Alcatel-Lucent 1655 AMU

Software Release Description

Release 6.0

Issue 1
March 2009

Notice

Every effort was made to ensure that this information product was complete and accurate at the time of printing. However, information is subject to change.

Trademarks

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Conformance statement

Interference Information: Part 15 of FCC Rules

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If the equipment is not installed and used in accordance with the guidelines in this document, the equipment may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the expense of the user.

Security Statement

In rare instances, unauthorized individuals make connections to the telecommunications network through the use of access features. In such an event, applicable tariffs require that the customer pay all network charges for traffic. Alcatel-Lucent and its predecessors cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

Limited Warranty

For terms and conditions of sale, contact your Alcatel-Lucent Account Team.

Ordering Information

For more ordering information, refer to “How to order” in the section titled “About this information product.”

Support

Information Product Support Number

Alcatel-Lucent provides a referral telephone number for support. Use this number to report errors or to ask questions about the information in this product. This is a non-technical number. The referral number is 1 800 645 6759 or 1 317 322 6848.

Technical support

Technical assistance can be obtained by calling the International Customer Management Center (ICMC) at 00800 00 lucent (toll free inside EMEA) or +353 1 6924579 (toll) for in-hours and emergency out-of-hours support.

This document was developed by Alcatel-Lucent.

Contents

About this information product

Purpose

This document provides important information about known problems and problems fixed in the Alcatel-Lucent 1655 AMU Release 6.0 Network Element (NE) software and ITM-CIT (Craft Interface Terminal) software.

This document also provides procedures about how to install and/or upgrade the Alcatel-Lucent 1655 AMU NE and ITM-CIT software.

Reason for reissue

This is the first issue

Intended Audience

This document is intended for those responsible for the installation, acceptance, operations and maintenance of Release 6.0.

How to Use This Document

Section 1 - Software License and Features

This section contains an explanation of the software license and new features introduced in this release.

Section 2 - Problems Fixed

This section provides descriptions of the problems that have been fixed in Alcatel-Lucent 1655 AMU Release 6.0 or before.

This section also provides a listing of problems that have been fixed in the ITM-CIT Release R20.01.12.

Section 3 - Known Problems

This section provides descriptions and workarounds to existing problems in Alcatel-Lucent 1655 AMU Release 6.0 and ITM-CIT Release R20.01.12.

Section 4 - New Installation

This section provides a reference to the procedure to install the Alcatel-Lucent 1655 AMU Network Element (NE) software onto a new Alcatel-Lucent 1655 AMU system and a reference to the procedure to install the ITM-CIT (Craft Interface Terminal) software onto a Windows-based PC. Additionally it contains information that will contribute to a proper installation of the Alcatel-Lucent 1655 AMU.

Section 5- Upgrade Procedures

This section provides the procedure for a maintenance upgrade of the Alcatel-Lucent 1655 AMU Network Element (NE) software to Alcatel-Lucent 1655 AMU Release 6.0 if applicable.

Additionally it will give guidance to certain hardware upgrade aspects.

Section 6 - Miscellaneous

This section provides useful information to supplement the information provided in the previous sections.

Ordering Information

The following is a list of described and referred Network Element (NE) and Craft Interface Terminal (CIT) software that can be ordered:

• Alcatel-Lucent 1655 AMU Release 6.0, ASW119, 109683482.

• ITM-CIT, R20.01.12, SAA621B, 109691287.

The following is a list of related documents:

- Applications and Planning Guide, Release 1.0 through 6.0, 109686907.
- Installation Guide, Release 1.0 through 6.0, 109686931.
- User Operations Guide, Release 1.0 through 6.0, 109686949
- Alarm Messages and Trouble Clearing Guide, Release 1.0 through 6.0, 109686915.

1 Software License and Features

Overview

Purpose This section contains an explanation of the software license and new features introduced in this release.

Reason for revision This is the first issue.

