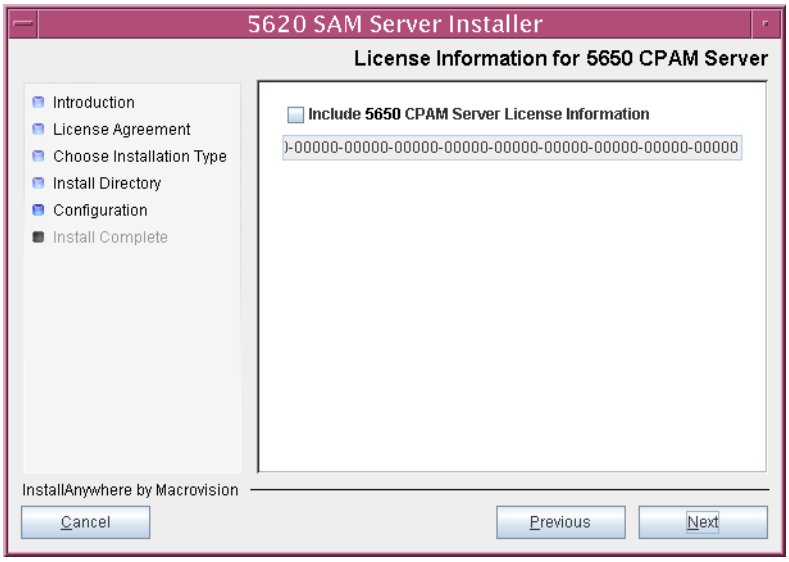
Figure 5-92 User Documentation



144 Click on the Next button to continue.

145 Specify whether the 5620 SAM configuration includes a 5650 CPAM server, as shown in Figure 5-93. If so, enter the 5650 CPAM license key information exactly as received from Alcatel-Lucent. Include the dashes in the key. Click on the Next button to continue.

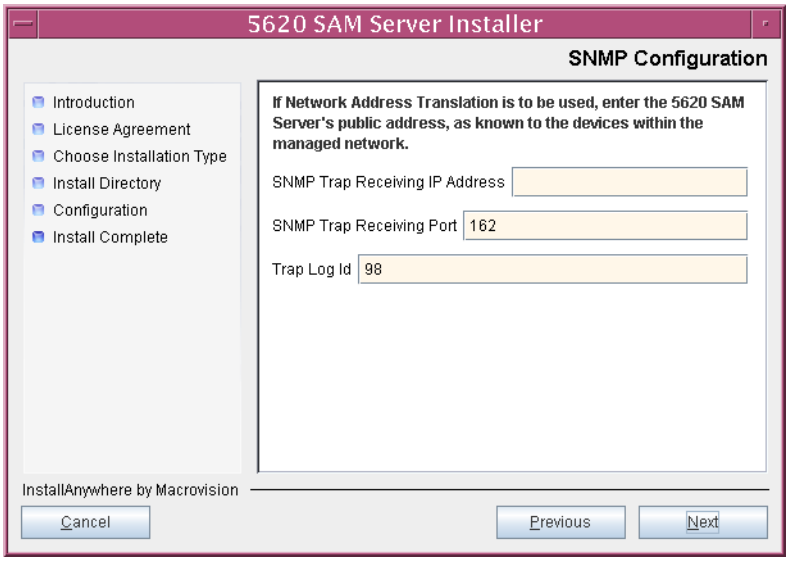
Figure 5-93 License Information for 5650 CPAM Server



146 Configure the following parameters shown in Figure 5-94, then click on the Next button:

- SNMP Trap Receiving IP Address (typically the 5620 SAM server IP address)
- SNMP Trap Receiving Port (typically 162)
- Trap Log Id (typically 98)

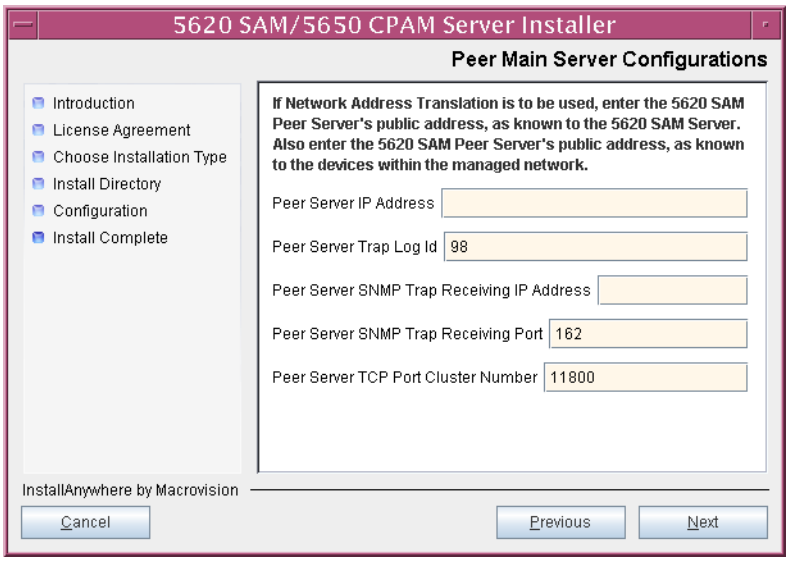
Figure 5-94 SNMP Configuration



147 Configure the following parameters shown in Figure 5-95, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Trap Receiving Port (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

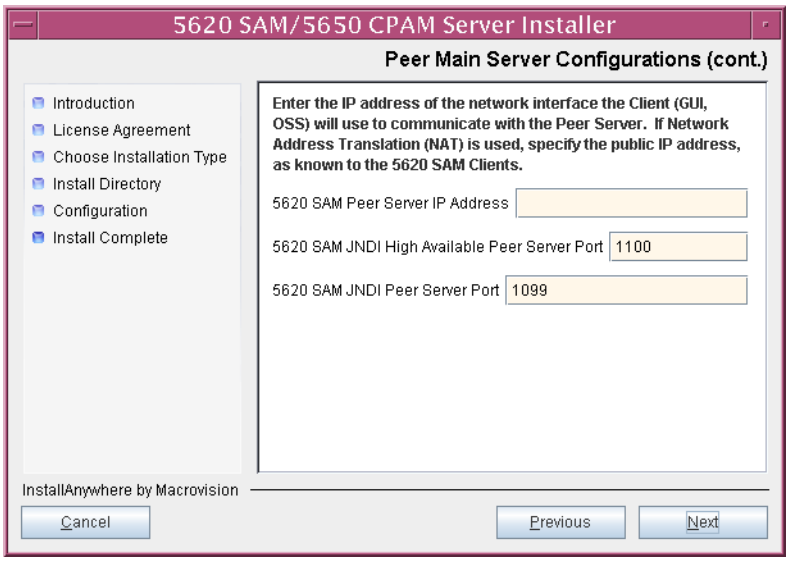
Figure 5-95 Peer Main Server Configurations



148 Configure the following parameters shown in Figure 5-96, then click on the Next button:

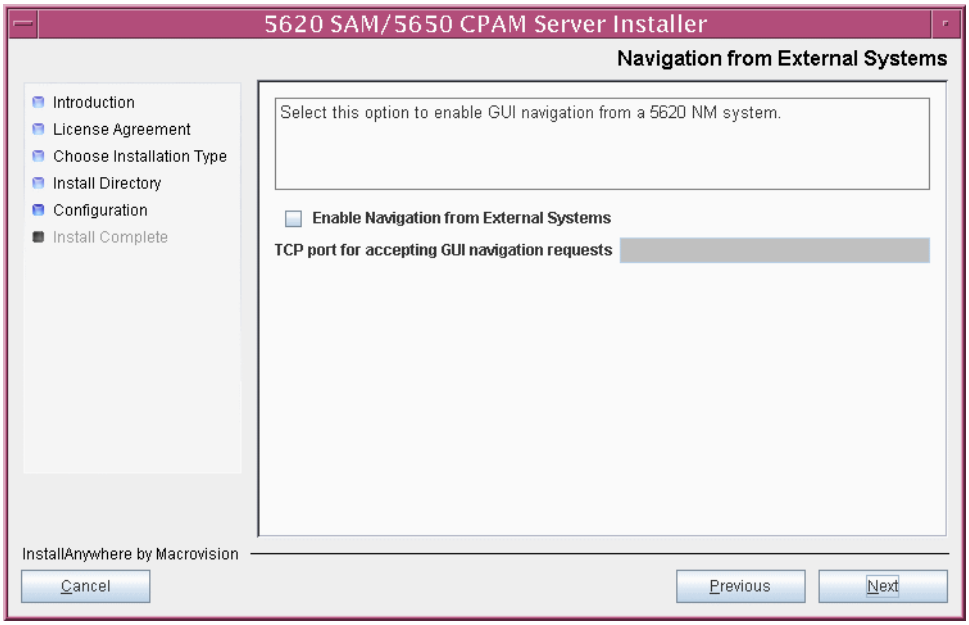
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 5-96 Peer Main Server Configurations (continued)



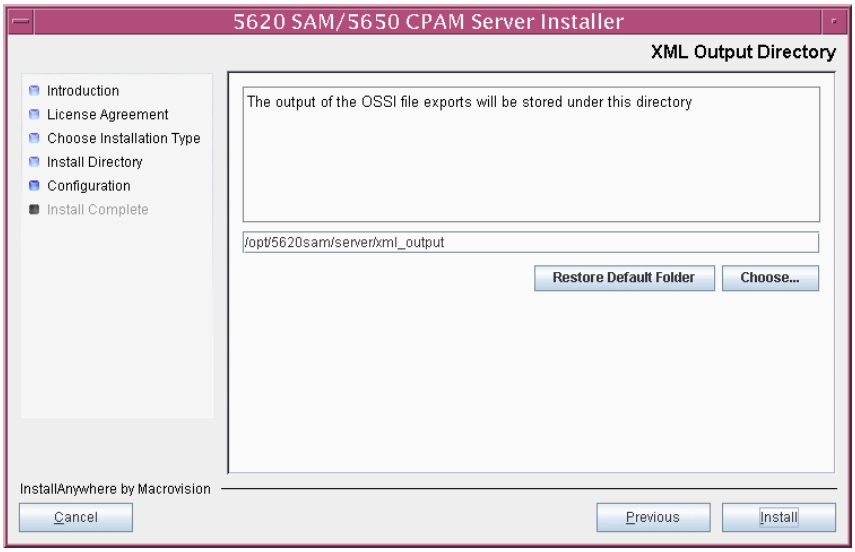
149 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 5-97 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 5-97 Navigation from External Systems



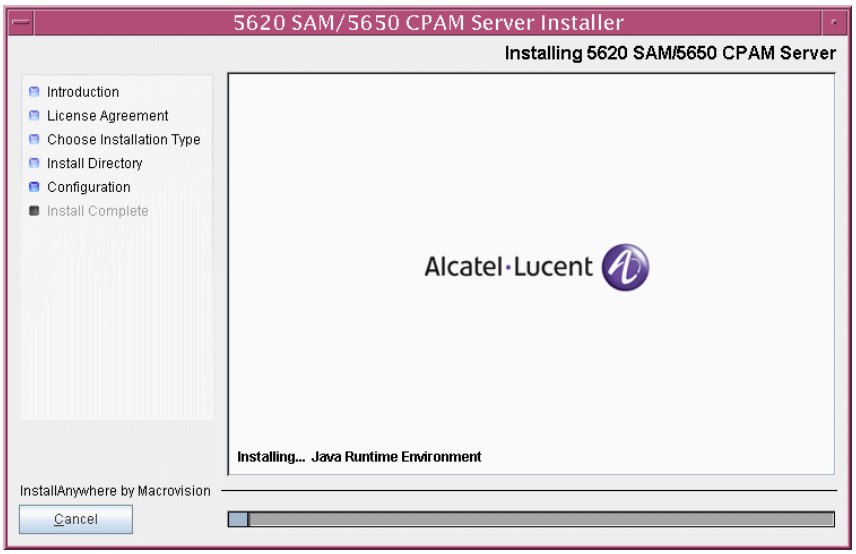
150 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 5-98. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 5-98 XML Output Directory



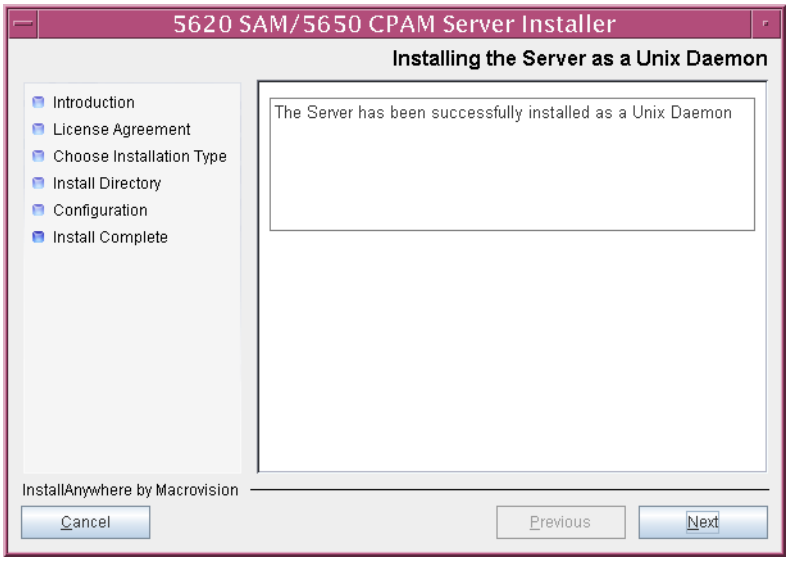
The next panel displays server installation progress, as shown in Figure 5-99.

Figure 5-99 Installing 5620 SAM/5650 CPAM Server



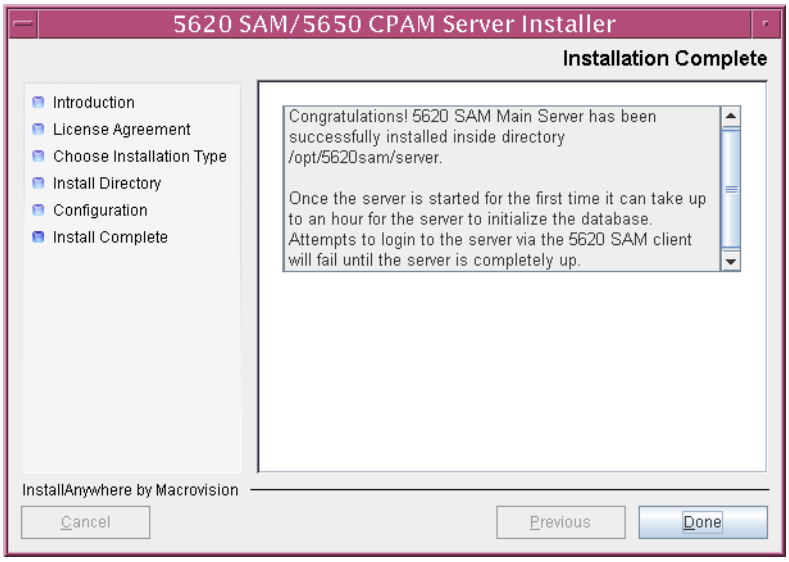
151 As shown in Figure 5-100, the 5620 SAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 5-100 Installing the Server as a Unix Daemon



152 When the server installation is complete, as shown in Figure 5-101, click on the Done button to close the installer.

Figure 5-101 Installation Complete



Start standby server

153 Start the standby 5620 SAM server.

i Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

ii Enter the following at the CLI prompt:

```
# nmsserver.bash start ↵
```

The 5620 SAM server starts. Initial server startup may take twenty minutes or more to complete.

154 Verify that the standby 5620 SAM server is operational.

i Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

ii The 5620 SAM server application is operational when the command in step 154 i returns the following text string:

```
Application Server is started
```

If the command returns anything other than the above text string, wait five minutes and repeat step 154 i.

Upgrade or install additional clients

155 Upgrade an existing 5620 SAM client, or install a new 5620 SAM client, as required. Perform one of the following actions.

- **a** Perform Procedure 2-3 to install a 5620 SAM client on a Windows station.
- **b** Perform Procedure 2-7 to upgrade a 5620 SAM client on a Windows station.
- **c** Perform Procedure 3-2 to install a 5620 SAM client on a Solaris or Linux station.
- **d** Perform Procedure 4-3 or 4-4 to upgrade a 5620 SAM client on a Solaris or Linux station.

6 — 5620 SAM system platform migration

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6.2 5620 SAM system platform migration procedures list 6-2

6.3 5620 SAM system platform migration workflow 6-3

6.4 5620 SAM system platform migration preparation 6-3

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6.6 Redundant 5620 SAM system platform migration 6-10

6.1 5620 SAM system platform migration overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document.

Caution — Alcatel-Lucent supports 5620 SAM system migration and software configuration only under the conditions described in chapter 1.

The 5620 SAM, Release 5.0 or later, supports the transfer, or migration, of a 5620 SAM system between platforms that have different processing architectures. The migration paths that the 5620 SAM supports are the following:

- Sun SPARC-based Solaris to Sun x86-based Solaris
- Sun x86-based Solaris to Sun SPARC-based Solaris

Note 1 — The new physical stations to which the 5620 SAM system migrates must have the same processing architecture and their operating systems must be of the same version and at the same patch level.

Note 2 — You cannot upgrade the 5620 SAM software as part of a 5620 SAM system migration. If you want to upgrade your 5620 SAM system and move it to a different platform, you must perform the upgrade first, then perform the migration.

6.2 5620 SAM system platform migration procedures list

Table 6-1 lists the procedures required to perform 5620 SAM system platform migration activities.

Table 6-1 5620 SAM system platform migration procedures list

Procedure	Purpose
To perform the pre-migration tasks	Prepare a standalone or redundant 5620 SAM system on Solaris for a platform migration by ensuring the correct conditions are in place, backing up the database and configuration files, and gathering the required system information.
To relocate a standalone 5620 SAM system to a different platform	Relocate the 5620 SAM database and server software in a collocated or distributed standalone configuration to a different Solaris platform type.
To relocate a redundant 5620 SAM system to a different platform	Relocate the 5620 SAM database and server software in a collocated or distributed redundant configuration to a different Solaris platform type.

6.3 5620 SAM system platform migration workflow

The following is an overview of the steps required to relocate a 5620 SAM standalone or redundant system from one type of Solaris platform to another.

1 Perform the pre-upgrade tasks. See Procedure 6-1 for more information.

2 Perform the appropriate 5620 SAM migration procedure.

   a To relocate a standalone 5620 SAM system to a new platform, perform Procedure 6-2.

   b To relocate a redundant 5620 SAM system to a new platform, perform Procedure 6-3.

3 Perform sanity testing of the new 5620 SAM system using an existing 5620 SAM client.

6.4 5620 SAM system platform migration preparation

Before you attempt a 5620 SAM system migration, you must collect the required information and ensure that the proper migration conditions are in place. To do this, perform Procedure 6-1.

Procedure 6-1 To perform the pre-migration tasks

Perform this procedure to prepare a standalone or redundant 5620 SAM system on a Solaris platform for migration to a different Solaris platform type.

General preparation

1 Ensure that the DVD-ROM that contains the new version of 5620 SAM software is available.

2 Remove all outstanding failed deployments. See the *5620 SAM User Guide* for information about deleting a failed deployment.

Back up configuration files

3 Make a backup copy of the *path*/nms/config/nms-server.xml configuration file on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Copy the file to a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station.

4 If you are migrating a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device backup files collected by the 5620 SAM in the *path*/nms/sr-backup directory on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the migration. See the *5620 SAM User Guide* for more information about importing device backup files to the 5620 SAM database.

5 If you are migrating a 5620 SAM system older than Release 5.0 R1, make a backup copy of the device software image files stored by the 5620 SAM in the *path*/nms/sr-images directory on each server station.

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station. You can import the files to the 5620 SAM database after the migration. See the *5620 SAM User Guide* for more information about importing device software image files to the 5620 SAM database.

6 Make a copy of custom XML configuration files that may be present in the *path*/nms/jboss directory on each server station

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

Ensure that you store the files in a secure location that is unaffected by 5620 SAM migration activity, such as a non-5620 SAM station.

Gather required information

7 Obtain the following information for the appropriate database station in the current 5620 SAM system and record it for use during the migration:

Note — The appropriate station is one of the following:

- In a standalone 5620 SAM system, this is the standalone database station.
- In a redundant 5620 SAM system, this is the primary database station.

- root user password
- UNIX user name for Oracle management account (default value at installation is oracle)
- Oracle database user ID (default value at installation is samuser)
- Oracle database user password
- Oracle SYS password
- Oracle base installation directory name (default value at installation is /opt/5620sam/oracle)
- 5620 SAM database installation directory name (default value at installation is /opt/5620sam/samdb)

8 Obtain the following information for each station that is to be a server station in the new 5620 SAM system and record it for use during the migration:

- hostname
- IP addresses
  - server IP addresses used by 5620 SAM databases to reach the server (public IP addresses, if NAT is used)
  - server IP address used by 5620 SAM GUI and OSS clients to reach the server (public IP address, if NAT is used)
  - server IP address used by 5620 SAM auxiliary servers to reach the server (public IP address, if NAT is used)
  - private server IP addresses (if NAT is used)
- root user password

9 Obtain the following information for each station that is to be a database station in the new 5620 SAM system and record it for use during the migration:

- hostname
- IP addresses
  - database IP addresses used by 5620 SAM servers to reach the database (public IP addresses, if NAT is used)
  - database IP address used by 5620 SAM auxiliary servers to reach the database (public IP address, if NAT is used)
  - private database IP addresses (if NAT is used)
- root user password

Close unrequired clients

10 Close all open 5620 SAM client sessions but one; the remaining session is used to perform a database backup.

i Open a 5620 SAM client session using an account with security management privileges, such as admin.

ii Click on Administration→Security→5620 SAM User Security in the 5620 SAM main menu. The 5620 SAM User Security - Security Management (Edit) form opens with the General tab displayed.

iii Click on the Sessions tab button.

iv Click on the Search button. The form displays a list of the open 5620 SAM client sessions.

v Using the IP addresses in the Client IP column, identify the GUI and OSS clients that are currently logged in.

vi Close the client sessions by selecting them and clicking on the Close Session button. A dialog box appears.

Note — One of the listed sessions is the session that you are using. Do not attempt to close this session.

vii Click on the Yes button to confirm the action.

viii Click on the Search button to refresh the list of open client sessions.