Contents This section contains the following:

Software license

The following open source software packages are used in the Alcatel-Lucent 1655 AMU R6.0 software:

Linux 2.4.25,
licensed under the GNU General Public License, Version 2, see LINUX GPL

Gnu Bash 2.05b,
licensed under the GNU General Public License, Version 2 or later, see GPL V2

busybox 1.00,
licensed under the GNU General Public License, Version 2, see GPL V2

inetutils 1.4.2,
licensed under the GNU General Public License, Version 2 or later, see GPL V2

mtd-utils,
licensed under the GNU General Public License, Version 2 or later, see GPL V2

Gnu lib 2.2.5,
licensed under the GNU Lesser General Public License, Version 2.1, see LPGL V2.1

xxd V1.10,
licensed under a type of license "distribute freely and credit me", credits to Juergen Weigert

dropbear 0.44,
licensed under a specific license, see DROPBEAR LICENSE

sudo 1.6.8p6,
licensed under a specific license, see SUDO LICENSE

mini_httpd 1.19
covered by specific license, see mini_httpd copyright

CGI_C library version 2.01
covered by specific license, see BOUTELL CGI

If you want to receive the sources for the mentioned packages please contact your Alcatel-Lucent Account Team.

For further details about handling/usage and licensing of the contained/used open source SW please check **Alcatel-Lucent 1655 AMU R6.0** open source declaration file which is available on Alcatel-Lucent 1655 AMU Network Element (NE) Software Release 6.0 delivered on a CD-ROM (Comcode 109683482).

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New features introduced in R6.0

The following features have been provided in this release:

Support for Ethernet over PDH (EoPDH) option cards:

Quad E/FE/GbE switched Ethernet card with Ethernet over PDH support and 32 × E1 interfaces 120Ω (ASC112)

Quad E/FE/GbE switched Ethernet card with Ethernet over PDH support and 32 × E1 interfaces 75Ω (ASC113)

64 E1 signal termination capacity

16 VCGs, E1-xv, x =1..16

32 E1 interfaces on unit

PDH Performance Monitoring 2 Mbit/s (G.704) according to G.705 and G.784

Inter-working with TSS-3

Digital Diagnostics Monitoring (DDM) on SFPs

The user can view the performance parameters information of an SFP optical interface module. This data known as "digital diagnostics" depends on the manufacturer and type of SFP module in use.

TransLAN™ features:

GFP-FCS support for P12s-Xv in GFP-F mapping

Support for 16k MAC addresses

Manual STP timer provisioning

Retrieval of additional STP information

Flexible traffic class to queue assignment

2 Problems Fixed

Overview

Introduction

This section provides descriptions of the problems that have been fixed in Alcatel-Lucent 1655 AMU Release 6.0 or before.

This section also provides a listing of problems that have been fixed in the ITM-CIT Release R20.01.12.

Reason for revision

This is the first issue.

Contents

This chapter contains the following:

Problems Fixed in Network Element Software Release 6.0

Introduction

This list mentions the issues that were present in the 1655 AMU R5.0.1 Release and that are solved with this release.

2.0_CPDnb09455/ CPDnb17793

ISDN-LL NT1aLBK, triggered by Sa6 bits, does not work (outloop)

When an inband outloop is set on a E1 in ISDN-Leased Line mode this loop will not appear.

5.0_CPDnb36773/ CPDnb36774

CVID=all include untagged frames on trunk ports

When the incoming packet on a trunk port has NO CVID (only SVID is present) AND the flow classification has a flow group specified (for that SVID) with a CVID the SVID will be used to match the value of the CVID.

Example 1: Packet with: SVID=20 and NO CVID Flow table of SVID=20 has a flow group with classification rule: CVID=20. In this case the rule will match because the SVID (20) will be used in the matching process for the CVID (which is not present).

Example 2: Flow group classification rule: CVID=all will always match because the SVID is used when there is NO CVID and if there is a CVID it also matches.

6.0_CPDnb38329/ CPDnb38338

MIB lost after reseating ASC110

In some cases the MIB can become corrupted due to a missing database sync action to flash memory. A corrupted MIB is deleted from the system.

Fixed Problems for ITM-CIT R20.01.12

17.00_CPDnb23551/ CPDnb31108/ icit1004632	**ITM-CIT: No batch-create or batch-delete for XC**
18.04_CPDnb36500/ icit1005900	**ITM-CIT: FSC counter should be removed on P12sE1 from history bin**
19.12_CPDnb36781/ icit1005922	**ITM-CIT: Wrong port order in DCC list**

3 Known Problems

Overview

Introduction

This chapter describes significant customer-affecting problems known to exist in Alcatel-Lucent 1655 AMU Release 6.0 Network Element software and ITM-CIT Release R20.01.12. Workarounds are provided where they apply.

Reason for revision

This is the first issue.

Contents

This chapter contains the following:

Important notes for this Release

1655 AMU R6.0 is managed by ITM-CIT and 1350 OMS. The ITM-SC and Lucent OMS do not support R6.0.

Issuing a “warm reset” on the ASC112 or ASC113 will affect service for up to 30 seconds for Ethernet ports.

General Remarks

For this release only the X8PL option board series S1:2 and onwards are certified. The use of X8PL series S1:1 could lead to non compliant behaviour especially when LCAS is used.

Fast Download Tool version 2.1.10 supports the AMU sw download.

The AMU will not perform a Alcatel-Lucent license check on SFPs. Using SFPs which are not coded with Alcatel-Lucent specific fields will be accepted when they are compliant with the SFP Multi Source Agreement (MSA) INF-8074. However when SFPs are clearly not intended for the port in which they are inserted a PMcWUP alarm will be raised and the SFP laser will not be enabled. This is the case for inserting a GbE SFP in a STM1, STM4 or STM16 port. The same is valid for STM1, STM4 or STM16 SFPs in a GbE port. Note that the GbE capable port on a ASC108 pack will only enable the laser when the GbE LAN port is set to active.

Getting PM data with CIT can take a lot of time when many PM points are selected. This can take up to 7 minutes.

When two main cards are present in a shelf they must be of the same type. Mixing types is not supported.

Issuing a “warm reset” on a tributary card which has spanning tree enabled (ASC108, ASC112, ASC113 or X4IP) can cause a traffic hit due to spanning tree reconfigurations.

Known Problems in Network Element software Release 6.0

PDH/SDH Related Problems

See the following.

2.0_CPDnb04356

DS3 outloop is transparent.

Although the DS3 traffic can be looped in this release by provisioning an outloop, the set outloop acts transparent: it’s both looped back, as well as transmitted on the DS3 port.

Workaround:
None.

PDH/SDH related Timing problems

See the following.

2.0_CPDnb10886/ CPDnb10954

System Timing Window not updated after source switch.

When the ITM-CIT is used to execute a timing switch request, the changes are not visible in the System Timing Window.

Workaround:
Click once or twice on the update button.

Ethernet-Related Problems

See the following:

1.0_CPDnb09309/ CPDnb08667 — Undersized frames not dropped on X8PL.

When sending frames with a size smaller than 64 bytes (60 + 4 CRC) those frames should be dropped. Instead they are transmitted unharmed.

Workaround:
None.

1.0_CPDnb09314 — Traffic loss in one direction if LCAS on an X8PL option card is not enabled on both ends.

If on an existing path LCAS is enabled at one side of a link the frames are lost at the remote end until LCAS is enabled on the remote side as well.

Workaround:
None.

2.0_CPDnb01953 — CIR not restricting traffic 60msec per minute (X4IP).

When the CIR is provisioned on the X4IP option card, for 60 milliseconds per minute (0.1% of the time) all traffic (all flows) is passed instead of being restricted according to the provisioned CIR. The effect of this is at largest when the LAN input traffic is much higher than the provisioned CIR values.