Back up database

11 Alcatel-Lucent strongly recommends that you perform a database backup before you perform a 5620 SAM system migration.

Caution — When backing up a 5620 SAM database, specify a backup directory that does not include the 5620 SAM database installation directory, or data loss may occur. A typical 5620 SAM database installation directory is /opt/5620sam/samdb.

Perform one of the following actions.

a Use a 5620 SAM client GUI to back up the database. See the *5620 SAM User Guide* for information about performing database backups using the client GUI.

b Use a CLI script to back up the database.

i Log in as a user with root-equivalent privileges on the appropriate station.

Note — The appropriate station is one of the following:

- In a standalone 5620 SAM system, this is the standalone database station.
- In a redundant 5620 SAM system, this is the primary database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Enter the following at the CLI prompt to begin the database backup:

```
bash$ path/install/config/samdb/SAMbackup.sh
backup_directory ↵
```

where
path is the 5620 SAM database installation location, typically /opt/5620sam/samdb
backup_directory is the directory that is to contain the database backup

The 5620 SAM begins to back up the 5620 SAM database.

12 Close the 5620 SAM client. Choose Application→Exit from the 5620 SAM main menu.

13 Copy the database backup files from the backup directory specified in step 11 b iv to a secure location, such as a non-5620 SAM station, for safekeeping.

6.5 Standalone 5620 SAM system platform migration procedures

This section describes the migration of a standalone 5620 SAM system from one Solaris platform to another.

Procedure 6-2 To relocate a standalone 5620 SAM system to a different platform

Perform this procedure to relocate a standalone 5620 SAM system on Solaris to a different Solaris platform.

Shut down server

1 Stop the 5620 SAM server application.

i Log in as a user with root-equivalent privileges on the server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server application:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server application is stopped when the command in step 1 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 1 v. Do not proceed unless the console displays the above text.

Export database

2 Export the 5620 SAM database to a file set. Perform the following actions.

i Log in as a user with root-equivalent privileges on the database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Navigate to the /opt/5620sam/samdb/install/config/samdb directory. Enter the following at the CLI prompt:

```
bash$ cd /opt/5620sam/samdb/install/config/samdb ↵
```

v Run the 5620 SAM database migration script to export the database. Enter the following at the CLI prompt:

```
bash$ ./Solaris_dbMigration.sh -e db_export_directory ↵
```

where *db_export_directory* is the full path of the directory that is to contain the exported database file set

The script exports the 5620 SAM database to a file set in the specified directory.

Note — To view the migration script usage instructions, run it using the -h switch, as follows:

```
bash$ ./Solaris_dbMigration.sh -h ↵
```

Shut down database

3 Stop the 5620 SAM database application.

i Log in as a user with root-equivalent privileges on the database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

Install database

4 Install the 5620 SAM database software on the new database station. Perform steps 1 to 46 of Procedure 3-1.

Note — For the database installation, you must use the same user names, passwords, database name, and database instance name that were specified for the existing database installation.

Import database file set

5 Copy the exported data file set created in step 2 to the new database station.

Note — The directory to which you copy the file set must contain no other files.

6 Import the copied file set to the new 5620 SAM database. Perform the following actions.

i Navigate to the /opt/5620sam/samdb/install/config/samdb directory on the new database station. Enter the following at the CLI prompt:

```
bash$ cd /opt/5620sam/samdb/install/config/samdb ↵
```

ii Run the 5620 SAM database migration script to import the file set. Enter the following at the CLI prompt:

```
bash$ ./Solaris_dbMigration.sh -i db_import_directory ↵
```

where *db_import_directory* is the full path of the directory that contains the copied database file set

The script imports the file set to the 5620 SAM database.

Note — To view the migration script usage instructions, run it using the -h switch, as follows:

```
bash$ ./Solaris_dbMigration.sh -h ↵
```

Install server

7 Install the 5620 SAM server software on the new server station. Perform steps 47 to 71 of Procedure 3-1.

6.6 Redundant 5620 SAM system platform migration

This section describes the migration of a redundant 5620 SAM system from one Solaris platform to another.

Procedure 6-3 To relocate a redundant 5620 SAM system to a different platform

Perform this procedure to relocate a redundant 5620 SAM system on Solaris to a different Solaris platform.

Shut down standby server

1 Stop the standby 5620 SAM server application.

i Log in as a user with root-equivalent privileges on the standby server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server is stopped when the command in step 1 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 1 v. Do not proceed unless the console displays the above text.

Shut down primary server

2 Stop the 5620 SAM server application on the primary server station.

i Log in as a user with root-equivalent privileges on the primary server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server is stopped when the command in step 1 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 1 v. Do not proceed unless the console displays the above text.

Shut down standby database

3 Stop the standby database application.

i Log in as a user with root-equivalent privileges on the standby database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

Export database

4 Export the 5620 SAM primary database to a file set. Perform the following actions.

i Log in as a user with root-equivalent privileges on the primary database station.

ii Open a console window.

iii Switch to the Oracle management user. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

iv Navigate to the /opt/5620sam/samdb/install/config/samdb directory. Enter the following at the CLI prompt:

```
bash$ cd /opt/5620sam/samdb/install/config/samdb ↵
```

v Run the 5620 SAM database migration script to export the primary database. Enter the following at the CLI prompt:

```
bash$ ./Solaris_dbMigration.sh -e db_export_directory ↵
```

where *db_export_directory* is the full path of the directory that is to contain the exported database file set

The script exports the 5620 SAM database to a file set in the specified directory.

Note — To view the migration script usage instructions, run it using the -h switch, as follows:

```
bash$ ./Solaris_dbMigration.sh -h ↵
```

Shut down primary database

5 Stop the 5620 SAM database application on the primary database station.

i Log in as a user with root-equivalent privileges on the primary database station.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

Do not proceed until the command returns the following text string:

```
Done
```

Install primary database

6 Install the 5620 SAM database software on the new primary database station. Perform steps 1 to 48 of Procedure 3-3.

Note — For the new primary database installation, you must use the same user names, passwords, database name, and database instance name that were specified for the existing primary database installation.

Import database file set to primary database

7 Copy the exported data file set created in step 4 to the new primary database station.

Note — The directory to which you copy the file set must contain no other files.

8 Import the copied file set to the new 5620 SAM database. Perform the following actions.

i Navigate to the /opt/5620sam/samdb/install/config/samdb directory on the new primary database station. Enter the following at the CLI prompt:

```
bash$ cd /opt/5620sam/samdb/install/config/samdb ↵
```

ii Run the 5620 SAM database migration script to import the file set. Enter the following at the CLI prompt:

```
bash$ ./Solaris_dbMigration.sh -i db_import_directory ↵
```

where *db_import_directory* is the full path of the directory that contains the copied database file set

The script imports the file set to the 5620 SAM primary database.

Note — To view the migration script usage instructions, run it using the -h switch, as follows:

```
bash$ ./Solaris_dbMigration.sh -h ↵
```

Install standby database

9 Install the 5620 SAM database software on the new standby database station. Perform steps 49 to 84 of Procedure 3-3.

Note — For the new standby database installation, you must use the same user names, passwords, database name, and database instance name that were specified for the existing standby database installation.

Install primary server

10 Install the 5620 SAM server software on the new primary server station. Perform steps 85 to 114 of Procedure 3-3.

Install standby server

11 Install the 5620 SAM server software on the new standby server station. Perform steps 120 to 150 of Procedure 3-3.

7 — 5620 SAM uninstallation on Solaris

7.1 5620 SAM uninstallation on Solaris overview 7-2

7.2 5620 SAM uninstallation on Solaris procedures list 7-2

7.3 Workflow for 5620 SAM uninstallation on Solaris 7-2

7.4 5620 SAM uninstallation on Solaris procedures 7-2

7.1 5620 SAM uninstallation on Solaris overview

This chapter describes general information related to uninstalling the 5620 SAM software components on Solaris.

5620 SAM system uninstallation requires that the following conditions are present.

- No 5620 SAM software in the 5620 SAM system is running when the uninstallation begins.
- The 5620 SAM components are to be uninstalled in reverse installation order, as follows: Uninstall the clients, then the server, then the database.

7.2 5620 SAM uninstallation on Solaris procedures list

Table 7-1 lists the procedures for uninstalling the 5620 SAM software on a Solaris platform.

Table 7-1 5620 SAM uninstallation on Solaris procedures list

Procedure	Purpose
To uninstall the 5620 SAM client software on Solaris	Remove the 5620 SAM client software from a Solaris station.
To uninstall the 5620 SAM server software on Solaris	Remove the 5620 SAM main or auxiliary server software from a Solaris station.
To uninstall the 5620 SAM database software on Solaris	Remove the 5620 SAM database software from a Solaris station.

7.3 Workflow for 5620 SAM uninstallation on Solaris

The following is an overview of the steps needed to uninstall the 5620 SAM client, server and database components that comprise a 5620 SAM system on Solaris.

1 Uninstall the client. See Procedure 7-1 for more information.

2 Uninstall the server. See Procedure 7-2 for more information.

3 Uninstall the database. See Procedure 7-3 for more information.

7.4 5620 SAM uninstallation on Solaris procedures

The following procedures describe how to remove the software components of a 5620 SAM system on a Solaris platform.

Procedure 7-1 describes how to uninstall the 5620 SAM client on a Solaris station.

Procedure 7-2 describes how to uninstall the 5620 SAM server on a Solaris station.

Procedure 7-3 describes how to uninstall the 5620 SAM database on a Solaris station.

Procedure 7-1 To uninstall the 5620 SAM client software on Solaris

Perform this procedure to remove the 5620 SAM client software from a Solaris station. 5620 SAM client uninstallation requires the local user privileges of the user that installed the client, or root-equivalent user permissions.

1 Stop the 5620 SAM client. From the 5620 SAM GUI main menu, choose Application→Exit.

2 Log in to the 5620 SAM client station as the same user that installed the 5620 SAM client software or as a root-equivalent user.

3 Open a console window.

Note — Ensure that the current directory indicated by the CLI prompt is not a directory below the 5620 SAM client installation directory, for example, below /opt/5620sam/client.

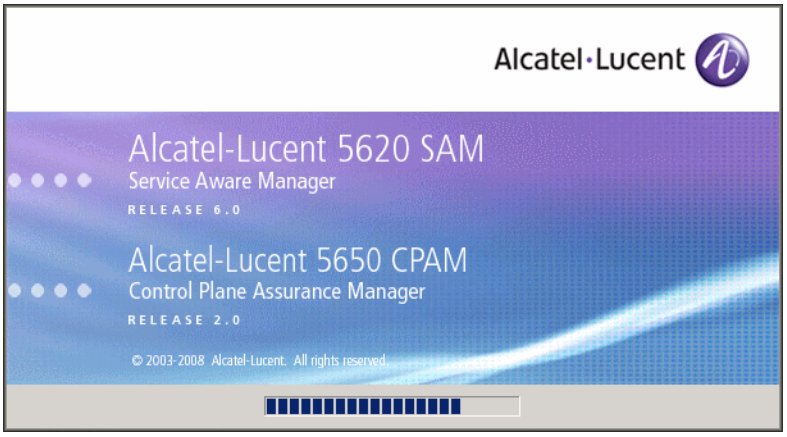
4 Enter the following at the CLI prompt to open the 5620 SAM client uninstaller:

```
# path/install/Uninstaller/Uninstall_5620_SAM_Client ↵
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

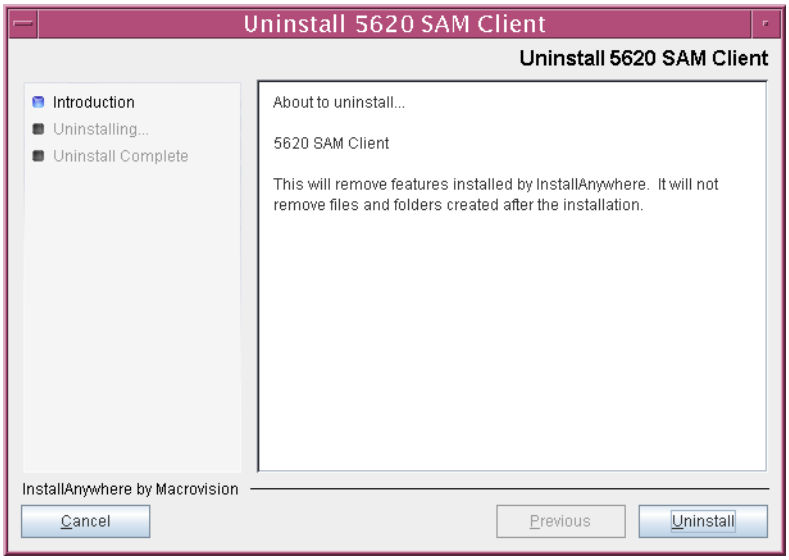
The splash screen shown in Figure 7-1 appears, and the uninstallation process begins.

Figure 7-1 5620 SAM Uninstaller



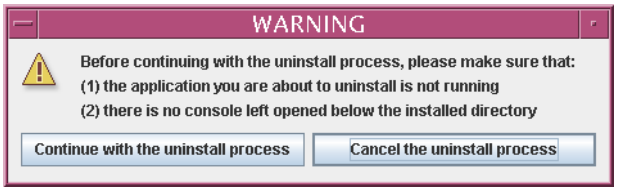
5 The 5620 SAM client uninstaller opens, as shown in Figure 7-2. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Uninstall button to proceed.

Figure 7-2 Uninstall 5620 SAM Client



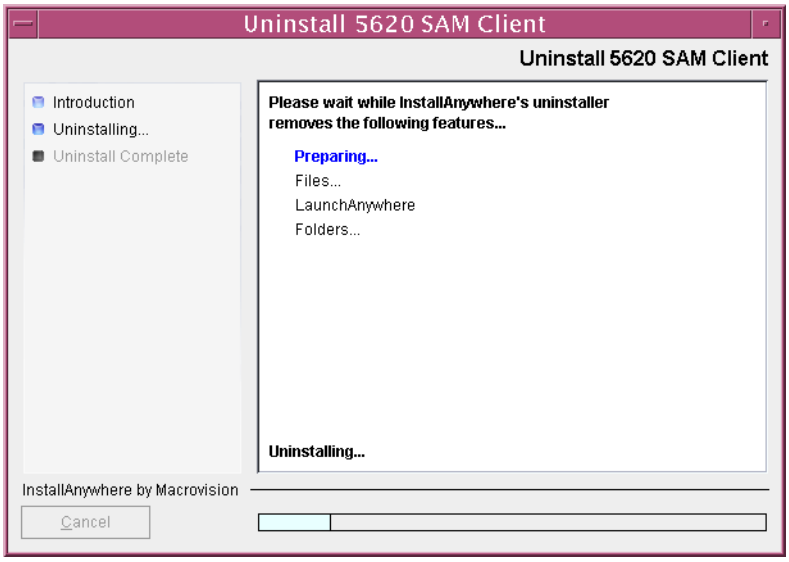
6 As shown in Figure 7-3, a warning appears. Ensure that the conditions are true, then click on the Continue with the uninstall process button.

Figure 7-3 Warning



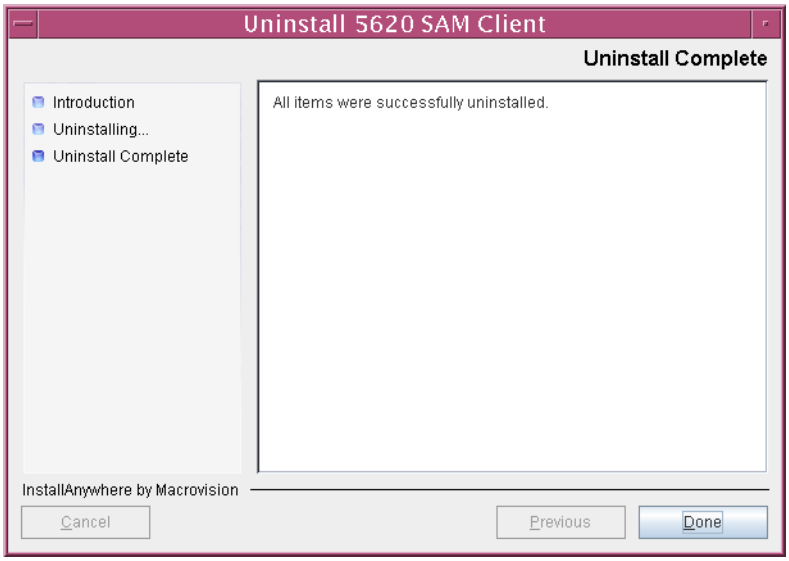
The uninstaller begins to remove 5620 SAM client files and directories, as shown in Figure 7-4.

Figure 7-4 Uninstall 5620 SAM Client



7 When the client uninstallation is complete, as shown in Figure 7-5, click on the Done button to close the uninstaller.

Figure 7-5 Uninstall Complete



Procedure 7-2 To uninstall the 5620 SAM server software on Solaris

Perform this procedure to remove the 5620 SAM main server or auxiliary server software from a Solaris station. 5620 SAM server software uninstallation requires local root-equivalent user permissions.

Caution — This procedure involves stopping the 5620 SAM server and database software. Ensure that you perform this procedure only during a scheduled maintenance window.

Stop server and database applications

1 Stop the 5620 SAM server application.

Note — Stopping the 5620 SAM server and database applications requires root-equivalent user permissions on the server station, and root-equivalent and Oracle management user permissions on the database station.

i Log in as a user with root-equivalent privileges on the server station.

ii Open a console window.

iii Navigate to the server configuration directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

iv Enter the following at the CLI prompt to stop the 5620 SAM server:

```
# ./nmsserver.bash stop ↵
```

v Verify that the 5620 SAM server is stopped. Enter the following at the CLI prompt:

```
# ./nmsserver.bash appserver_status ↵
```

vi The 5620 SAM server application is stopped when the command in step 1 v returns the following text string:

```
Application Server is stopped
```

If the command returns anything other than the above text string, wait five minutes and repeat step 1 v. Do not proceed unless the console displays the above text.

2 Stop the 5620 SAM database application.

i Log in to the database station as a user with root-equivalent privileges.

ii Open a console window.

iii Navigate to the /etc/rc3.d directory. Enter the following at the CLI prompt:

```
# cd /etc/rc3.d ↵
```

iv Stop the Oracle proxy daemon. Enter the following at the CLI prompt:

```
# ./S965620SAMOracleProxyWrapper stop ↵
```

v Stop the 5620 SAM database daemon. Enter the following at the CLI prompt:

```
# ./S95db5620sam stop ↵
```

vi Verify that the 5620 SAM database is stopped. Enter the following at the CLI prompt:

```
# ps -ef | grep oracle ↵
```

The command displays a list of processes that contain the term “oracle”.

Note — One of the list entries is the “grep oracle” command from this step. Disregard the “grep oracle” entry, as it is not an Oracle process.

vii If the command in step 2 vi returns lines of text other than “grep oracle”, the 5620 SAM database is not stopped. Repeat step 2 vi.

Do not proceed until the command returns only the single “grep oracle” entry.

The next phase involves the uninstallation of the 5620 SAM server software. Server uninstallation requires root-equivalent user permissions on the server station.

Uninstall server

3 Log in as a user with root-equivalent privileges on the 5620 SAM main or auxiliary server station.

4 Open a console window.

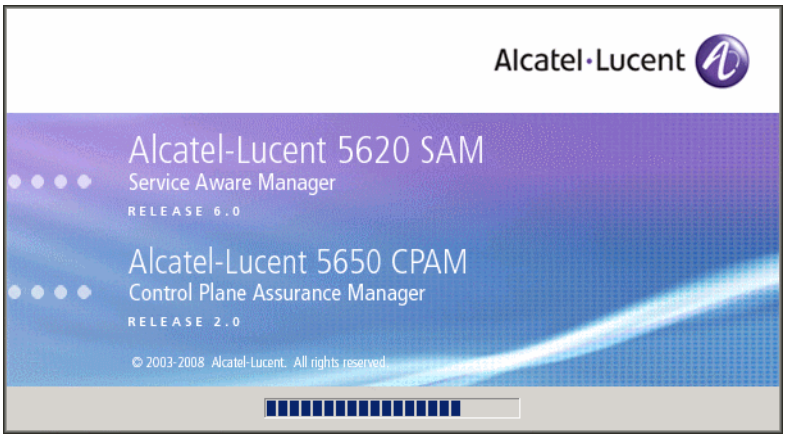
5 Enter the following at the CLI prompt to open the 5620 SAM server uninstaller:

```
# path/install/Uninstaller/Uninstall_5620_SAM_Server ↵
```

where *path* is the 5620 SAM server installation location, typically /opt/5620sam/server

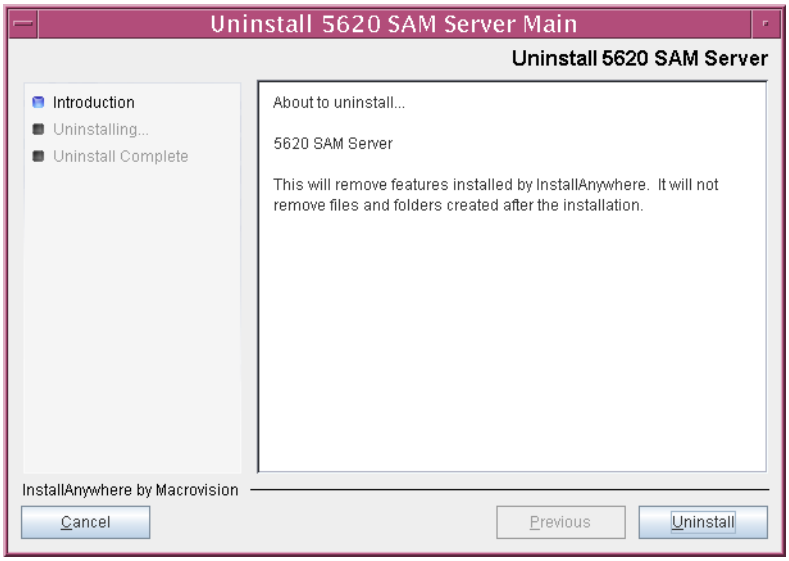
The splash screen in Figure 7-6 appears and the uninstallation process begins.

Figure 7-6 5620 SAM Uninstaller



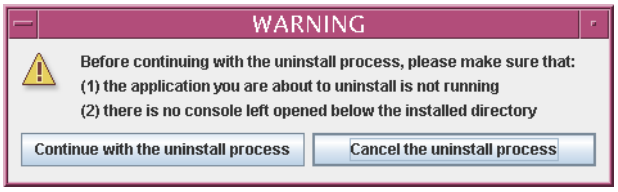
6 The 5620 SAM server uninstaller opens, as shown in Figure 7-7. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Uninstall button to proceed.

Figure 7-7 Uninstall 5620 SAM Server



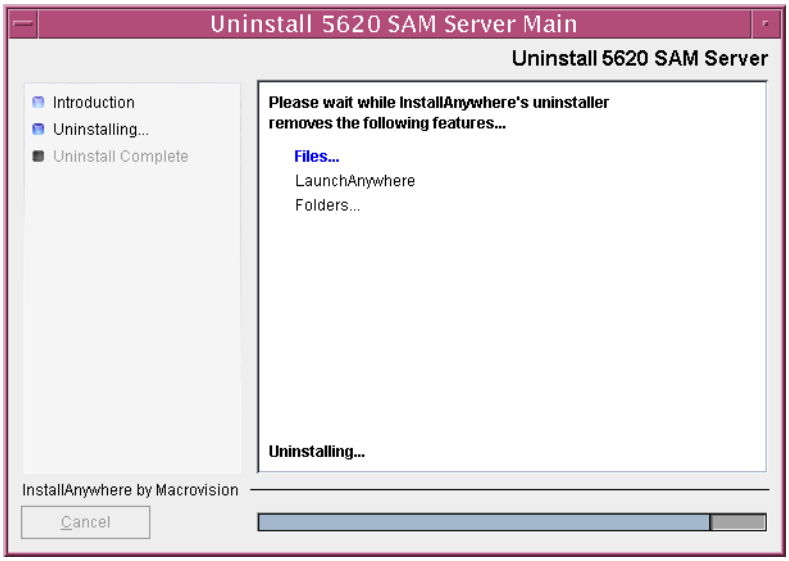
7 Read the warning shown in Figure 7-8, then click on the “Continue with the uninstall process” button to proceed with the server uninstallation.

Figure 7-8 Warning



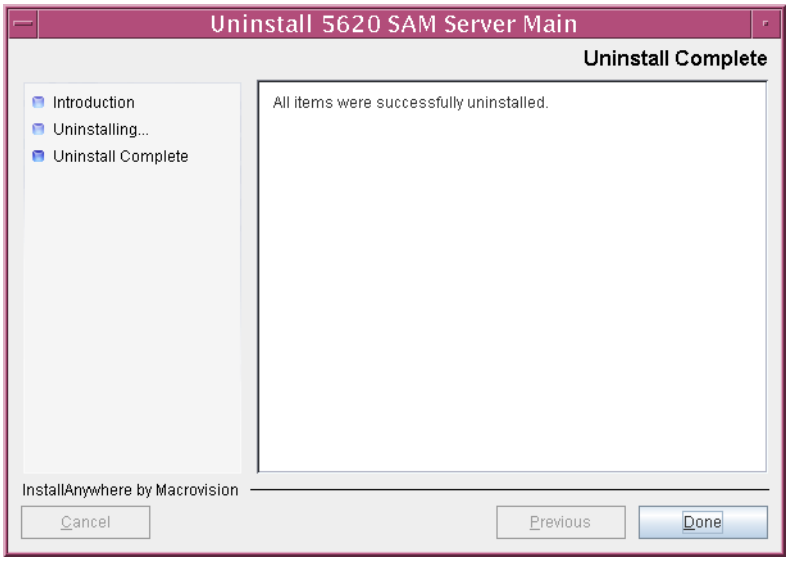
The uninstaller begins to remove 5620 SAM server files and directories, as shown in Figure 7-9.

Figure 7-9 Uninstall 5620 SAM Server



8 When the server uninstallation is complete, as shown in Figure 7-10, click on the Done button to close the uninstaller.

Figure 7-10 Uninstall Complete



9 Enter the following at the CLI prompt to reboot the server station:

```
bash$ shutdown -y -i6 -g0 ↵
```

The station reboots.

10 Remove any files and directories that remain in the server installation directory.

Procedure 7-3 To uninstall the 5620 SAM database software on Solaris

Perform this procedure to remove the 5620 SAM database component from a Solaris station. Database software uninstallation requires root-equivalent and Oracle management user permissions on the database station.

1 Log in as a user with root-equivalent privileges on the database station.

2 Open a console window.

3 Switch to the Oracle management user created by the pre-installation script. Enter the following at the CLI prompt:

```
# su - Oracle_management_user_name ↵
```

where *Oracle_management_user_name* is the name of the UNIX account with Oracle management privileges, typically oracle

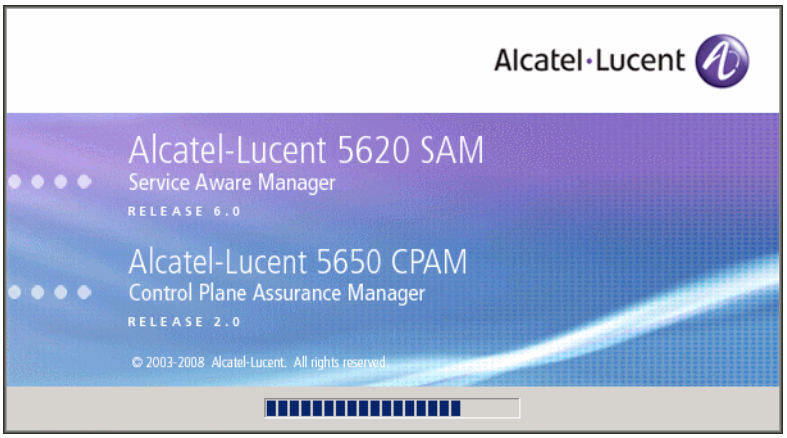
4 Enter the following at the CLI prompt to open the 5620 SAM database uninstaller:

```
bash$
path/install/Uninstaller/Uninstall_5620_SAM_Database_Configurator ↵
```

where *path* is the 5620 SAM database installation location, typically /opt/5620sam/samdb

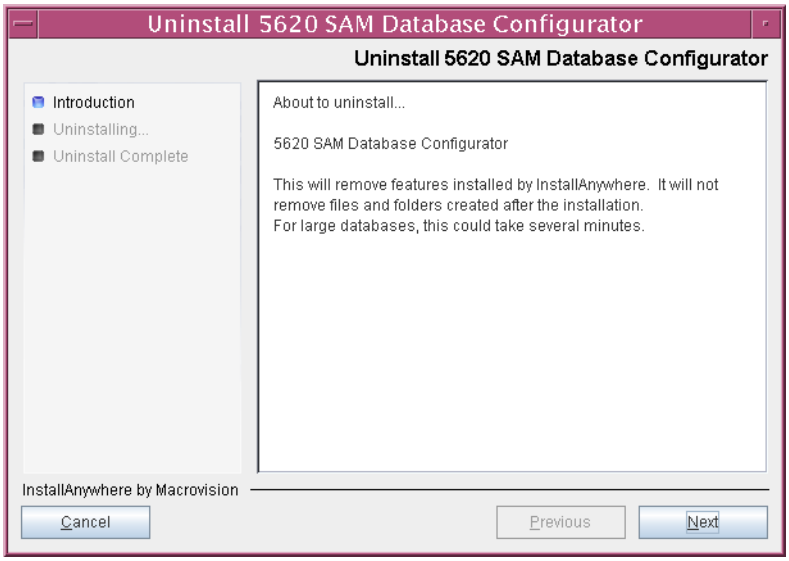
The splash screen in Figure 7-11 appears and the uninstallation process begins.

Figure 7-11 5620 SAM Uninstaller



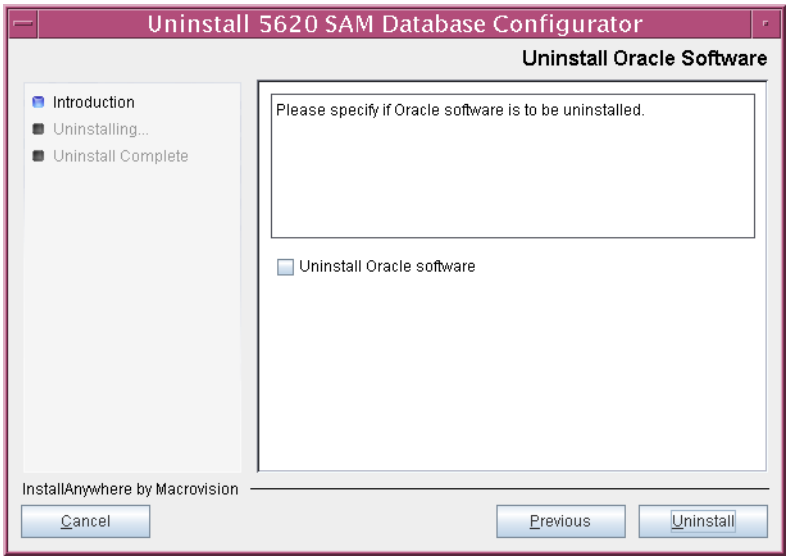
5 The 5620 SAM database uninstaller opens, as shown in Figure 7-12. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Next button to continue.

Figure 7-12 Uninstall 5620 SAM Database Configurator



6 Enable the “Uninstall Oracle software” parameter shown in Figure 7-13 if you want to remove the Oracle software from the database station. Click on the Uninstall button to proceed with the database uninstallation.

Figure 7-13 Uninstall Oracle Software

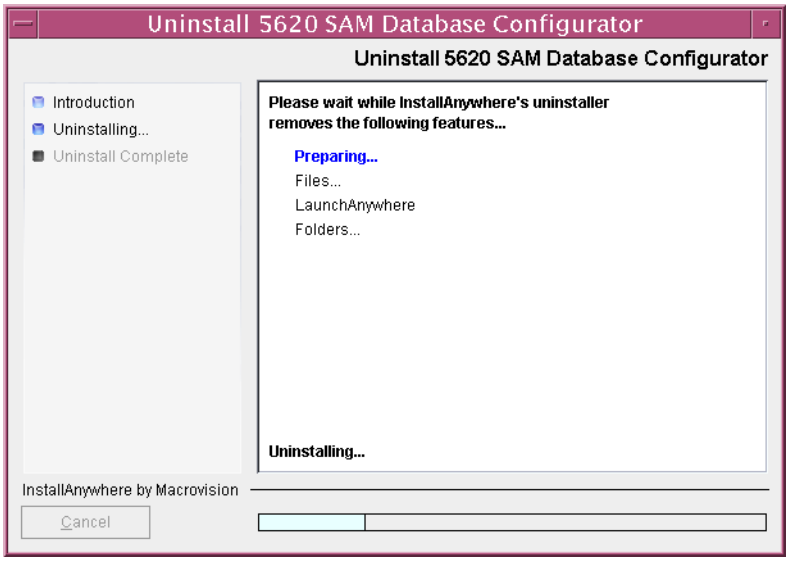


7 As shown in Figure 7-14, you are prompted to run a script that enables the uninstallation of the database daemons. Open a separate console window and run the script. After the script execution completes, click on the OK button to continue.

Figure 7-14 Warning

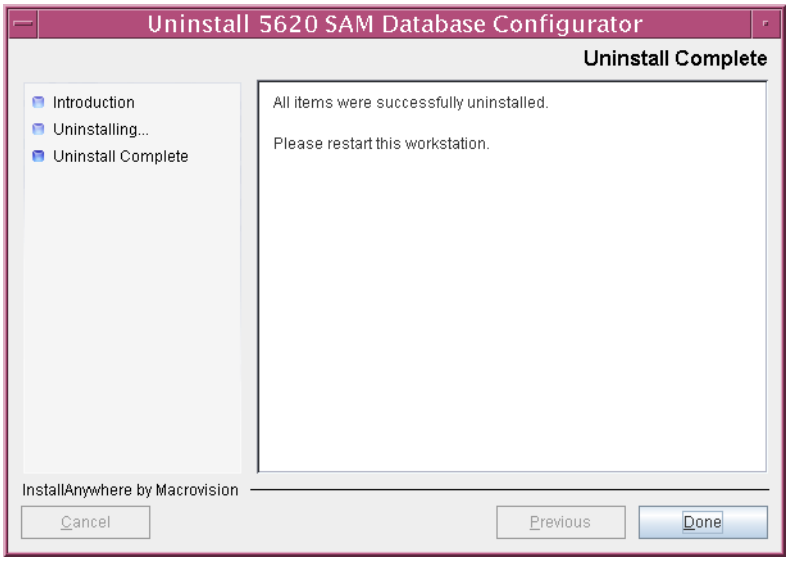
The uninstaller begins to remove 5620 SAM database files and directories, as shown in Figure 7-15.

Figure 7-15 Uninstall 5620 SAM Database Configurator



8 When database uninstallation is complete, as shown in Figure 7-16, click on the Done button to close the uninstaller.

Figure 7-16 Uninstall Complete



9 Enter the following at the CLI prompt to reboot the database station:

```
bash$ shutdown -y -i6 -g0 ↵
```

The station reboots.

10 Remove any files and directories that remain in the Oracle installation directory and the database directories.

5650 CPAM for Solaris

8 — 5650 CPAM installation, upgrade, and uninstallation on Solaris

8 — 5650 CPAM installation, upgrade, and uninstallation on Solaris

8.1 5650 CPAM installation, upgrade, and uninstallation on Solaris overview *8-2*

8.2 5650 CPAM installation, upgrade, and uninstallation on Solaris procedures list *8-2*

8.3 5650 CPAM server installation, upgrade, and uninstallation on Solaris procedures *8-2*

8.1 5650 CPAM installation, upgrade, and uninstallation on Solaris overview

Before you attempt to perform a procedure in this chapter, ensure that you understand and comply with the relevant requirements, considerations, and precautions described in chapter 1 of this document and in the *5650 CPAM User Guide*.

Note — The system requirements for a 5650 CPAM server are the same as the requirements for a 5620 SAM server. Use the 5620 SAM server guidelines for Solaris in chapter 1 as the 5650 CPAM guidelines.

Caution — Alcatel-Lucent supports 5650 CPAM software configuration only under the conditions described in chapter 1.

8.2 5650 CPAM installation, upgrade, and uninstallation on Solaris procedures list

Table 8-1 lists the procedures required to perform 5650 CPAM software installation, upgrade and uninstallation activities on a Solaris platform. See the *5650 CPAM User Guide* for detailed configuration information.

Table 8-1 5650 CPAM installation on Solaris procedures list

Procedure	Purpose
To install a 5650 CPAM system on Solaris	Install the 5650 CPAM server software on a Solaris platform.
To upgrade a 5650 CPAM system on Solaris	Upgrade the 5650 CPAM software on a Solaris platform.
To uninstall the 5650 CPAM software on a Solaris station	Remove the 5650 CPAM server software from a Solaris platform.

8.3 5650 CPAM server installation, upgrade, and uninstallation on Solaris procedures

Procedure 8-1 describes how to install the 5650 CPAM server on Solaris.

Procedure 8-2 describes how to upgrade the 5650 CPAM server on Solaris.

Procedure 8-3 describes how to uninstall the 5650 CPAM server on Solaris.

Note 1 — Command-line examples use the following to represent the Solaris CLI prompts:

- # — represents the prompt displayed for a root-equivalent user
- bash$ — represents the prompt displayed for the Oracle management user

Do not type the # symbol or bash$ when entering a command.

Note 2 — The typical or default value for a parameter appears beside the parameter in text and illustrations where appropriate.

Procedure 8-1 To install a 5650 CPAM system on Solaris

Perform this procedure to install the 5650 CPAM software on a Solaris platform. The operator who performs this procedure requires root or root-equivalent user-account privileges.

Note — This procedure describes the installation of a 5650 CPAM server for integration with a redundant 5620 SAM system. The set of user prompts is smaller in a 5650 CPAM server installation for integration with a standalone 5620 SAM system.

Ensure that you record all information that you specify during this procedure, for example, directories, passwords, and IP addresses.

1 Log in as a user with root-equivalent privileges on the station that is to be the 5650 CPAM station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5650 CPAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

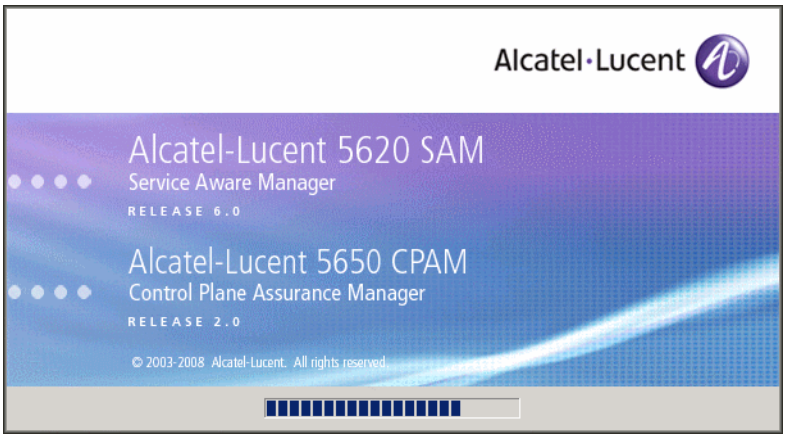
4 Enter the following at the CLI prompt to open the 5650 CPAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

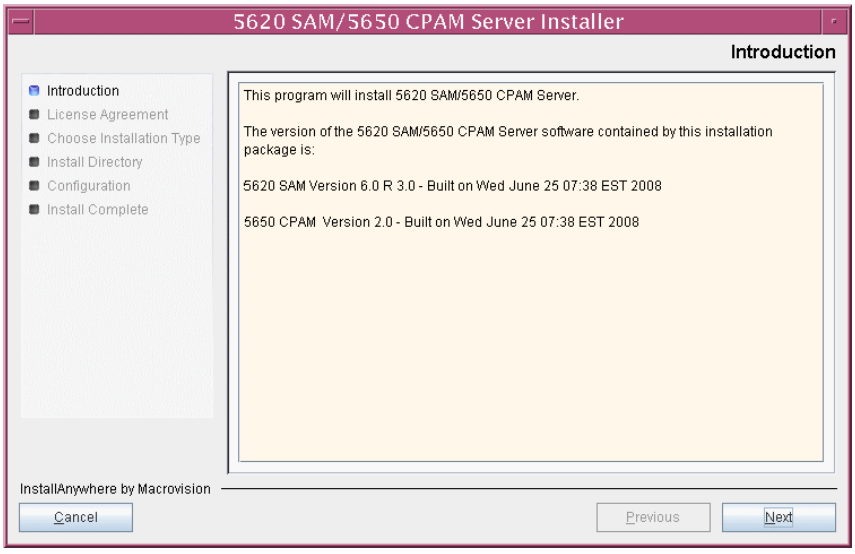
The splash screen in Figure 8-1 appears and the installation process begins.

Figure 8-1 5620 SAM Installer



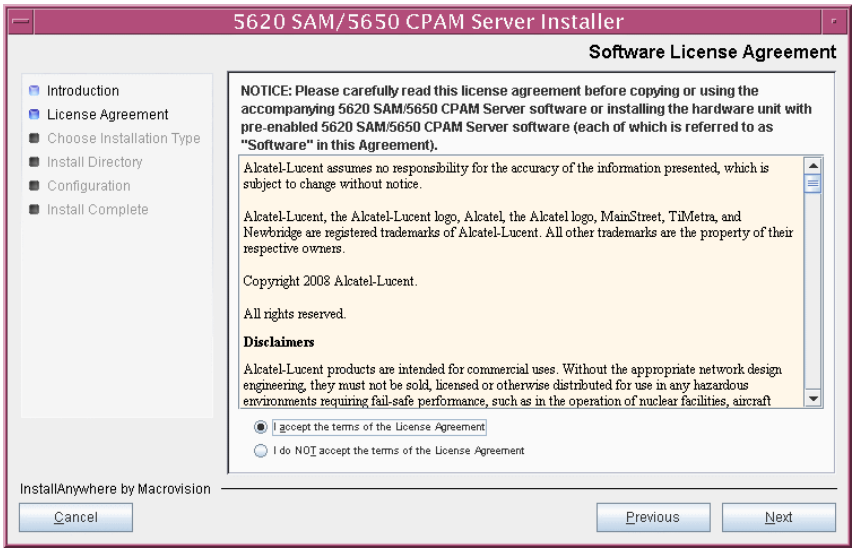
5 The 5650 CPAM installer opens as shown in Figure 8-2. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 8-2 Introduction



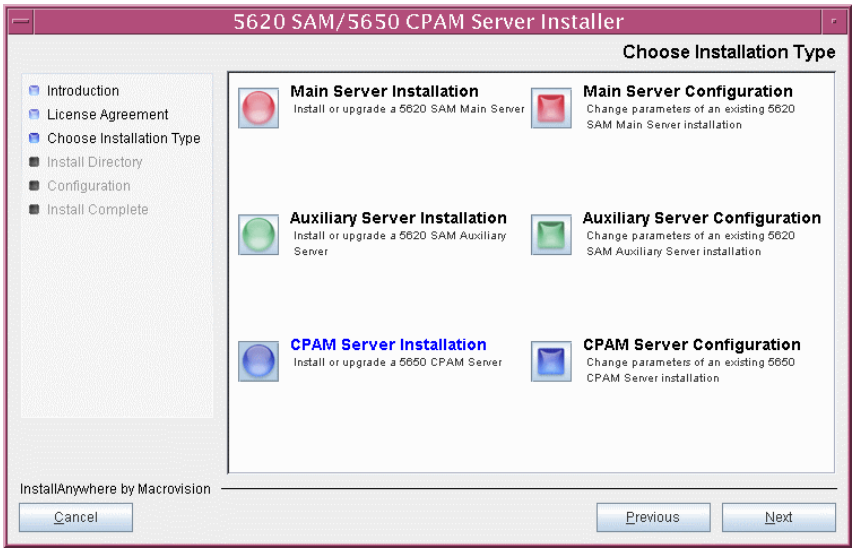
6 Review and accept the terms of the license agreement shown in Figure 8-3, then click on the Next button.

Figure 8-3 Software License Agreement



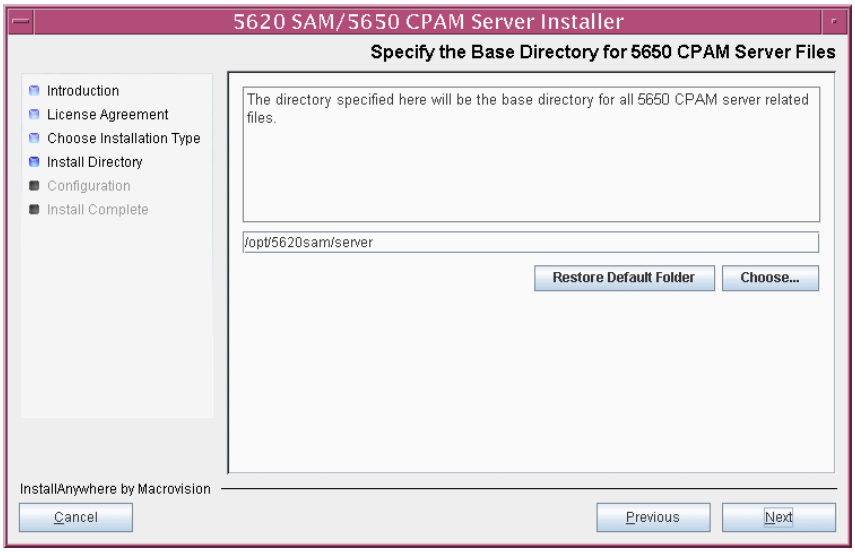
7 Select CPAM Server Installation, as shown in Figure 8-4, then click on the Next button.

Figure 8-4 Choose Installation Type



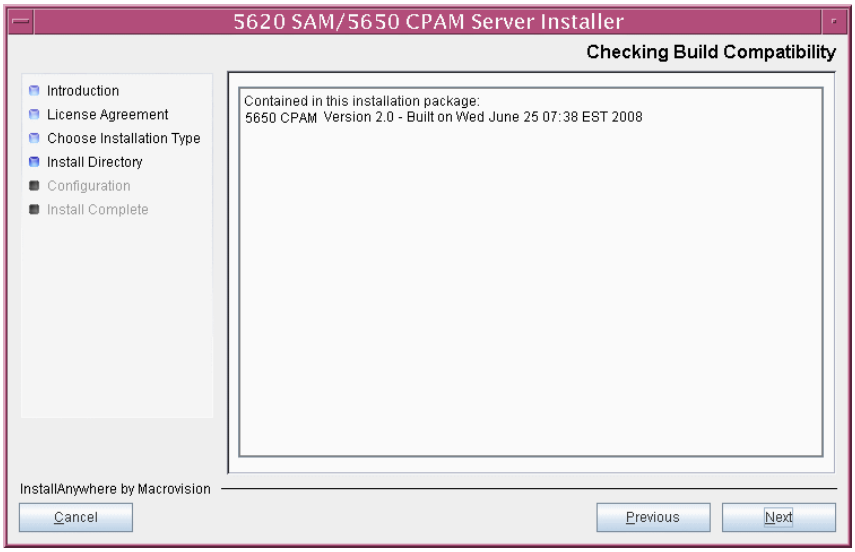
8 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 8-5. You are prompted to create the directory if it does not exist. Click on the Next button to continue.

Figure 8-5 Specify the Base Directory for 5650 CPAM Server Files



9 As shown in Figure 8-6, the installer displays the version of the 5650 CPAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 8-6 Checking Build Compatibility



10 Perform one of the following to specify where the 5650 CPAM and 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the "Install User Documentation at Central Location Below" parameter, as shown in Figure 8-7.

ii If you want to accept the default user documentation location that is displayed, go to step 11.

Note — If NAT is to be used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM/5650 CPAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

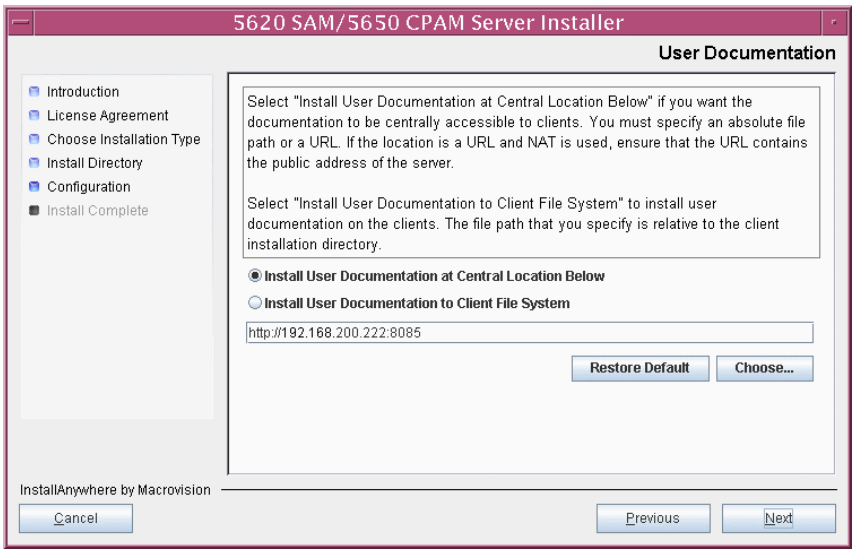
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 8-7.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

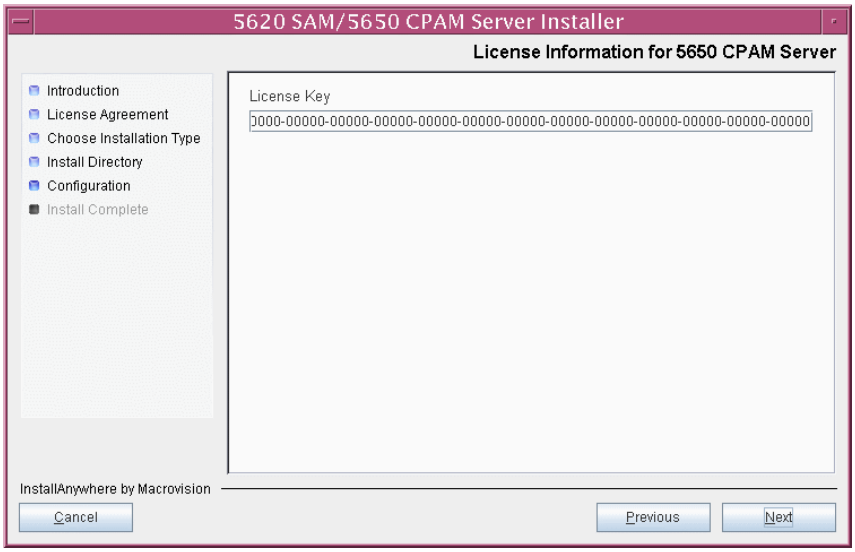
Figure 8-7 User Documentation



11 Click on the Next button to continue.

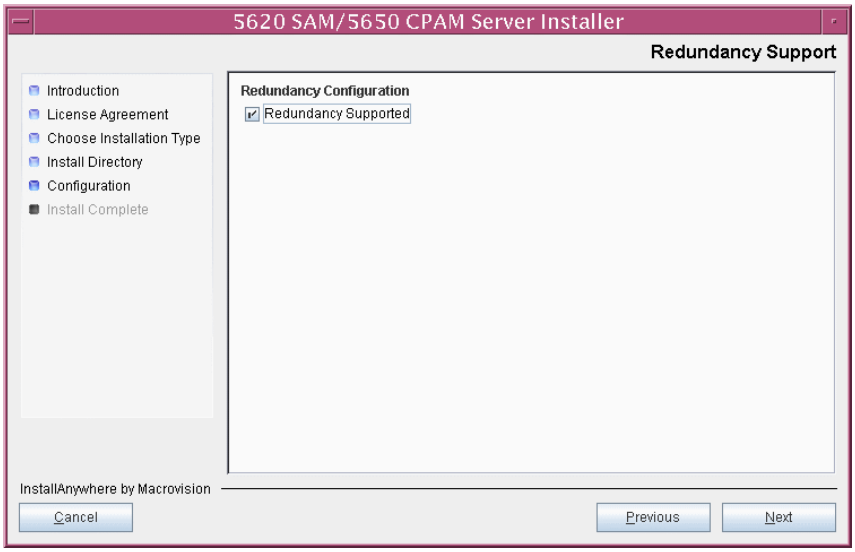
12 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 8-8. Click on the Next button to continue.

Figure 8-8 License Information for 5650 CPAM Server



13 Configure the "Redundancy Supported" parameter shown in Figure 8-9, then click on the Next button.

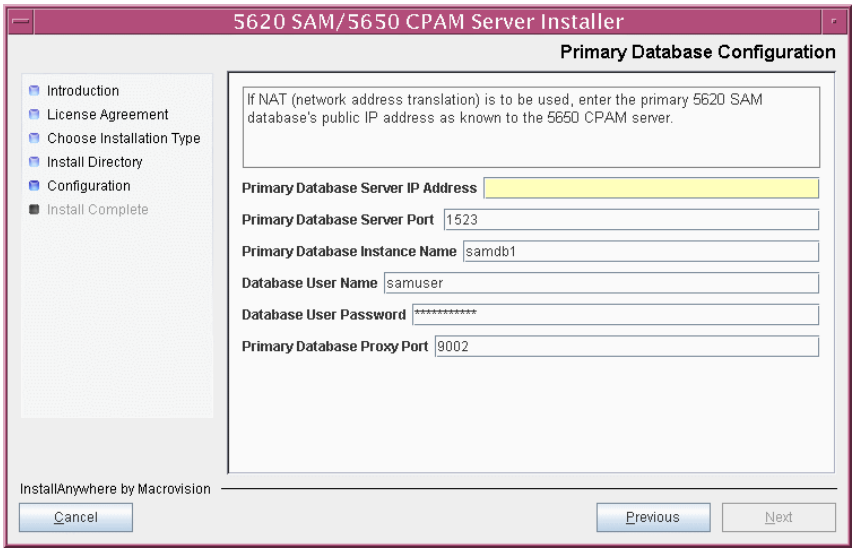
Figure 8-9 Redundancy Support



14 Configure the following parameters shown in Figure 8-10. Click on the Next button to continue.

- Primary Database Sever IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

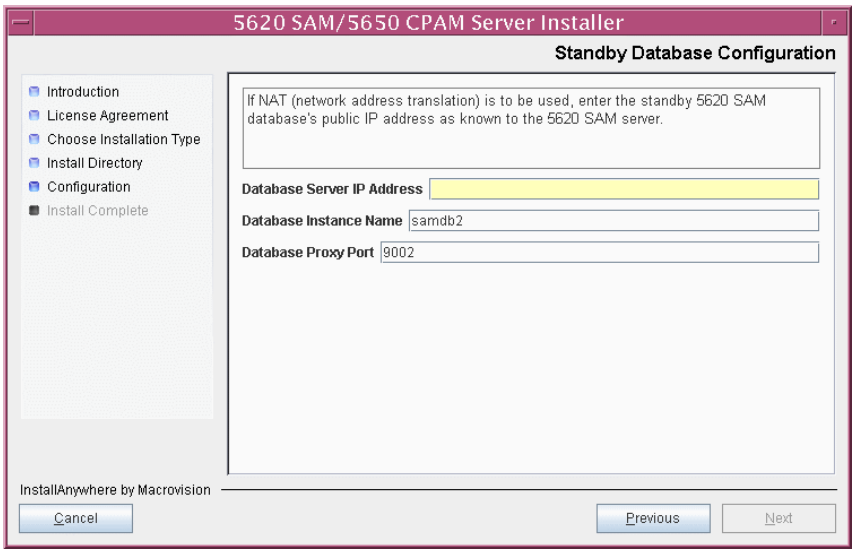
Figure 8-10 Primary Database Configuration



15 Configure the following parameters shown in Figure 8-11, then click on the Next button:

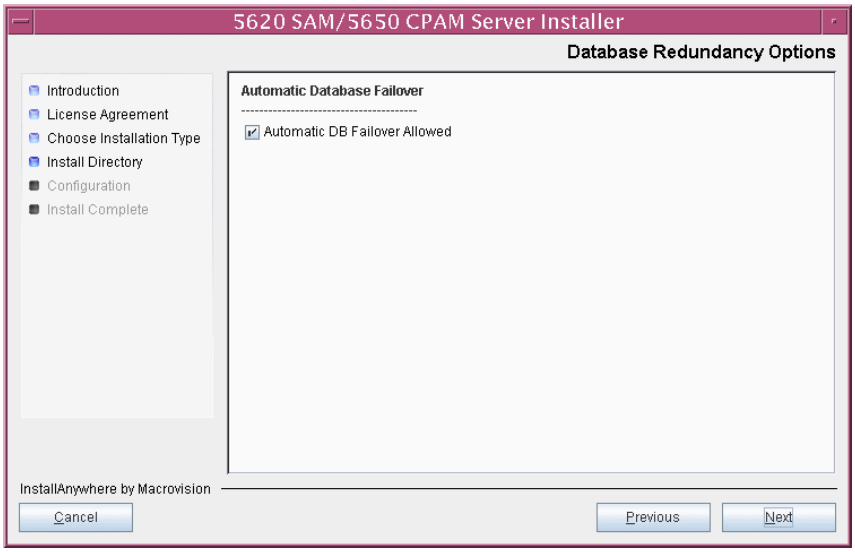
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 8-11 Standby Database Configuration



16 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 8-12, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 8-12 Primary Database Configuration

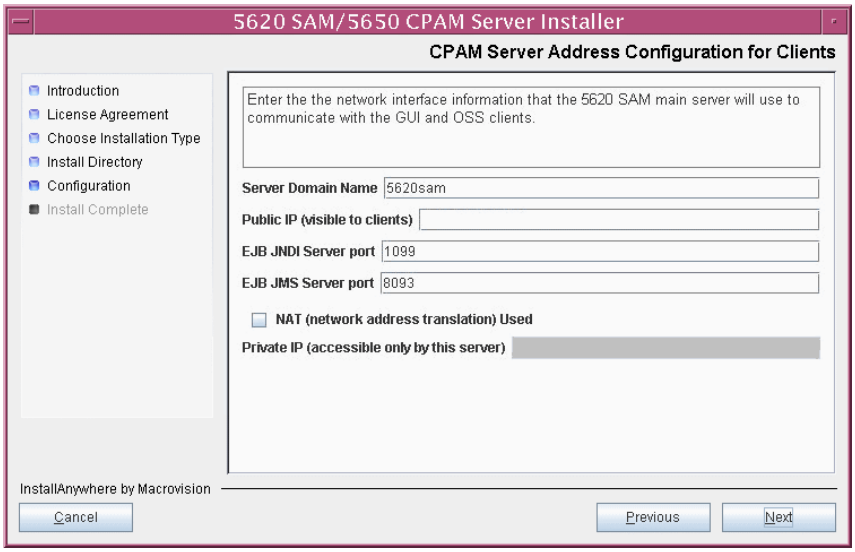


17 Configure the following parameters shown in Figure 8-13:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is to be used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 8-13 CPAM Server Address Configuration for Clients

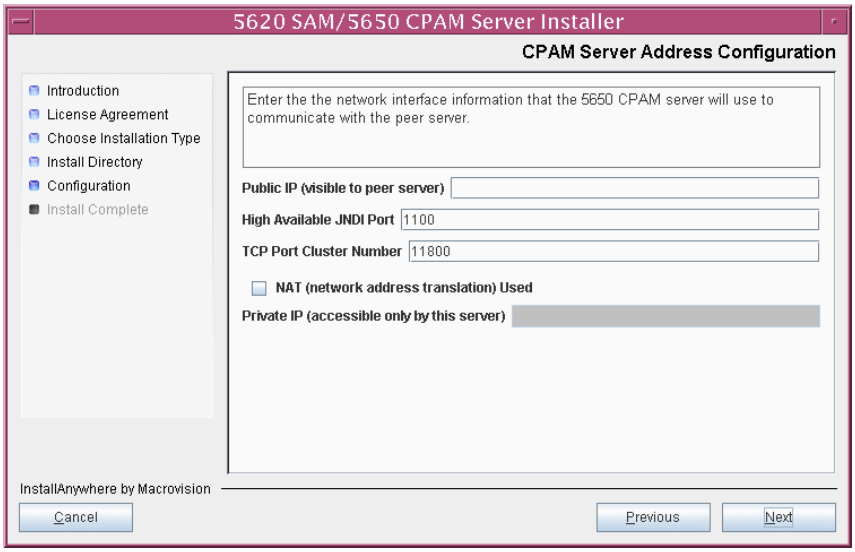


18 Configure the following parameters shown in Figure 8-14:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is to be used between this 5620 SAM server and the peer 5620 SAM server, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

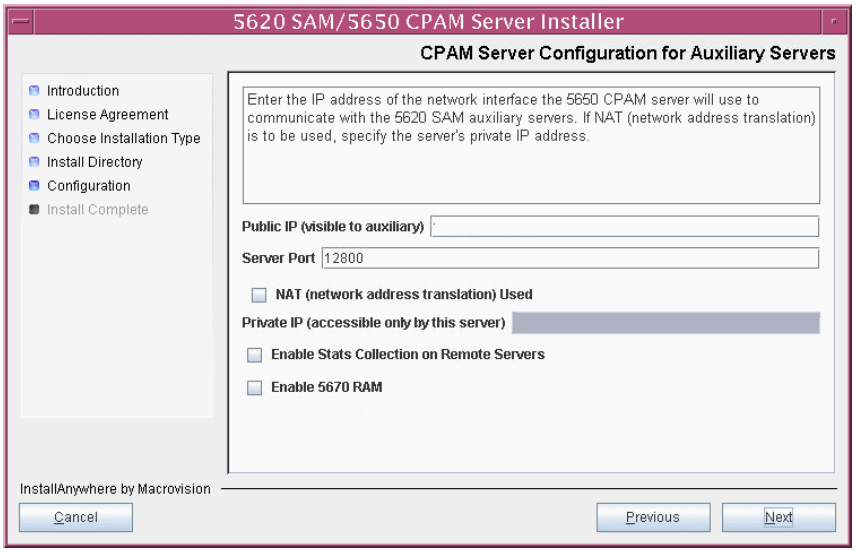
Figure 8-14 CPAM Server Address Configuration



19 If auxiliary servers are to be supported, enable the “Enable stats collection on remote servers” parameter shown in Figure 8-15. If NAT is to be used between the 5650 CPAM and auxiliary servers, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the “Private IP” field. Configure the following parameters, then click on the Next button:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable 5670 RAM

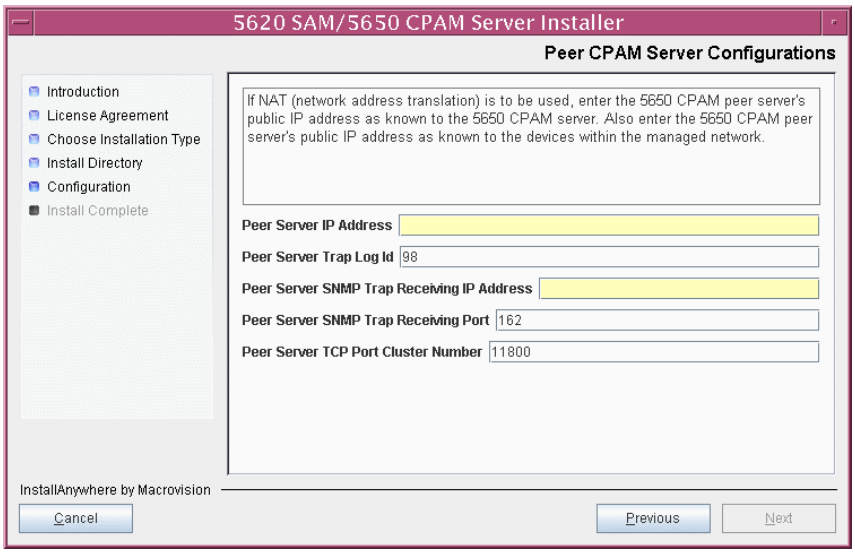
Figure 8-15 CPAM Server Configuration for Auxiliary Servers



20 Configure the following parameters shown in Figure 8-16, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Port Number (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

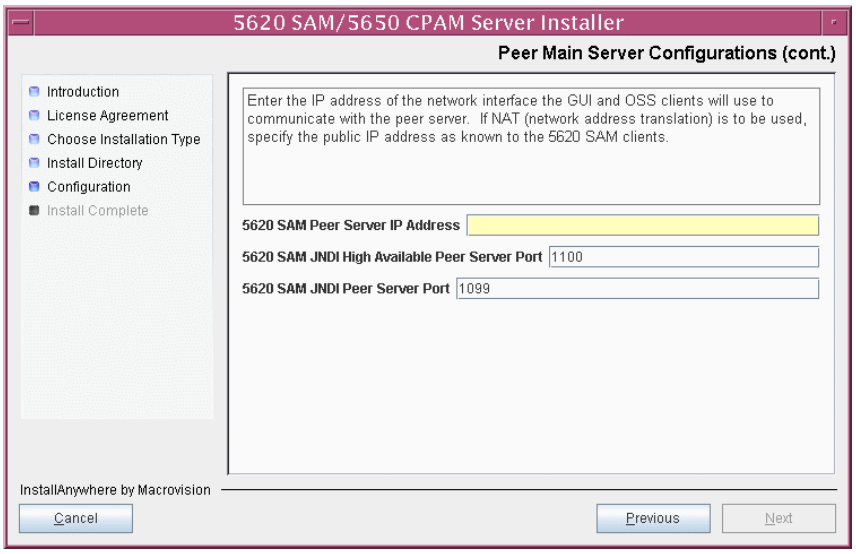
Figure 8-16 Peer CPAM Server Configurations



21 Configure the following parameters shown in Figure 8-17, then click on the Next button:

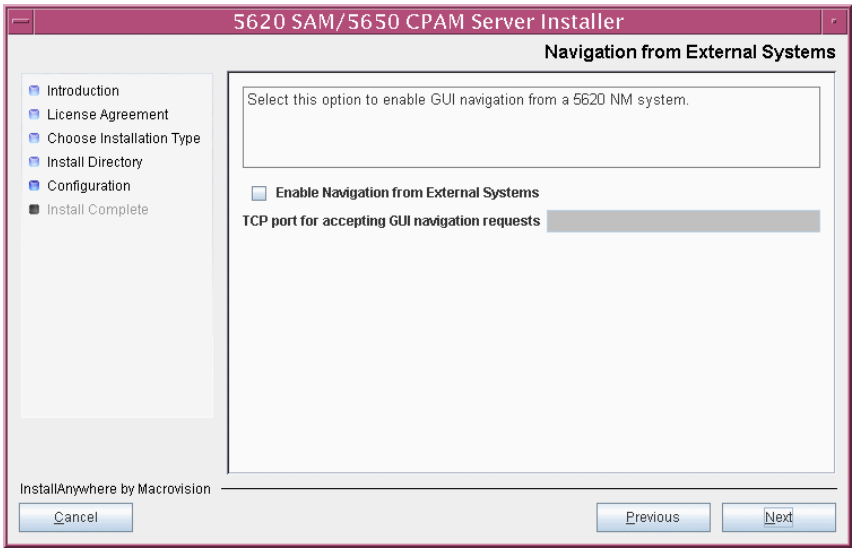
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 8-17 Peer Main Server Configurations (continued)



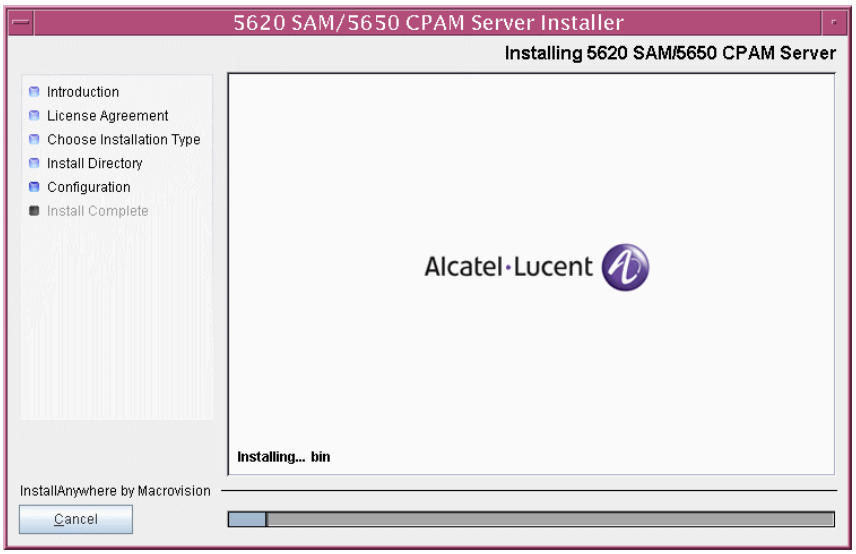
22 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 8-18 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 8-18 Navigation from External Systems



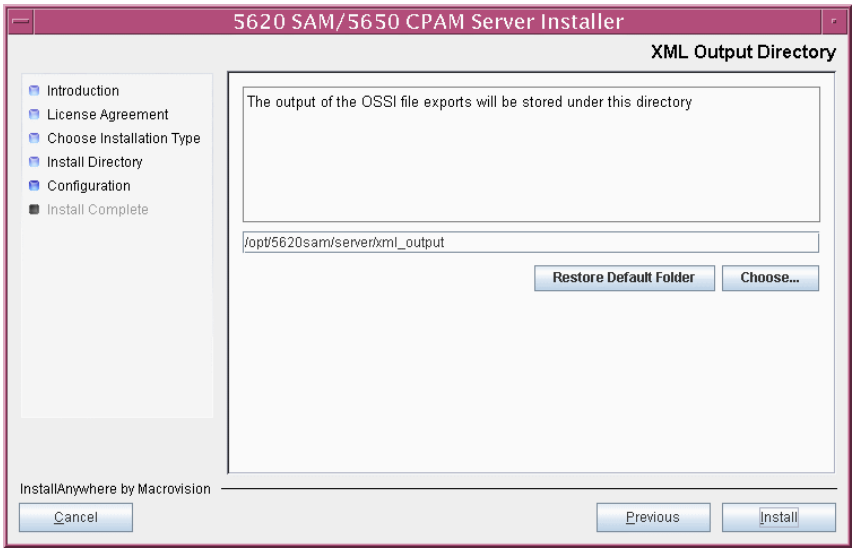
The next panel displays server installation progress, as shown in Figure 8-19.

Figure 8-19 Installing 5620 SAM/5650 CPAM Server



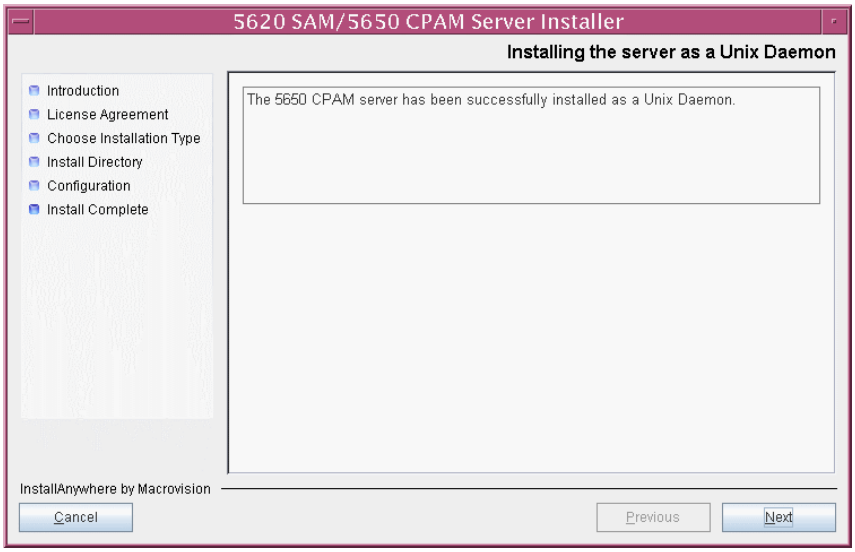
23 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 8-20. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 8-20 XML Output Directory



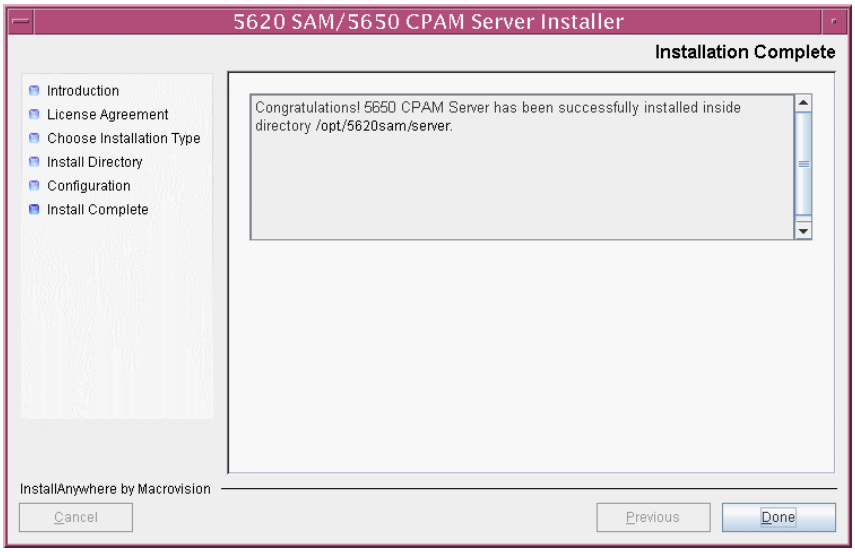
24 As shown in Figure 8-21, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 8-21 Installing the Server as a Unix Daemon



25 When the server installation is complete, as shown in Figure 8-22, click on the Done button to close the installer.

Figure 8-22 Installation Complete



Procedure 8-2 To upgrade a 5650 CPAM system on Solaris

Perform this procedure to upgrade the 5650 CPAM software on a Solaris platform. The operator who performs this procedure requires root or root-equivalent user-account privileges.

Note — This procedure describes the installation of a 5650 CPAM server for integration with a redundant 5620 SAM system. The set of user prompts is smaller in a 5650 CPAM server installation for integration with a standalone 5620 SAM system.

Ensure that you record all information that you specify during this procedure, for example, directories, passwords, and IP addresses.

1 Log in as a user with root-equivalent privileges on the 5650 CPAM station.

2 Open a console window.

3 Navigate to the Solaris directory on the new 5650 CPAM software DVD-ROM. Enter the following at the CLI prompt:

```
# cd Solaris ↵
```

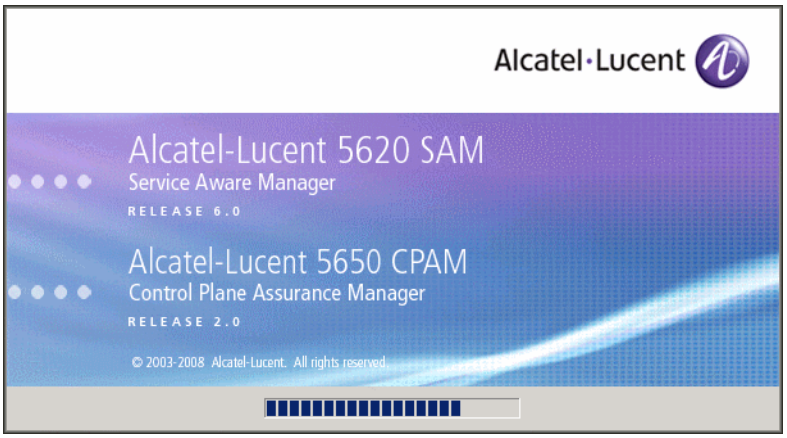
4 Enter the following at the CLI prompt to open the 5650 CPAM installer:

```
# ./ServerInstall_SAM_6_0_revision_ID.bin ↵
```

where *revision_ID* is the revision identifier, such as R1, R3, or another descriptor

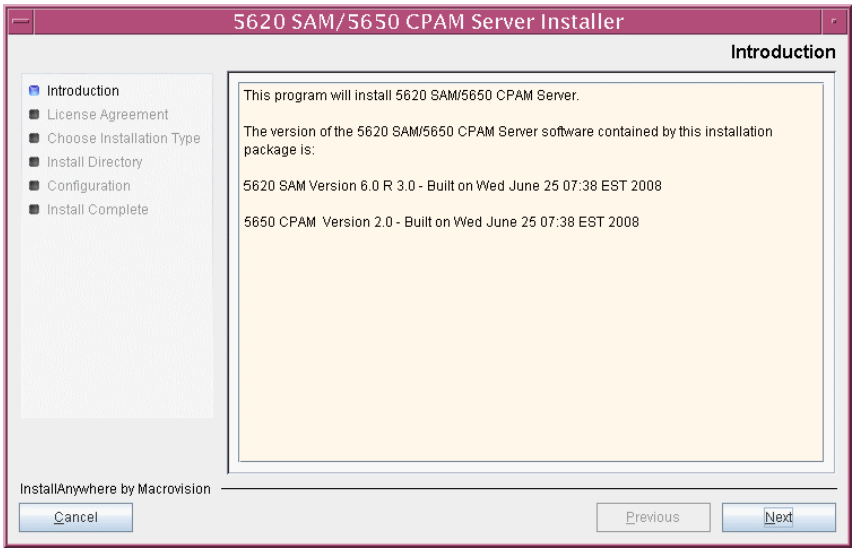
The splash screen in Figure 8-23 appears and the installation process begins.

Figure 8-23 5620 SAM Installer



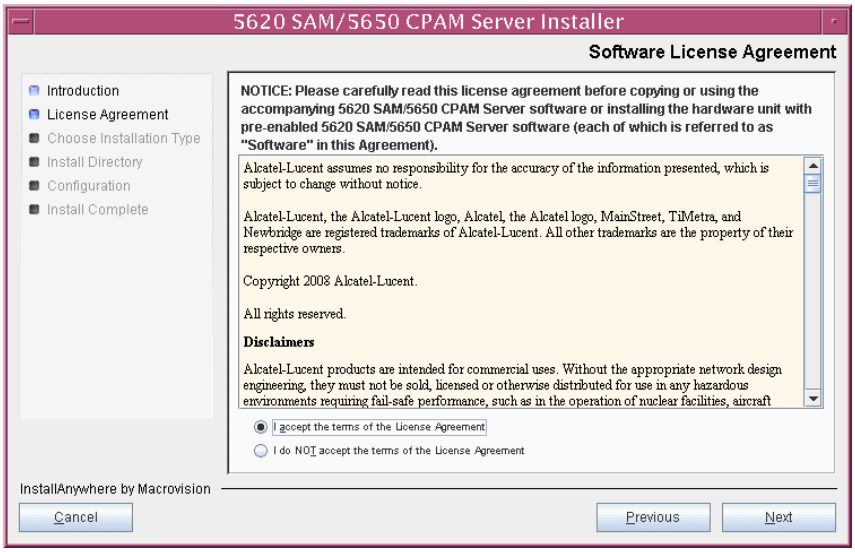
5 The 5650 CPAM installer opens as shown in Figure 8-24. The left pane indicates installation progress. The right pane displays version information about the software being installed. Click on the Next button to continue.

Figure 8-24 Introduction



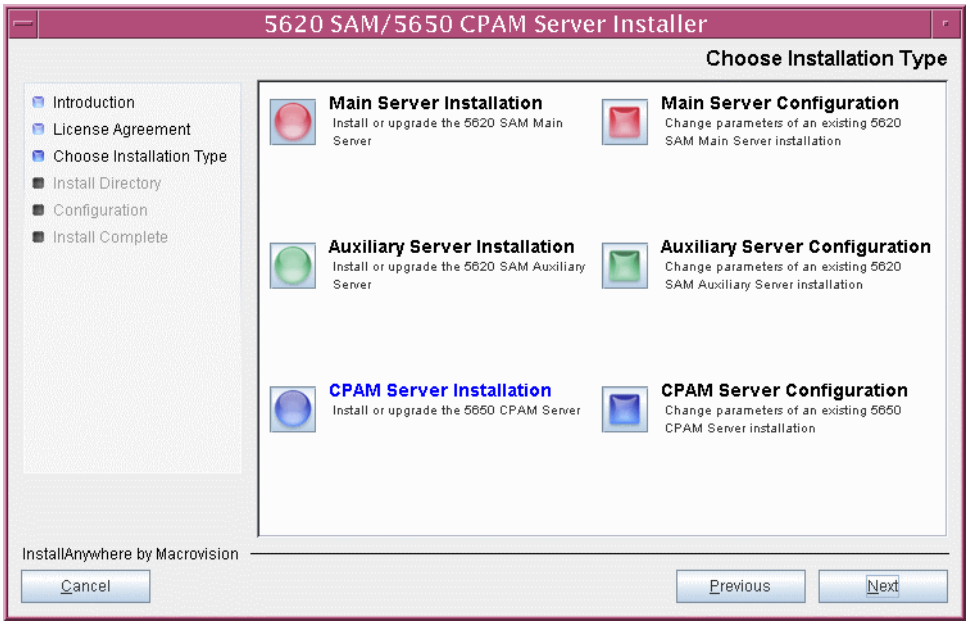
6 Review and accept the terms of the license agreement shown in Figure 8-25, then click on the Next button.

Figure 8-25 Software License Agreement



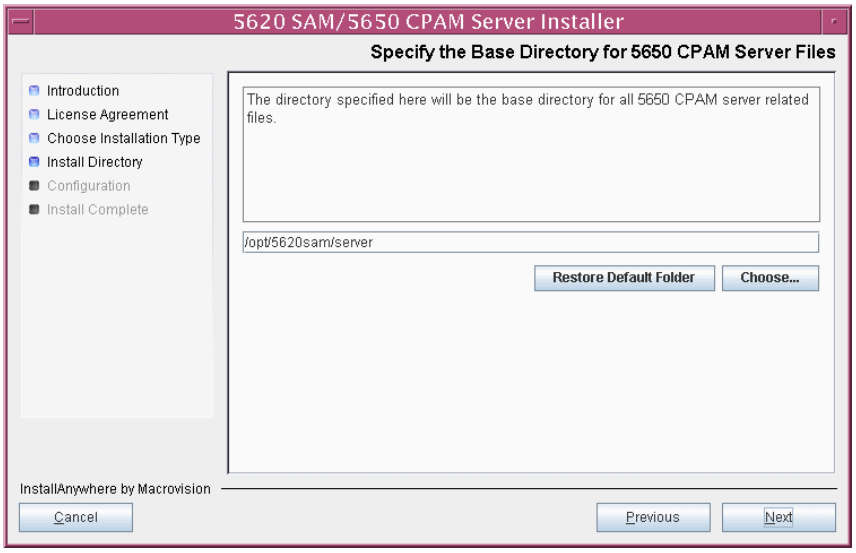
7 Select CPAM Server Installation, as shown in Figure 8-26, then click on the Next button.

Figure 8-26 Choose Installation Type



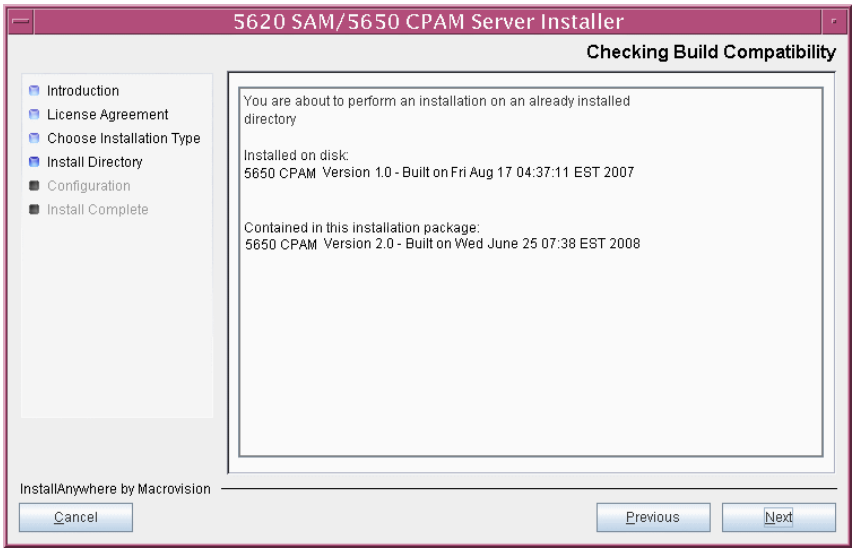
8 Specify a base directory in which to install the 5650 CPAM server software (typically /opt/5620sam/server), as shown in Figure 8-27. Click on the Next button to continue.

Figure 8-27 Specify the Base Directory for 5650 CPAM Server Files



9 As shown in Figure 8-28, the installer displays the version of the 5650 CPAM server software that is to be installed. Verify the information, then click on the Next button.

Figure 8-28 Checking Build Compatibility



10 Perform one of the following to specify where the 5650 CPAM and 5620 SAM user documentation is to be stored.

a To store the documentation in a central location that is available to all clients, perform the following steps.

i Select the "Install User Documentation at Central Location Below" parameter, as shown in Figure 8-29.

ii If you want to accept the default user documentation location that is displayed, go to step 11.

Note — If NAT is used between the 5620 SAM server and clients, you must update the default location using the public IP address of the server, or the documentation is not accessible to clients.

iii Specify a location for the user documentation in the field below the parameters.

iv Copy the contents of the User_Documentation folder on the 5620 SAM/5650 CPAM installation DVD-ROM to the location specified in step iii.

v Click on the Next button. A dialog box appears.

vi Click on the OK button.

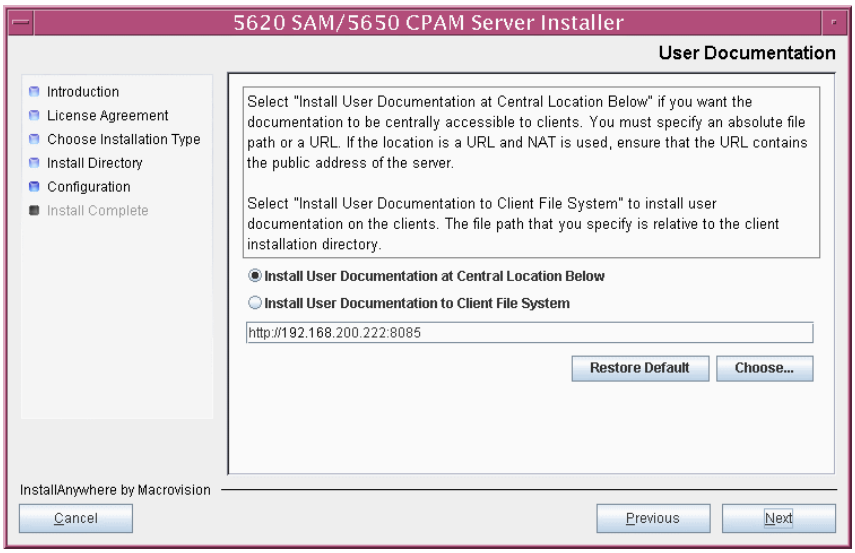
b To store a copy of the documentation on the client file system, perform the following steps.

i Select the “Install User Documentation to Client File System” parameter shown in Figure 8-29.

ii Specify a client file system location for the 5620 SAM user documentation in the field below the parameters. The location is a relative file path to a folder under the base 5620 SAM client installation folder. The path must not contain a leading slash. For example, if the installation folder is /opt/5620sam/client and you specify Documents as the location, the documentation is installed in the /opt/5620sam/client/Documents folder.

Note — The 5620 SAM uninstaller cannot remove the documentation unless it is installed below the nms folder in the base 5620 SAM client installation folder, for example, /opt/5620sam/client/nms/Documents.

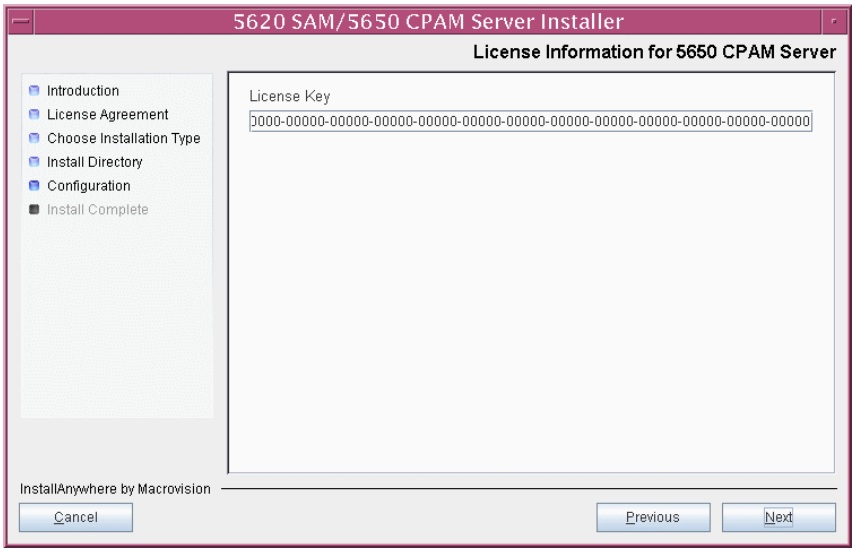
Figure 8-29 User Documentation



11 Click on the Next button to continue.

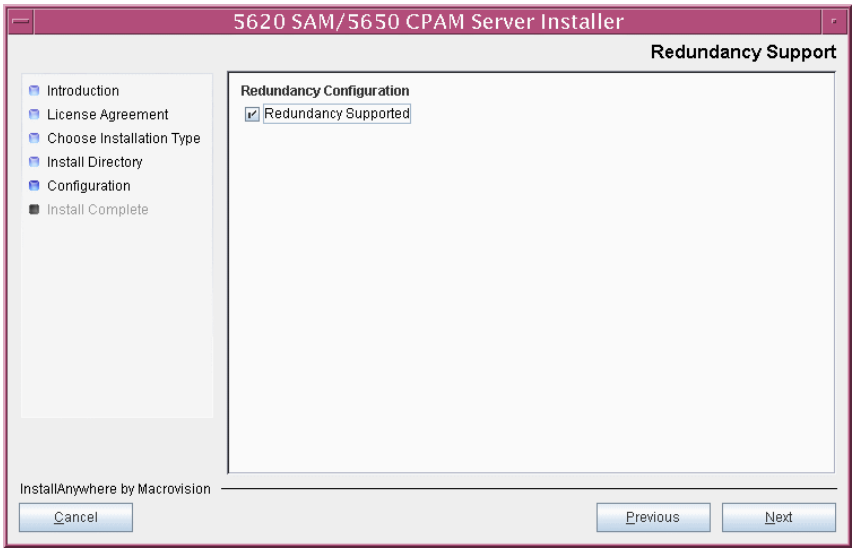
12 Enter the License Key information exactly as received from Alcatel-Lucent. Include the dashes in the key, as shown in Figure 8-30. Click on the Next button to continue.

Figure 8-30 License Information for 5650 CPAM Server



13 Configure the “Redundancy Supported” parameter shown in Figure 8-31, then click on the Next button.

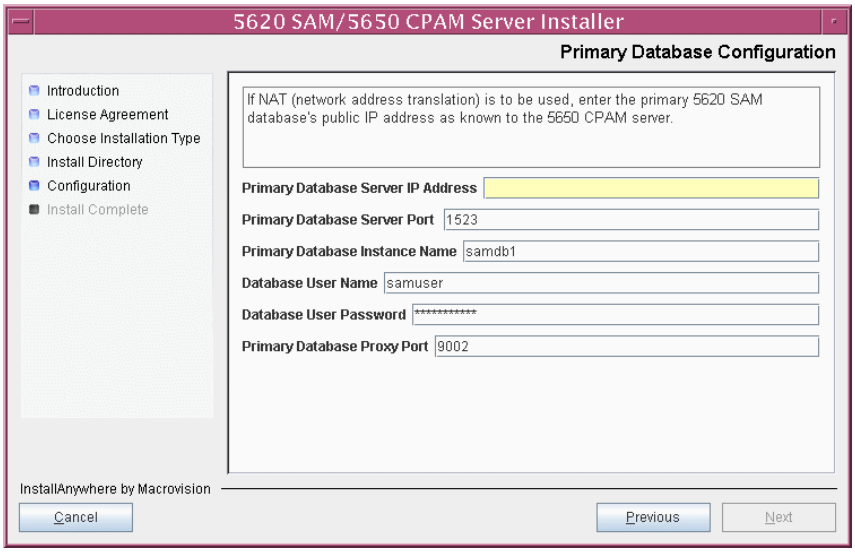
Figure 8-31 Redundancy Support



14 Configure the following parameters shown in Figure 8-32. Click on the Next button to continue.

- Primary Database Sever IP Address
- Primary Database Server Port (typically 1523)
- Primary Database Instance Name (typically samdb1)
- Database User Name (typically samuser)
- Database User Password
- Primary Database Proxy Port (typically 9002)

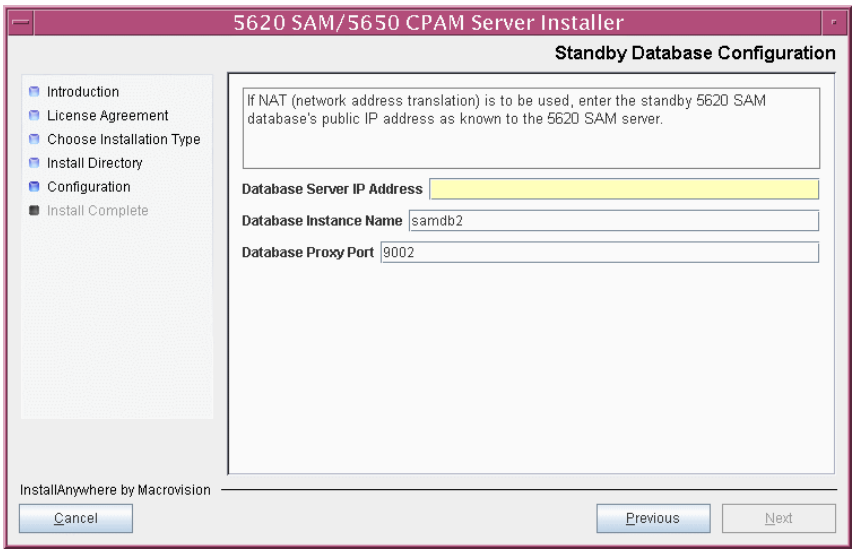
Figure 8-32 Primary Database Configuration



15 Configure the following parameters shown in Figure 8-33, then click on the Next button:

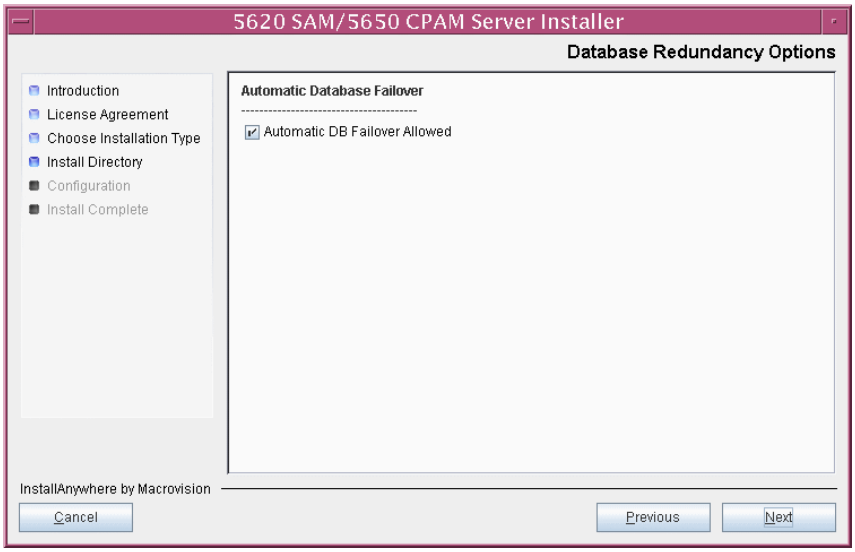
- Standby Database Server IP Address
- Standby Database Instance Name (typically samdb2)