This problem is only applicable for X4IP option cards equipped with an Ethernet switch device version B1. The B2 version does not suffer from this issue although known problem 2.0_CPDnb04424 applies. All units produced after October 2002 (S/N start with 02R211) will have the B2 version. Remark: At that time the B1 and B2 was considered as two equivalent components and therefore an IM change was not required.

Workaround:
None.

2.0_CPDnb04424 — Very Small percentage of packet loss on X4IP when work in VPN-MLAN-QoS Mode or IEEE tagging scheme.

When the X4IP option card is working under MLAN-QoS mode of the VPN tagging scheme or under the Spanning Tree Switch Mode of the IEEE tagging scheme, you can observe a small percentage of packet loss (1E- 5 or less) at the Performance Monitoring Counters or Ethernet Analyzer. The root cause is basically the same as for 2.0_CPDnb01953

but for the B2 version of the Ethernet switch all packets are dropped instead of being passed. From the data application perspective, it has no impact on customer networks since there is higher layer error correction mechanism built in TCP/IP protocol suite to handle such kind of packet loss.

Workaround:
None.

2.0_CPDnb16094 Performance degradation on Ethernet ports.

A slight performance degradation (Frames being dropped) may be observed on the EPL4_E14 (ASC105) & ESW4_E14 (ASC108) option card. On EPL4_E14 this occurs only on traffic on the Gigabit Ethernet ports (port 7 ... 10) in the direction from SDH towards the LAN port. On ESW4_E14 this occurs on all ports including LAN ports when at least one WAN port is part of the Virtual Switch and only in the ingress direction of the WAN port. The performance degradation is only observed at high traffic loads and depends on the traffic pattern. Performance results for typical test types are listed in table below

Test type	Traffic load	Frame pass rate
RFC 2544	100% (1000 Mb/s)	100%
Accurate Internet Mix	10% (100 M/bs)	99.997%
Accurate Internet Mix	25% (250 Mb/s)	99.983%
Accurate Internet Mix	50% (500 Mb/s)	99.925%
Accurate Internet Mix	75% (750 Mb/s)	99.790%
Accurate Internet Mix	100% (1000 Mb/s)	99.549%

RFC2544 test uses frame lengths of 64, 128, 256, 512, 1024, 1280 and 1518 bytes. The Accurate Internet Mix test uses a frame length distribution that matches internet traffic patterns.

Workaround:
None.

Remark:
Meanwhile EPL4_E14 (ASC105) & ESW4_E14 (ASC108) with IM=S1:3 are available which do not suffer from this problem. However boards with S1:2 or lower still do!

2.0_CPDnb20958 **LAN pDe indicates dropped value for frames >> 1518/1522 Bytes on X8PL.**

Eventhough 1600 byte size frames are supported on X8PL, the pDe counter of LAN/WAN Performance Monitoring counts frames larger then 1518 (non VLAN frames) or 1522 (VLAN frames) Bytes. Traffic goes through unharmed, and CbS and CbR counters show correct values. This phenomena is a result of the definition of Oversize Packets, of an implemented IC (Integrated Circuit) and can thus not be changed by software.

Workaround:
None.

4.1_CPDnb29627 **The MI-14/4 (ASC101 or ASC101B) can not insert VC4-4c UNEQ.**

Due to a hardware problem in one of the transmission ASIC's it is not possible to generate a VC4-4c UNEQ signal when needed. Instead the remote equipment will see an AU-LOP alarm. Due to the hardware nature of the problem this will never be fixed. The MI-16/4 (ASC110) does not have this problem.

Workaround:
None.

5.0_CPDnb32845 **ASC108 has a insufficient burst capability in switched mode**

The switch memory allocated to an egress port is too small:

0.05 ... 0.74 ms (for any queue).

Workaround:
Avoid to provision too small WAN capacities in case bursty traffic is expected.

5.0_CPDnb36097/ CPDnb36098 **Auto state units impacts NE behavior**

Main1 ASC101B, Main2 ASC101B in auto state and not present. Station Clock timing provisioned : MTP2.1 (w) and MTP1.1 (p) The absence of the MTP2.1 is not detected, due to the auto state of Main 2.

Impact : System will run in holdover (when QL of Station Clock ishighest) but NTM will show normal state and no alarms.

Workaround:

none

5.0_CPDnb36153/ CPDnb36156

ASC105/108: Flow Control interacts wrongly with LPT

When using an ASC105 or ASC108 with an SDH-link connected unidirectional and LPT and Flow-Control is enabled, the flow-control frames are not correctly generated on the Ethernet-port of the SDH-source side to reflect the capacity-changes on the LAN-side. This can result in buffer overflow.
For the flow-control frames to operate correctly on the Ethernet-port it has to allow for long pause periods, the ASC105/ASC108 hardware should repeat the 'off' message when 75% of the wait time has expired. The max wait time is 65535 * 512 * 1ns (for 1 Gb/s interface) = 33.5 msec; so after 75% (25.2 ms, ~40 fps) the pause message should be repeated. However the ASC105 and ASC108 sends the pause message after 150% of maximum wait time, too late to prevent buffer overflow.

Workaround:

none

5.0_CPDnb37152/ CPDnb37153

ASC108 card may not become operational after cold start at -20°C

In the unlikely event that the street cabinet needs to be (re-)started after it has been completely cooled down to an outside temperature of -20°C, for instance after a long power outage or after installation, an ASC108 (re-)start may not always be successful.

In case the ASC108 reports to have a UNITcEQF under these conditions, this may be a consequence of the extremely low environmental temperatures.

Workaround:

Reset the ASC108 in question after the system has sufficiently warmed up.

Such a unit level reset can be applied remotely from a craft terminal or management system.

6.0_CPDnb38002/ CPDnb38041

VC12-Xv Ethernet traffic hit during SNC switch can be long with large VCAT group

In some cases the interruption time of an Ethernet service that is transported over a VC12-Xv path of which the members are individually protected by SNC/N is relatively long, in the order of 100-200 ms. The relative frequency of such events depends on the size of the VCAT group: The larger the number of

members, the higher is the probability of a longer service interruption. The cause for this phenomenon is related to the restoration phase of a GFP/VCAT path after the interruption.

6.0_CPDnb39535/ CPDnb39536 P12sRDI alarm is raised, but P12s PM counters stay zero on ASC112/ASC113

When an RAI/FERF (RDI at 2M) is injected in the P12s points the far end ES/SES and/or BiDir UAS/UAP PM counters are not counting.

6.0_CPDnb39545/ CPDnb39546 Mismatched Mac Address list feature not supported on ASC112/ASC113

The ASC112 and ASC113 EOP4 units support the configuration of an Access Control List (ACL) on a certain Ethernet Port (in Customer Role). This means that no frames will be admitted to enter such a port, unless its Source MAC address is statically provisioned in the FDB. Associated with this capability is an alarm, MACcMIS and a blacklist of "offending" source MAC addresses. These latter two functions are not supported on the ASC112 and ASC113. The result is that the ACL operation is hidden; it works, but no visible events are reported by these units.

Workaround:
In case these monitoring capabilities are required, an ASC108 or some external equipment has to be included in the path to be used as an access control device.

6.0_CPDnb39547/ CPDnb39548 RTD measurement fails with test packet larger than 9214 bytes on ASC112/ASC113

When performing a one shot RTD measurement with a test packet larger than 9214, the result is not successful. The maximum supported test frame length for Round Trip Delay measurements is 9214 Bytes

6.0_CPDnb39549/ CPDnb39551 ASC112/ASC113 EOP card warm restart is service affecting for 30 seconds on Ethernet ports

When the ASC112/ASC113 is warm restarted using the ITM-CIT or the 1350 OMS a traffic interruption of up to 30 seconds occurs.