- Standby Database Proxy Port (typically 9002)

Figure 8-33 Standby Database Configuration



16 Enable the "Automatic DB Failover Allowed" parameter, as shown in Figure 8-34, to ensure that the primary database passes control to the standby database in the event of a primary database failure. Click on the Next button to continue.

Figure 8-34 Database Redundancy Options

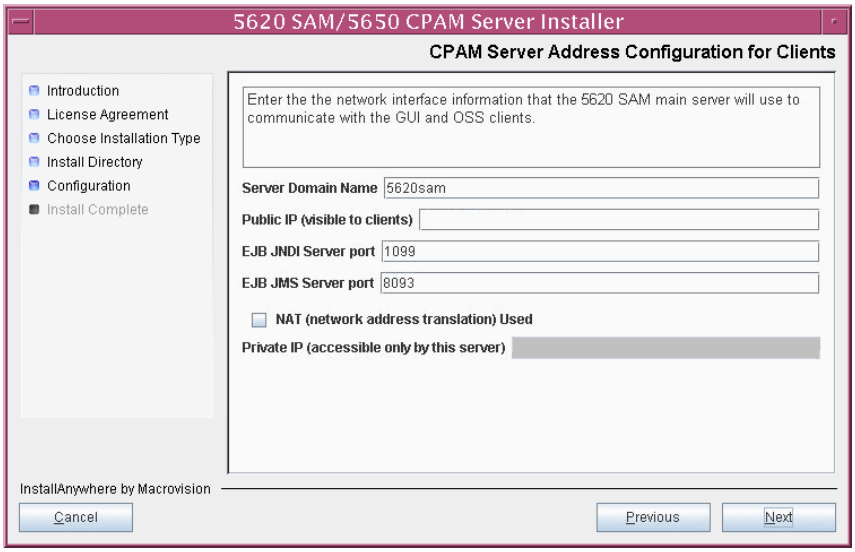


17 Configure the following parameters shown in Figure 8-35:

- Server Domain Name (typically 5620sam)
- Public IP (visible to clients)
- EJB JNDI Server port (typically 1099)
- EJB JMS Server port (typically 8093)

If NAT is used between the 5620 SAM server and clients, enable the “Network Address Translation Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

Figure 8-35 CPAM Server Address Configuration for Clients

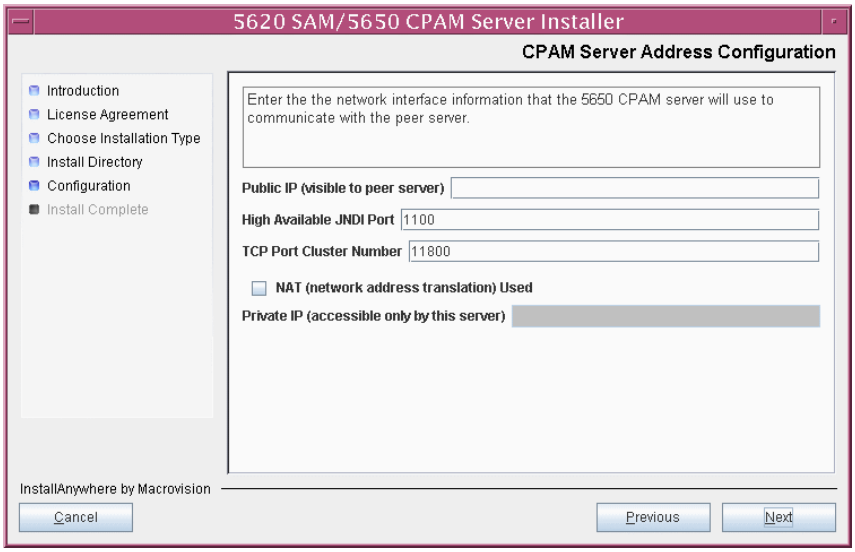


18 Configure the following parameters shown in Figure 8-36:

- Public IP (visible to peer server)
- High Available JNDI Port (typically 1100)
- TCP Port Cluster Number (typically 11800)

If NAT is used between this 5620 SAM server and the peer 5620 SAM server, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server. Click on the Next button to continue.

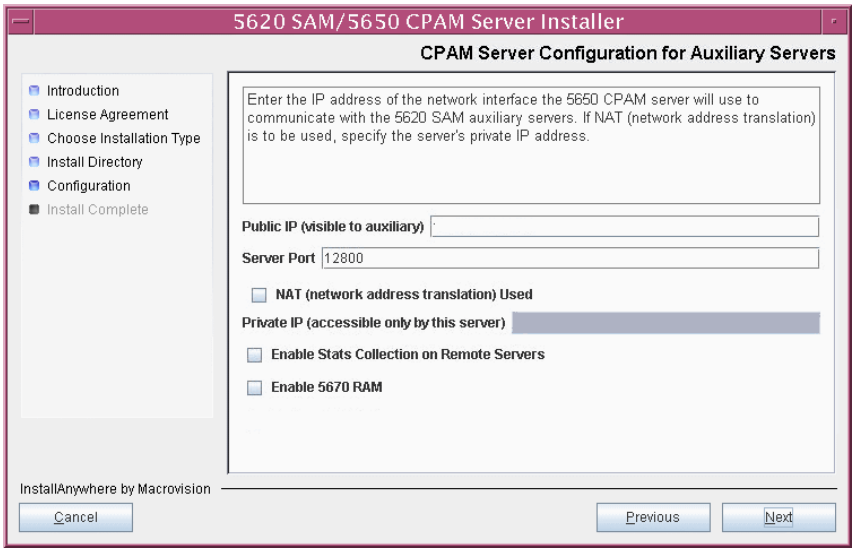
Figure 8-36 CPAM Server Address Configuration



19 If auxiliary servers are to be supported, enable the “Enable stats collection on remote servers” parameter shown in Figure 8-37. If NAT is to be used between the 5650 CPAM and auxiliary servers, enable the “NAT (network address translation) Used” parameter and enter the private IP address of the server in the “Private IP” field. Configure the following parameters, then click on the Next button:

- Public IP (visible to auxiliary)
- Server Port (typically 12800)
- Enable 5670 RAM

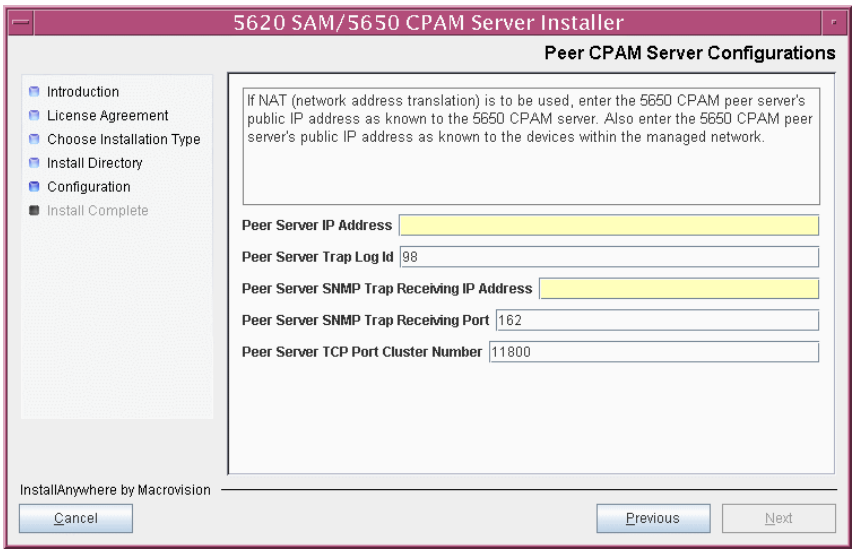
Figure 8-37 CPAM Server Address Configuration



20 Configure the following parameters shown in Figure 8-38, then click on the Next button:

- Peer Server IP Address
- Peer Server Trap Log Id (typically 98)
- Peer Server SNMP Trap Receiving IP Address
- Peer Server SNMP Port Number (typically 162)
- Peer Server TCP Port Cluster Number (typically 11800)

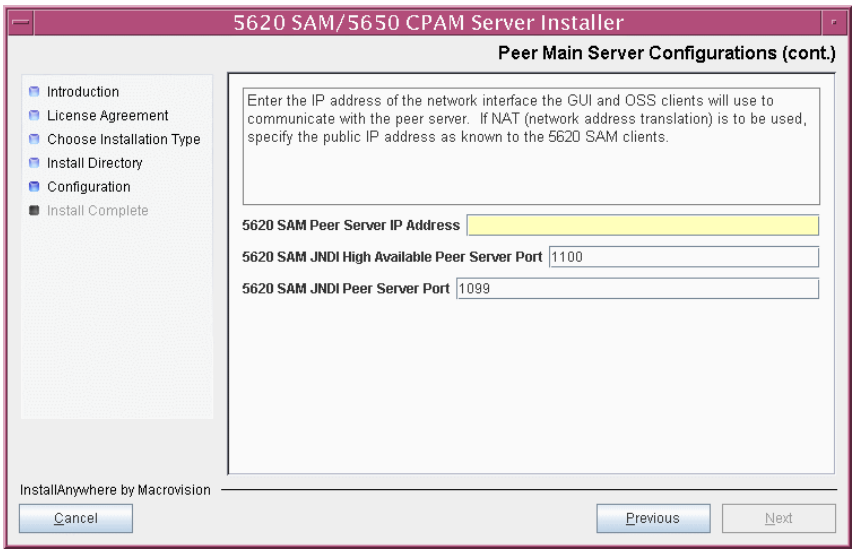
Figure 8-38 Peer CPAM Server Configurations



21 Configure the following parameters shown in Figure 8-39, then click on the Next button:

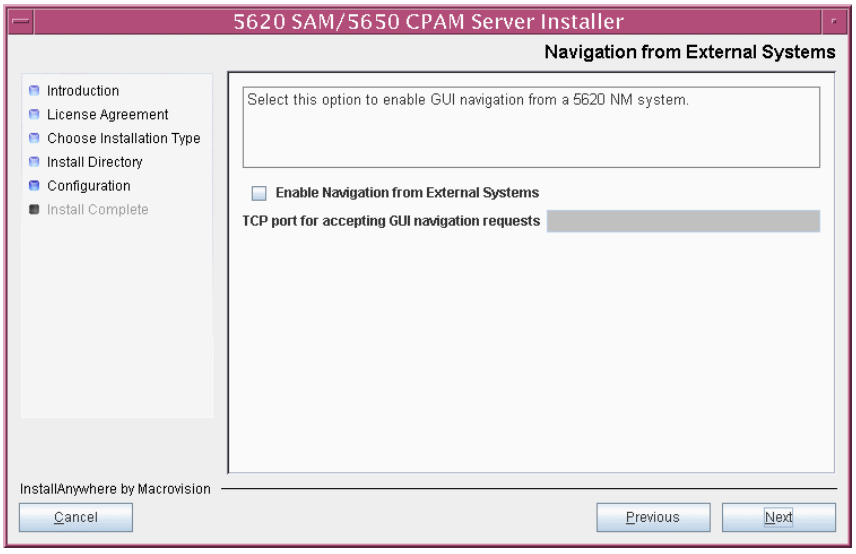
- 5620 SAM Peer Server IP Address
- 5620 SAM JNDI High Available Peer Server Port (typically 1100)
- 5620 SAM JNDI Peer Server Port (typically 1099)

Figure 8-39 Peer Main Server Configurations (continued)



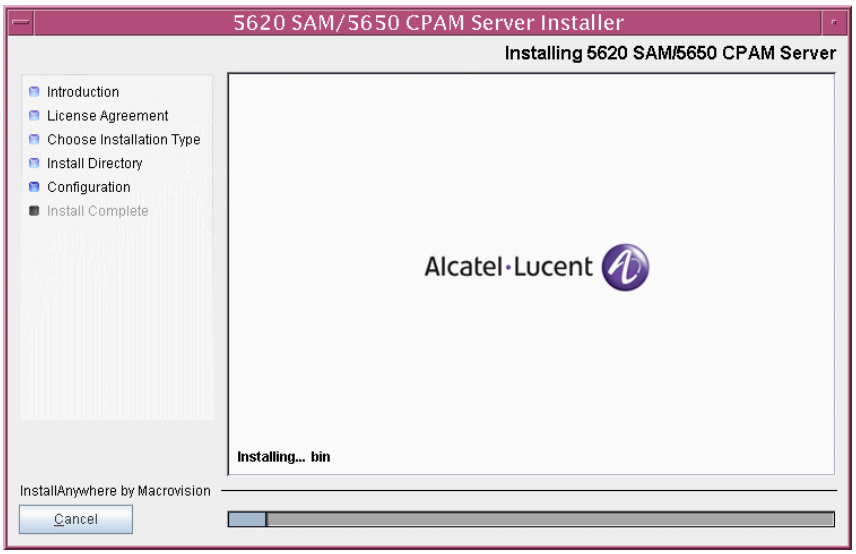
22 If you require 5620 SAM client navigation from a 5620 NM system, enable the "Enable Navigation from External Systems" parameter shown in Figure 8-40 and specify the TCP port that the client is to use for accepting navigation requests. Click on the Next button to continue.

Figure 8-40 Navigation from External Systems



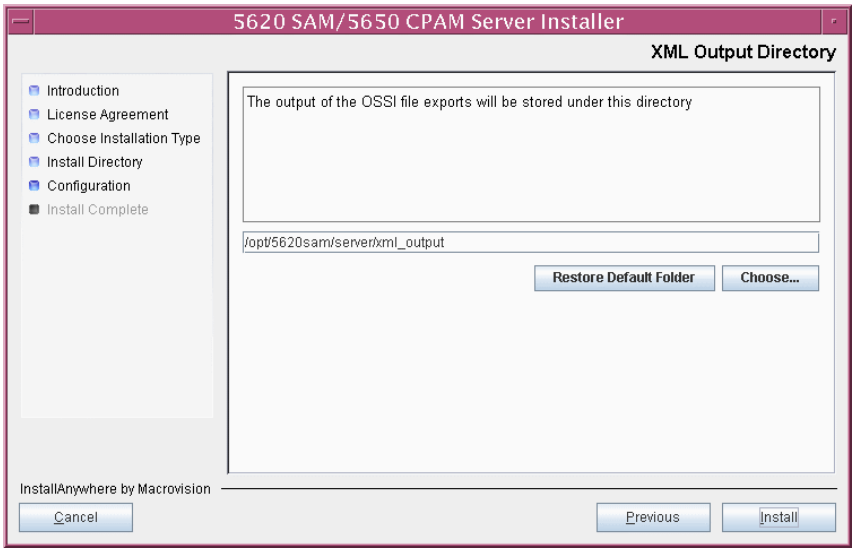
The next panel displays server installation progress, as shown in Figure 8-41.

Figure 8-41 Installing 5620 SAM/5650 CPAM Server



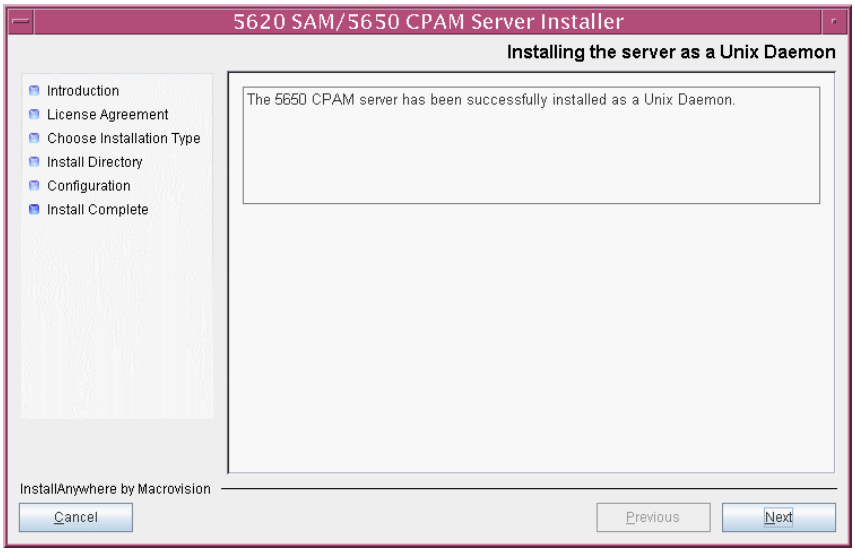
23 Specify a directory for OSS XML output (typically /opt/5620sam/server/xml_output), as shown in Figure 8-42. You are prompted to create the directory if it does not exist. Click on the Install button to continue.

Figure 8-42 XML Output Directory



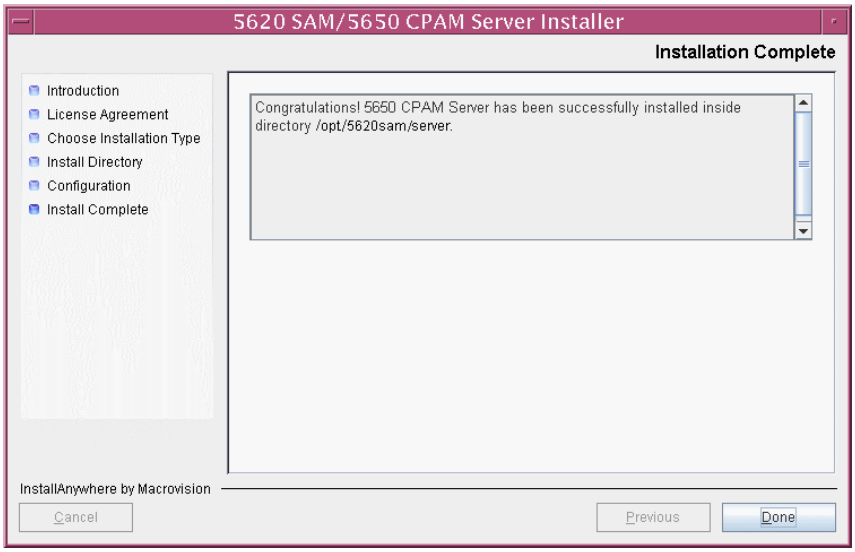
24 As shown in Figure 8-43, the 5650 CPAM server is installed as a UNIX daemon. Click on the Next button to continue.

Figure 8-43 Installing the Server as a Unix Daemon



25 When the server upgrade is complete, as shown in Figure 8-44, click on the Done button to close the installer.

Figure 8-44 Installation Complete



Procedure 8-3 To uninstall the 5650 CPAM software on a Solaris station

Perform this procedure to remove the 5650 CPAM software from a Solaris station.

Caution — This procedure involves stopping the 5650 CPAM server software. Ensure that you perform this procedure only during a scheduled maintenance window.

Note — You require root-equivalent user permissions on the server station to perform this procedure.

1 Stop the 5650 CPAM server application. See the *5650 CPAM User Guide* for information about stopping the 5650 CPAM.

2 Log in as a user with root-equivalent privileges on the 5650 CPAM server station.

3 Open a console window.

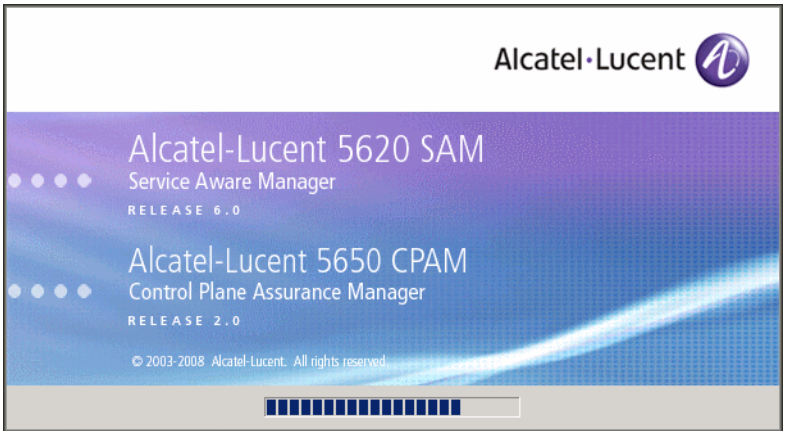
4 Enter the following at the CLI prompt to open the 5650 CPAM server uninstaller:

```
# path/install/Uninstaller/Uninstall_5620_CPAM_Server ↵
```

where *path* is the 5650 CPAM server installation location, typically /opt/5620sam/server

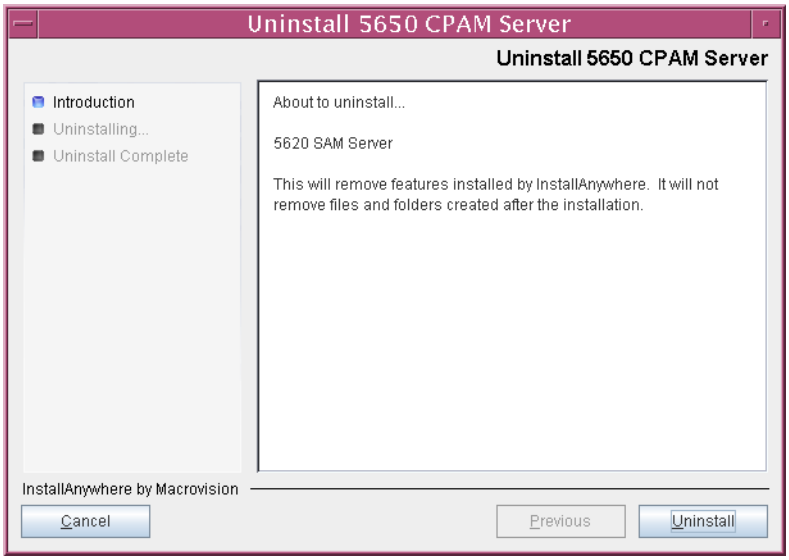
The splash screen in Figure 8-45 appears and the uninstallation process begins.

Figure 8-45 5650 CPAM Uninstaller



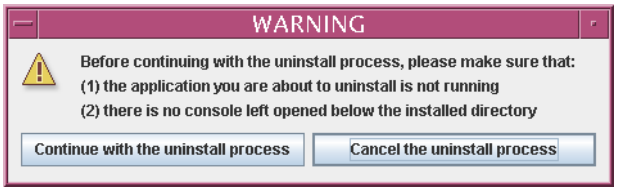
5 The 5650 CPAM server uninstaller opens, as shown in Figure 8-46. The left pane indicates uninstallation progress. The right pane indicates the actions that are to take place. Click on the Uninstall button to proceed.

Figure 8-46 Uninstall 5650 CPAM Server



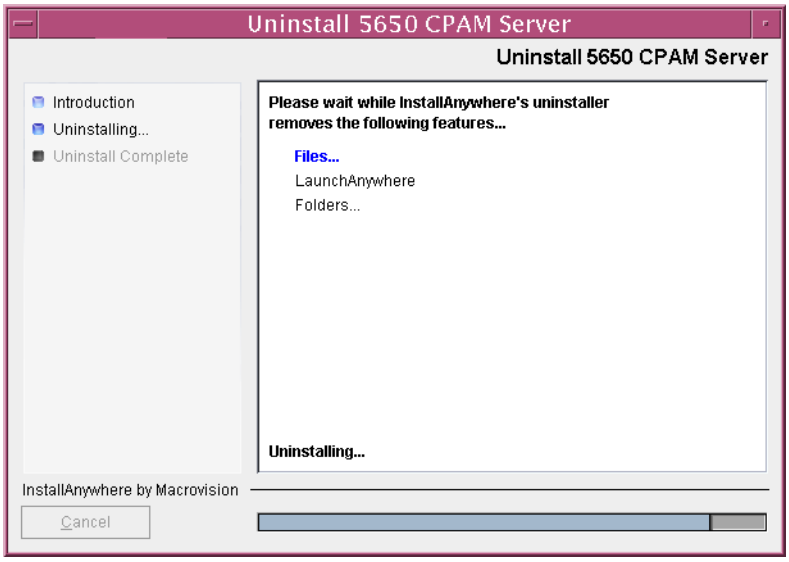
6 Read the warning shown in Figure 8-47, then click on the "Continue with the uninstall process" button to proceed with the server uninstallation.

Figure 8-47 Warning



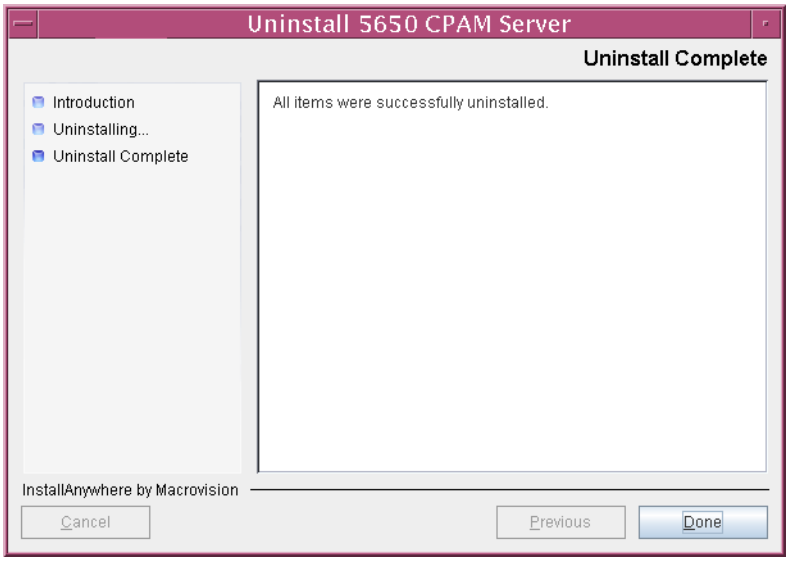
The uninstaller begins to remove 5620 SAM server files and directories, as shown in Figure 8-48.

Figure 8-48 Uninstall 5650 CPAM Server



7 When the server uninstallation is complete, as shown in Figure 8-49, click on the Done button to close the uninstaller.

Figure 8-49 Uninstall Complete



8 Close the console window.

Appendices

A. 5620 SAM installation parameters reference ***A-1***

B. 5620 SAM and 5620 NM integration ***B-1***

A. 5620 SAM installation parameters reference

A.1 5620 SAM database installation parameters *A-2*

A.2 5620 SAM main server installation and upgrade parameters *A-7*

A.3 5620 SAM auxiliary server installation parameters *A-10*

A.4 5620 SAM client installation and upgrade parameters *A-11*

A.1 5620 SAM database installation parameters

The following reference tables list the parameter prompts displayed during database installation. Table entries are listed in order by the installer panel header, and include the parameter name and configuration information.

Table A-1 Standalone 5620 SAM database installation parameters

Parameter	Description
Choose Installation Type	
Install & Configure a Standalone Database	Specifies a standalone database installation
Restore a Database	Specifies a database restore
Upgrade a Database	Specifies a database upgrade
Install & Configure Primary/Standby Database	Specifies a redundant primary or standby database installation
Install Oracle Software	
Install Oracle Software	Specifies that the Oracle software is to be installed
Do Not Install Oracle Software	Specifies that the Oracle software is not to be installed
Specify the Base Directory for 5620 SAM Database Files	
5620 SAM database installation directory	The directory in which the 5620 SAM-related database files are to be installed; for example, C:\5620sam\samdb or /opt/5620sam/samdb
Specify the Base Directory for Oracle Files	
Oracle installation directory	The directory in which the Oracle files are to be installed. For example, C:\5620sam\oracle or /opt/5620sam/oracle
General Database Configuration Info	
Database Server IP Address	Enter the IP address of the station on which you are installing the 5620 SAM database.
Database Name	The name of the 5620 SAM database in this standalone or redundant 5620 SAM system The database name must: • consist of up to 8 characters • contain only ASCII characters • use a letter as the first character • not be restricted by Oracle. See the appropriate Oracle documentation for a list of restricted database names. The database is created in Oracle by the 5620 SAM.
Instance Name	The name that the Oracle software associates with the database processes and the memory allocated to the processes. In a cluster environment, there can be multiple instance names. In a non-cluster environment, the instance name can be the same as the database name. The instance name must: • consist of up to 11 characters • contain only ASCII characters • use a letter as the first character
User Name	The database user name

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Parameter	Description
User Password	Enter a password using up to 32 alphanumeric characters. Alcatel-Lucent recommends that you use the default password. If you do not use the default password, the password must contain three of the four following character types: • uppercase • lowercase • numeric • special (for example, %) This password can only be changed during installation. Remember to keep track of the password for future use.
Confirm User Password	
Database Listener Port	The TCP port that the Oracle database listener uses for basic connectivity between the database and the 5620 SAM server
Proxy port number	The TCP port that the server uses for redundancy communication with the database, such as the initiation of a database failover or notification of a server activity switch.
Oracle SYS Password	
Oracle SYS password	Specifies the password that Oracle requires to start the database
Main Server IP Validation	
Enable SAM Server IP Validation	When enabled, specifies to restrict the 5620 SAM server that can connect to the database using the IP address specified. If required, enable the parameter and specify the 5620 SAM server IP address.
SAM Server IP Address	Specifies the IP address of the standalone 5620 SAM server that connects to this database.
Public IP Address of the Database Server	
Access Database through a NAT Router	When enabled, specifies that the database communicates through a NAT router.
Public IP Address	The database public IP address, which is the address that the NAT router uses as the database IP address when communicating with the 5620 SAM server
Archive Log Destination	
Archive log directory	The directory for storing the database archive logs, for example, C:\5620sam\samdb\archivelog or /opt/5620sam/samdb/archivelog. This directory should be secure and regularly backed up to prevent corruption or data loss. Check the directory regularly to ensure that there is enough disk space available to continue storing database backup files. All database changes are stored in the directory until a backup of the database is performed. Alcatel-Lucent recommends performing regular backups to avoid filling the disk partition. Click on the Create Directory and Continue button to create the directory, if it does not already exist.
Choose the Redo Log Directory	
Redo log directory	The directory for storing the database redo logs, for example, C:\5620sam\samdb\redolog or /opt/5620sam/samdb/redolog. This directory should be secure and regularly backed up to prevent corruption or data loss. Click on the Create Directory and Continue button to create the directory, if it does not already exist.
Data Layout Option	

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Parameter	Description
Data Layout Option	Perform one of the following to determine tablespace creation: • "Single Table Space" option: Specifies that the 5620 SAM database stores all data in one tablespace. Alcatel-Lucent recommends this configuration for most installations. • "Multiple Tablespaces, specifying only Stats and Alarm drives" option: Specifies that the 5620 SAM database stores the data in one tablespace, except for the statistics and alarm data, which are stored in other configurable tablespaces The 5620 SAM supports the ability to span the Oracle database tablespaces over multiple file systems. However, this spanning is only an advantage when the file systems use different hard disk controllers. Contact your Alcatel-Lucent support representative for more information about using multiple file systems for tablespaces. • "Multiple Tablespaces, assigning each TS to a drive" option: Specifies that the 5620 SAM database stores the data in multiple configurable tablespaces The 5620 SAM supports the ability to span the Oracle database tablespaces over multiple file systems. However, this spanning is only an advantage when the file systems use different hard disk controllers. Contact your Alcatel-Lucent support representative for more information about using multiple file systems for tablespaces.
Data File Directories	
—	Use this form to specify the directories that hold the 5620 SAM database tablespaces
Configure Tablespaces	
—	Use this form to assign the data file directories to 5620 SAM database tablespaces
Auxiliary Server IP Validation	
Add button	When "Enable SAM Server IP Validation" is enabled, only the specified 5620 SAM auxiliary servers can connect to the database. If required, click on this button to specify an auxiliary server IP address. Applies only to a 5620 SAM database installations on Solaris

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Table A-2 Redundant 5620 SAM database installation parameters

Parameter	Instructions
Choose Installation Type	
Install & Configure a Standalone Database	Specifies a standalone database installation
Restore a Database	Specifies a database restore
Upgrade a Database	Specifies a database upgrade
Install & Configure Primary/Standby Database	Specifies a redundant primary or standby database installation
Specify the Base Directory for 5620 SAM Database Files	
Location of 5620 SAM database files	The directory in which the 5620 SAM-related database files are to be installed; for example, C:\5620sam\samdb or /opt/5620sam/samdb. The primary and standby 5620 SAM databases must use an identical directory structure.
Specify the Base Directory for Oracle Files	

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Parameter	Instructions
Location of 5620 SAM database files	The directory in which the Oracle files are to be installed. For example, C:\5620sam\oracle or /opt/5620sam/oracle. The directory names and structures must match on the primary and standby databases.
Main Server IP Validation	
Enable SAM Server IP Validation	When enabled, specifies whether to restrict the 5620 SAM server that can connect to the database using the IP address specified. If required, enable this option and specify the server station IP address.
SAM Server IP Address	Specifies the IP address of the 5620 SAM server that connects to this database.
Auxiliary Server IP Validation	
Add button	When "Enable SAM Server IP Validation" is enabled, only the specified 5620 SAM auxiliary servers can connect to the database. If required, click on this button to specify an auxiliary server IP address.
Primary or Standby Database Configuration Info	
SAM Server IP Address Validation	Specifies whether only 5620 SAM servers using the IP addresses specified can connect to the database. If required, enable this parameter and specify the server IP addresses.
Peer SAM Server IP Address	Specifies the IP address of the standby 5620 SAM server that connects to this database
(Primary or Standby) Database name	Enter a name for the 5620 SAM primary or standby database. The default name is samdb. You must use the same database name for the primary and standby databases. The database name must: • consist of up to 8 characters • contain only ASCII characters • have a letter as the first character • not be restricted by Oracle. See the appropriate Oracle documentation for a list of restricted database names.
(Primary or Standby) Instance Name	Enter the instance name used by Oracle to name the processes and the memory allocated to the processes on the primary and standby database stations. The instance name must be unique on the primary and standby servers, for example, samdb1 for the primary database and samdb2 for the standby database. The instance name must: • consist of up to 11 characters • contain only ASCII characters • use a letter as the first character
(Primary or Standby) User name	Enter a username on the primary and standby database; for example, samuser.
(Primary or Standby) User Password	Enter a password using up to 32 alphanumeric characters. Alcatel-Lucent recommends that you use the default password. If you do not use the default password, the password must contain three of the four following character types: • uppercase • lowercase • numeric • special (for example, %) This password can only be changed during installation. Remember to keep track of the password for future use.
Confirm User Password	
Oracle SYS Password	
Oracle SYS password	Specifies the password that Oracle requires to start the database
Database Proxy Port	
Database Proxy Port Number	Accept the default port number of 9002. This is the TCP port used by the server to send requests to the database for redundancy failovers and switchovers.

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Parameter	Instructions
Archive Log Destination	
Archive log destination	Enter a directory on a separate partition where the database archive logs are stored; for example /opt/5620sam/samdb/archivelog. This directory should be secure and regularly backed up to prevent corruption or loss of data. The archive log directory structures must match on both the primary and standby databases. Check the directory regularly to ensure that there is enough disk space available to continue storing database backup files. All database changes are stored in the directory until a backup of the database is performed. Alcatel-Lucent recommends that you perform regular backups to avoid filling the directory. Click on the Create Directory and Continue button to create the directory, if it does not already exist.
Data Layout Option	
Data layout option	Perform one of the following to determine tablespace creation. • Choose the Single Table Space option to store all data in one tablespace. Alcatel-Lucent recommends this configuration for most installations. • Choose the Multiple Table Space Stats and Alarm drives option. The 5620 SAM supports the ability to span the Oracle database tablespaces over multiple file systems. However, this spanning is only an advantage when the file systems use different hard disk controllers. In most setups, use the Single Table Space option. To use multiple file systems for tablespaces, contact your Alcatel-Lucent support representative for more information. • Choose the Multiple Table Space option, assigning each tablespace to a drive option to customize all Oracle tablespaces that are created by the 5620 SAM.
Data File Directories	
Data file directories and Configure tablespaces	The tablespace directory should be the default directory. This places the directories in the same directory as the samdb database; for example, /opt/5620sam/samdb/tablespace. By default, all tablespaces are created in one tablespace directory.
Primary or Standby Database Info	
Configure the parameters for the standby database	You can configure the standby database information using similar forms and parameters, as was done for the primary database. Enter the standby database information, but use a different database instance name and configure the standby-specific parameters.

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Table A-3 5620 SAM database upgrade parameters

Parameter	Instructions
Choose Installation Type	
Install & Configure a Standalone Database	Specifies a standalone database installation
Restore a Database	Specifies a database restore
Upgrade a Database	Specifies a database upgrade
Install & Configure Primary/Standby Database	Specifies a redundant primary or standby database installation
Specify the Installation Root Directory of the 5620 SAM Database	
Base location of current database	Enter the directory of the currently installed database, for example, C:\oracle\samdb or /opt/oracle/samdb.

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Parameter	Instructions
Specify the Base Directory for Oracle Files	
Base Directory for Oracle Files	Enter the location of Oracle directory in which the Oracle home directory is to be located after the upgrade; for example, C:\5620sam\oracle or /opt/5620sam/oracle.
Install Oracle Database Management Software	
Install Oracle Software	When you specified an Oracle installation, a series of prompts appear for the Oracle installation. Click on the Start Oracle Installation button.
Locate Old Oracle Home Directory	
Old Oracle Home Directory	Enter the location of the original Oracle Home directory, in which the Oracle 9i software is installed; for example, C:\oracle or /opt/Oracle.
Get Upgrade Database Info	
Database configuration information	Configure the required parameters to provide database configuration information. The parameters include: • Database Server IP Address • Database Name • Instance Name • Username • User Password and Confirm User Password • Oracle SYS password and Oracle SYSTEM password
Database Proxy Port	
Database Proxy Port Number	Accept the default port number of 9002. This is the TCP port used by the server to send requests to the database for redundancy failovers and switchovers.

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A.2 5620 SAM main server installation and upgrade parameters

The following reference tables show the installation parameter prompts displayed during main server installation and upgrade, including the installer panel header, the parameter name, and notes on parameter usage. Prompts differ depending on the operating system.

Table A-4 5620 SAM standalone and redundant main server installation parameters

Parameter	Instructions
Choose Installation Type	
Main Server Installation	Specifies a main server installation
Main Server Configuration	Specifies a main server reconfiguration
Auxiliary Server Installation	Specifies an auxiliary server installation
Auxiliary Server Configuration	Specifies an auxiliary server reconfiguration
Specify the Base Directory for 5620 SAM Main Server Files	
Specify the Base Directory for 5620 SAM Server Files	Enter a name and path for the base directory of all 5620 SAM-server related files; for example, C:\5620sam\server or /opt/5620sam/server. When you are configuring redundancy, server installation must be on a Solaris station.

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Parameter	Instructions
License Information for 5620 SAM Server	
Customer name and license key	Specifies the exact, case-sensitive customer name that is associated with the license key Specify the license key in the following format: *XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX* Include the dashes when you enter the license key. The customer name used to apply for the license key is used as part of the license key and must match. For example, if the customer name used to apply for the key is ABC Industries Incorporated, use that name for the Customer Name, rather than ABC industries.
Redundancy Support	
Redundancy Configuration	Specifies whether the server is installed using a redundant configuration using the check box. Redundancy is only supported on Solaris stations. When redundancy is enabled, you can configure primary and standby database parameters and the server redundancy configuration parameters. When redundancy is not enabled, you can only configure the standalone database parameters.
Primary Database Configuration (for redundant configurations)	
Primary Database Configuration	When you specify redundancy support, you can configure the parameters for the primary (active) database connection, as described in Table A-2: • Primary Database IP Address • Primary Database Server Port (default is 1523) • Primary Database Instance Name; for example, samdb1 • Database User Name • Database User Password and Confirm Database User Password • Primary Database Proxy Port (default is 9002)
Standby Database Configuration (for redundant configurations)	
Standby Database Configuration	When you specify redundancy support, you can configure the parameters for the standby database connection, as described in Table A-2: • Standby Database Server IP Address (Database Server IP Address) • Standby Database Instance Name (Database instance name, which must be different from the instance name of the primary database for example, samdb2) • Standby Database Proxy Port (default is 9002)
Database Redundancy Options (for redundant configurations)	
Database Redundancy Options	Specifies the parameters that determine how server and database redundancy are handled. Alcatel-Lucent recommends that the database instance that is configured as the primary database is closely located with the primary server. Ensure that the primary database and the primary server are installed and running on the same side of the WAN, to help prevent network management performance problems.
Database Configuration (for standalone database systems)	
Database Server IP Address	Specifies the IP address of the station on which you installed the 5620 SAM database for a standalone configuration.
Database Server Port	Specifies the default TCP port
Database Instance Name	Specifies the name of the 5620 SAM database created when you installed the 5620 SAM database. The default is samdb. The database name is case-sensitive.
Database User Name	Specifies the 5620 SAM database username created when you installed the 5620 SAM database, for example, samuser.
Database User Password	Specifies he 5620 SAM database user password created when you installed the database
Confirm Database User Password	

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Parameter	Instructions
Online Database Backup	
Online Backup Interval (Hours)	Specifies how often the database is to be backed up
Online Backup Destination	Specifies the backup directory on the database station
Number of Backup Sets	Specifies the number of database backup sets to store on the disk or partition where the database backups are stored For example, if the backup destination is dbbackup and 3 backup sets are specified, the dbbackup directory contains the following sub-directories: backupset_1, backupset_2, and backupset_3. A large numbers of backup sets can cause disk or partition space problems. Alcatel-Lucent recommends that you: • create a separate partition for database backups • create a directory equal to at least five times the expected database size • ensure that the backup disk or partition is sized for growth, depending on network considerations
Application Server Configuration	
Application Server IP address	Specifies the IP address of the station on which you are installing the 5620 SAM server application
EJB JNDI Server port	Specifies the EJB JNDI messaging port • Other software uses the same port number. Alcatel-Lucent recommends that no other software should run on the server. • There is a firewall between the client and the server.
EJB JMS Server port	Specifies the EJB JMS messaging port • Other software uses the same port number. Alcatel-Lucent recommends that no other software should run on the server station. • There is a firewall between the client and the server.
High available JNDI port	Accept the default value of 1100.
TCP Port Cluster Number	Accept the default value of 11800.
License Information for 5650 CPAM Server	
License key	The license key for a 5650 CPAM server, in the form *XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX-XXXXX* Include the dashes when you enter the license key.
SNMP Configuration	
SNMP trap receiving IP Address	Specifies the IP address to which the managed devices should be sending SNMP traps. In cases where there are multiple active network interfaces on the 5620 SAM server station, specify the IP address of the network interface through which the managed devices are to communicate with the server. For cases in which a network address translation firewall is located between the 5620 SAM server and managed devices in the network, specify the IP address the managed devices are to use to communicate with the 5620 SAM server.
SNMP trap receiving port	Specifies a port for SNMP communication. This value should match the setting for the managed network devices, such as the 7750 SRs. For Solaris stations, the port number must be above 1024. Note changes to port defaults and ensure that ports are available through firewalls. See the *5620 SAM Planning Guide* for more information.
Trap Log Id	Specifies the SNMP trap log ID. This value should match the value configured on the managed network devices.
Peer Application Server Configuration (for redundant configurations)	

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Parameter	Instructions
Peer Server IP Address	Specifies the IP address of the standby server station in a redundant configuration. Specify the IP address to which the managed devices should be sending SNMP traps. For cases in which there are multiple active network interfaces on the 5620 SAM server station, specify the IP address of the network interface through which the managed devices are to communicate with the server. For cases in which a network address translation firewall is located between the 5620 SAM server and managed devices in the network, specify the IP address that the managed devices are to use to communicate with the 5620 SAM server.
Peer Server Trap Log Id	Specifies the SNMP trap log ID. The default is 98. This ID may differ for the active and standby server components. Ensure configurations match on the managed devices, such as the 7750 SR, to ensure trap logs are sent to the appropriate server.
Peer Server SNMP Port Number	Specifies a port. The default is 162. This setting should match the setting for the managed network devices, such as the 7750 SRs.
Peer Server TCP Port Cluster Number	Accept the default of 11800.

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A.3 5620 SAM auxiliary server installation parameters

The following reference tables show the installation parameter prompts displayed during auxiliary server installation, including the installer panel header, the parameter name, and notes on parameter usage.

Table A-5 5620 SAM auxiliary server installation parameters

Parameter	Instructions
Choose Installation Type	
Main Server Installation	Specifies a main server installation
Main Server Configuration	Specifies a main server reconfiguration
Auxiliary Server Installation	Specifies an auxiliary server installation
Auxiliary Server Configuration	Specifies an auxiliary server reconfiguration
Specify the Base Directory for 5620 SAM Auxiliary Server Files	
—	Enter a name and path for the base directory of all 5620 SAM-server related files; for example, C:\5620sam\auxserver or /opt/5620sam/auxserver.
Auxiliary Server Address Configuration	
SAM Server Domain Name	Specifies the domain of the 5620 SAM server
Auxiliary Server IP Address	Specifies the IP address of this station
Auxiliary Server port	Specifies the local TCP port that this auxiliary server is to use for communication with a 5620 SAM main server
Redundancy Supported	Specifies whether the 5620 SAM main servers are installed in a redundant configuration. Redundancy is only supported on Solaris stations.
Main Server Configuration	
Main Server IP Address	Specifies the IP address of the 5620 SAM server in a standalone configuration

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Parameter	Instructions
Main Server Port	Specifies the TCP port of the 5620 SAM server in a standalone configuration that this auxiliary server uses
Main Server One IP Address	Specifies the IP address of the primary 5620 SAM server in a redundant configuration
Main Server One Port	Specifies the TCP port of the primary 5620 SAM server in a redundant configuration that this auxiliary server uses
Main Server Two IP Address	Specifies the IP address of the standby 5620 SAM server n a redundant configuration
Main Server Two Port	Specifies the TCP port of the standby 5620 SAM server in a redundant configuration that this auxiliary server uses

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A.4 5620 SAM client installation and upgrade parameters

The following reference tables show the installation parameter prompts displayed during client installation and upgrade, including the installer panel header, the parameter name, and notes on parameter usage. Prompts differ, depending on the operating system.

Table A-6 standalone and redundant 5620 SAM client installation parameters

Parameter	Instructions
Specify the Base Directory for 5620 SAM client Files	
Specify the Base Directory for 5620 SAM Client Files	Enter a name and path for the base directory for all 5620 SAM-client related files; for example, C:\5620sam\client or /opt/5620sam/client.
Main Server Configuration	
Server IP Address	Specifies the IP address of the standalone or primary 5620 SAM server to which the client is to routinely connect.
Redundancy support	Specifies whether the 5620 SAM server and database are installed in a redundant configuration.
Server Two IP Address	Specifies the IP address of the standby server in a redundant configuration. The parameter is configurable when the Redundancy Support parameter is enabled.

B. 5620 SAM and 5620 NM integration

B.1 Before you start B-2

B.2 5620 SAM integration software installation procedures B-2

B.1 Before you start

This chapter describes how to install the Alcatel-Lucent 5620 NM network-management software for interworking with the 5620 SAM. You can configure alarm forwarding from the 5620 SAM to the 5620 NM and enable a 5620 SAM client as a menu option on the 5620 NM GUI.

Consider the following before you install the integration software:

- The *5620 NM Release Notice* lists the compatible 5620 SAM software loads for the 5620 NM release.
- The 5620 NM and 5620 SAM integration software is on the 5620 SAM product DVD-ROM.
- For 5620 SAM GUI navigation from the 5620 NM client, the 5620 SAM client must be installed on the same station that runs the 5620 NM client X-window access application.
- For alarm forwarding, the 5620 SAM and 5620 NM client software can be installed on the same or different stations.
- The platform for the 5620 NM software must meet the minimum requirements in the *5620 Network Manager Installation and Upgrade Guide*.
- You must configure the 5620 SAM to interwork with the 5620 NM software; for example, configure the 5620 SAM server to forward alarms and configure the 5620 SAM client to allow navigation from external systems.

B.2 5620 SAM integration software installation procedures

This section describes how to enable 5620 SAM and 5620 NM interworking.

Procedure B-1 To configure 5620 SAM and 5620 NM GUI integration

Perform this procedure to enable the use of a 5620 SAM client GUI through a 5620 NM client GUI.

1 Include the required 5620 SAM integration package in the 5620 NM installation. Consult the 5620 NM documentation for integration software installation and configuration information.

2 If required, configure the 5620 SAM server to forward alarms to the 5620 NM. See the *5620 SAM User Guide* for information about how to configure a 5620 SAM server to forward alarms to an external system.

3 Install a 5620 SAM client on a station that displays the 5620 NM client GUI. This is typically a station that runs an X-Window terminal emulator, but it can also be the 5620 NM database networkstation or the 5620 NM operator server networkstation, if a client GUI is locally displayed. During 5620 SAM server installation, perform the following configuration actions:

   i Enable the “Enable Navigation from External Systems” parameter when prompted.

   ii Enter the 5620 SAM client TCP port for navigation requests when prompted.

4 Perform the following steps on the station where the 5620 SAM client is installed to ensure that anti-aliasing is disabled.

i Open the *path*/nms/config/nms-client.xml file with a plain-text editor such as vi

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

ii Search for the following XML tag that marks the beginning of the topologyMaps section:

```
<topologyMaps
```

iii Edit the antiAliasActive entry in the topologyMaps section to read “false” as shown below.

```
<topologyMaps

     iconReductionThreshold="40"

     labelHideThreshold="35"

        snapToGridInterval="25"

        antiAliasActive="false"

     />
```

5 Open a console window on the on the station where the 5620 SAM client is installed.

6 Navigate to the 5620 SAM client binary directory. Enter the following at the CLI prompt:

```
# cd path/nms/bin
```

where *path* is the 5620 SAM client installation location, typically /opt/5620sam/client

7 Start the navproxy process by entering the following at the CLI prompt:

```
# ./nmsnavproxy.bash start
```

8 Start the 5620 SAM client by entering the following at the CLI prompt:

```
# ./nmsclient.bash
```

9 Use the 5620 SAM client GUI to create a 5620 NM user account that has a non-administrative privilege level and scope of command. See the *5620 SAM User Guide* for information about user accounts and scopes of command.

10 Copy the sam-jaxb.jar file from the /integration/5620NM/server/jaxb directory on the 5620 SAM installation DVD-ROM to the opt/netmgt/jnm/extlib directory on the 5620 NM database networkstation.

11 Copy the following files from the 5620 SAM server station to the opt/netmgt/jnm/samjms/lib directory on the 5620 NM database networkstation:

- /opt/5620sam/server/nms/lib/common/nms-common.jar
- /opt/5620sam/server/nms/jboss/client/jbossall-client.jar

12 Copy the following files from the /integration/5620NM/client/samadaptor directory on the 5620 SAM installation DVD-ROM to the /opt/netmgt/samadaptor/lib directory on the 5620 NM database networkstation:

- jbasiccomp.jar
- jnavapi.jar
- navrmi.jar
- samAdaptor.jar

13 Open the X-Window terminal emulator on the station that has the newly installed 5620 SAM client.

14 Log in to the 5620 NM operator server networkstation as a user with administrative privileges.

15 Open a console window on the 5620 NM operator server networkstation.

16 Redirect the 5620 NM client display to the local station by entering the following at the CLI prompt:

setenv DISPLAY *station_IP_address*:0.0

where *station_IP_address* is the public IP address of the local station

17 Redirect the 5620 SAM client display to the local station by entering the following at the CLI prompt:

setenv SAM_DIS *station_IP_address*:9001

where *station_IP_address* is the public IP address of the local station

18 Start the 5620 NM client. The 5620 NM client GUI is displayed on the local station, and the 5620 SAM client GUI is available as a 5620 NM main menu item.

19 Use the 5620 SAM client account created in step 9 to perform the required interworking functions, as described in the *5620 Network Manager User Guide* and the *5620 SAM User Guide*.

Glossary

Numerics

5620 NM — 5620 Network Manager

The 5620 NM provides advanced management of large, complex LAN/WAN networks, including hybrid circuit-switched, IP/MPLS, ATM, frame relay, and X.25 networks. The GUI operates on a Sun workstation. It can be used to configure databases, monitor network operation in real time, set up and manage paths, and perform diagnostics to isolate and manage problems on the network.

With the addition of optional software modules, the 5620 NM can perform advanced management functions such as managing multivendor equipment, interfacing with UMS, and partitioning networks.

5620 SAM — 5620 Service Aware Manager

The 5620 SAM is the network manager portfolio of modules for the 7750 SR, 7710 SR, 7450 ESS, 7250 SAS, and Telco devices.

5620 SAM auxiliary server — In a 5620 SAM system that is deployed using distributed server architecture, a 5620 SAM server instance on a dedicated station that accepts processing requests from, and is directed by, a 5620 SAM main server. A main server and one or more auxiliary servers that are in communication are collectively called a 5620 SAM server cluster.

5620 SAM client — The 5620 SAM client provides a GUI to configure IP network elements.

5620 SAM database — The 5620 SAM database stores network data-model objects and network configuration information.

5620 SAM main server A server instance in the 5620 SAM distributed server architecture that directs one or more 5620 SAM auxiliary servers and interacts with 5620 SAM clients. The term is meaningful only in the context of a distributed 5620 SAM server deployment; the term 5620 SAM server applies to a single server instance in a non-distributed 5620 SAM deployment. A main server and one or more auxiliary servers that are in communication are collectively called a 5620 SAM server cluster.

5620 SAM server The 5620 SAM server mediates between the 5620 SAM database, the 5620 SAM client, and the network. A 5620 SAM server may be a single server instance, or, in a distributed server architecture, a server cluster that consists of one main server and one or more auxiliary servers.

5620 SAM server cluster A logical grouping in a distributed 5620 SAM server configuration that consists of a 5620 SAM main server and the 5620 SAM auxiliary servers in communication with it.

5620 SAM-A 5620 SAM Assurance

The 5620 SAM-A provides service assurance functionality.

5620 SAM-E 5620 SAM Element Manager

The 5620 SAM-E provides network element configuration and management functionality.

5620 SAM-P Alcatel 5620 SAM Provisioning

The 5620 SAM-P provides service provisioning functionality.

7450 ESS 7450 Ethernet Service Switch

The 7450 ESS is a router that provides scalable, high-speed Ethernet private data services with SLAs.

7710 SR 7710 Service Router

The 7710 SR is a 10 Gbyte version of the 7750 SR that provides granular lower-speed private data services with SLAs.

7750 SR 7750 Service Router

The 7750 SR is a router that provides scalable, high-speed private data services with SLAs.

A

AS AS is expanded two ways:

1 alarm surveillance

AS is an application that receives, stores, displays, and manages real-time alarms. The AS tool consists of an IM to receive, filter, and store alarms; and a USM to display and manage alarm information.

2 autonomous system

An AS is a collection of routers under one administrative entity that cooperates by using a common IGP (such as OSPF). AS is synonymous with the ISO term “routing domain”. Routing between autonomous systems is done with an inter-AS or interdomain EGP, such as BGP-4.

auxiliary server *See* 5620 SAM auxiliary server.

C

CLI command line interface

The CLI is an interface that allows the user to interact with the operating system by typing alphanumeric commands and optional parameters at a command prompt. UNIX and DOS provide CLIs.

D

DVD digital versatile disk

An optical digital disk that stores up to 4.7 Gbytes of data. A DVD can be recorded on both sides and in dual layers.

DVD-ROM digital versatile disk- read-only memory

A read-only DVD that is used to store data and software, as well as audio and video content.

F

fault A fault is a failure or defect in a network, causing the network, or part of the network, to malfunction.

FTP file transfer protocol

FTP is the Internet standard client/server protocol for transferring files from one computer to another. FTP generally runs over UDP.

G

GUI graphical user interface

A GUI is a computer user interface that incorporates graphics to make software easier to use.

I

ICMP Internet Control Message Protocol

ICMP is a protocol that sends and receives the control and error messages used to manage the behavior of the TCP/IP stack. ICMP is defined in RFC 792.

IP internet protocol

IP is the network layer for the TCP/IP protocol suite. It is a connectionless, best-effort packet-switching protocol defined by the IETF.

J

JMS Java Message Service

JMS is an API that combines Java technology with enterprise messaging. The JMS API defines a common set of interfaces for creating applications for reliable asynchronous communication among components in a distributed computing environment, so that the applications are portable across different enterprise systems.

main server *See* 5620 SAM main server.

M

main server *See* 5620 SAM main server.

N

NAT Network Address Translation

The process of re-writing the source and/or destination address of IP packets as they pass through a router. NAT is used as a means to give multiple hosts on a private IP range access to the Internet using a single IP address.

O

OC-N Optical Carrier - level *N*

An optical SONET signal carried at the speed of *N*, for example OC-12 is a signal at 622.08 Mb/s.

OSS operations support system

A network management system supporting a specific management function, such as alarm surveillance and provisioning, in a service provider network.

OSSI operations support system interface

P

PID process identifier

R

RAID redundant array of independent disks

RN release notice

The RN provides details about outstanding issues and functionality related to a software release, including platform requirements, configurations, restrictions, and issues lists.

router A router is an interface device between two networks, connecting LANs to LANs or LANs to WANs. It selects the most cost-effective route for moving data between multiprotocol LANs, making sure that only one route exists between source and destination devices.

S

SAN storage area network

A SAN is an architecture that attaches remote computer storage devices such as disk arrays, tape libraries and optical jukeboxes to a computer in such a way that, to the computer operating system, the devices appear to be locally attached.

SNMP Simple Network Management Protocol

A protocol used for the transport of network management information between a network manager and a network element. SNMP is the most commonly used standard for most interworking devices.

SNMP trap An SNMP trap is an unsolicited notification that indicates that the SNMP agent on the node has detected a node event, and that the network management domain should be aware of the event. SNMP trap information typically includes alarm and status information, and standard SNMP messages.

SNMP trap log ID SNMP trap log ID is the ID of a log. A valid log ID must exist for alarms and traps to be sent to the trap receiver.

SSH secure shell

The SSH protocol is used to protect communications between two hosts by encrypting a Telnet or FTP connection between the 5620 SAM and some nodes. Both ends of the client/server connection are authenticated using a digital certificate, and passwords are protected by being encrypted.

station Station, in the *5620 SAM | 5650 CPAM Installation and Upgrade Guide*, is a general term that means a Windows PC or a Solaris workstation.

T

Telnet — Telnet is the Internet-standard TCP/IP protocol for remote terminal connection service. The Telnet command and program are used to log in from one Internet site to another.

tiered architecture — Tiered architecture refers to the way in which the GUI and the network management components use a Java-based technology that provides distributed, secure, and scalable applications. This tiered architecture allows for scaling and fair load balancing, which improves performance.

TMN OS — Telecommunications Management Network Operating System

A TMN is an industry-standard model defined by the ITU-T for the layering of management functionality for telecommunications networks. In the Alcatel-Lucent use of TMN OS, a common desktop is used to allow different network management components, such as the 5620 SAM and the Alcatel-Lucent 5620 NM, to interwork as an integrated subsystem.

U

UI — user interface

See GUI

UNIX — UNIX is a multi-user, multitasking operating system, which is used on mainframes, workstations, and PCs. UNIX is the basis of Solaris and SunOS, which are operating systems used by Sun workstations.

USM — user service manager

A GUI application for a management system, usually playing the manager role toward an information manager application although it may also connect directly with the managed system.

W

window — Windows are panels of information that appear on a screen or contain a running software application. Windows commonly allow a user to input data and initiate functions but some windows simply display information.

workflow — The 5620 SAM workflow is a defined series of tasks that describe how to install, configure, create, and manage services.

workstation — A Sun Microsystems term for computer hardware on which the Solaris OS is installed.

X

XML extensible markup language

XML defines the syntax to customize markup languages. The markup languages are used to create, manage, and transmit documents across the Web.

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Customer documentation

http://www.alcatel-lucent.com/osds

Product manuals and documentation updates are available through the Alcatel-Lucent Support Documentation and Software Download service at alcatel-lucent.com. If you are a new user and require access to this service, please contact your Alcatel-Lucent sales representative.

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