6.0_CPDnb39554 CPDnb39555 Ethernet outloop in "repeater like" mode is not supported on ASC112/ASC113

The ASC112 and ASC113 do not support the possibility to set a traffic loop on an Ethernet egress port (both on WAN and LAN side). This capability should have been provided in case the port in question was member of a virtual switch that contains exactly 2 ports (looping in multiport switches is never sup-

ported, due to the interference with (R)STP). The consequence is that a remotely controlled out-of-service traffic test of a point-to-point Ethernet circuit is not possible.

Workaround:
The out-of-service connectivity test can be executed with external test equipment.

6.0_CPDnb39556/ CPDnb39557 EMACcRCF alarm prematurely cleared in "LPT with Restart" mode

In an "LPT with Restart" configuration, a uni-directional failure in the Ethernet-over-SDH section of an end-to-end point-to-point Ethernet connection, should lead to a GFPaSSF consequent action, which should trigger the insertion of GFP-CSF frames in the opposite direction.
At the NE where the GFP-CSF frames are received, an EMACcRCF alarm must be raised for the duration of the event. After the alarm has been raised it is prematurely cleared after 6 seconds.

6.0_CPDnb39559/ CPDnb39560 OAM Far End PM counters not working on ESW and EOP cards

The ASC108 (ESW4) and ASC112/113 (EOP4) units support IEEE 802.3ah Link OAM.
Part of this feature is the transmission of PDUs that report the current count of the detected Symbol Error, Errored seconds, Severely Errored Seconds and Unavailable Seconds to the peer node, to allow single ended performance monitoring. In fact, this functionality does not function on the units mentioned.
Consequence: In case two AMU's are interconnected via an Ethernet link with IEEE 802.3ah Link OAM, the performance monitoring works only uni-directionally and both nodes will need to be queried to get a performance indication of the bi-directional link.

Workaround:
Read-out the uni-directional counters on both ends of the monitored link to estimate the bi-directional performance.

6.0_CPDnb39562/ CPDnb39563 2nd Customer VLAN tag removed in 9100 mode VS.

The ASC108 is not transparent for Cisco (proprietary) "Q-in-Q" frames. When both customer VLAN tags are 8100 the second customer VLAN tag is removed from the traffic.

Known Problems for ITM-CIT R20.01.12

none

4 New Installation

Overview

Introduction

This section provides a reference to the procedure to install the Alcatel-Lucent 1655 AMU Network Element (NE) software onto a new Alcatel-Lucent 1655 AMU system and a reference to the procedure to install the ITM-CIT (Craft Interface Terminal) software onto a Windows-based PC. Additionally it contains information that will contribute to a proper installation of the Alcatel-Lucent 1655 AMU.

Reason for revision

This is the first issue.

Contents

This chapter contains the following:

General Remarks

Software availability

Software for Alcatel-Lucent 1655 AMU Release 6.0 consists of two packages:

- Alcatel-Lucent 1655 AMU Network Element (NE) Software Release 6.0 delivered on a CD-ROM (Comcode 109683482). The CD-ROM contains besides NE software also the Fast Download Tool as well as the open source declaration file.
- ITM-CIT (Craft Interface Terminal) Software Release R20.01.12 delivered on a CD-ROM (Comcode 109691287).

For new installations refer to the Alcatel-Lucent 1655 AMU Installation Guide, Release 1.0 through 6.0, 109686931.

5 Upgrade Procedures

Overview

Purpose This chapter contains information regarding upgrade procedures.

Reason for revision This is the first issue.

Contents This chapter contains the following:

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NE Software Upgrade General

Not all possible upgrade scenario's are described as the supported upgrade paths depend on the Network Element manager that is used..

To avoid traffic outages triggered by external events, the upgrade of a network element must be performed in a stable network. Stability needs to be present on SDH level and Ethernet level (when the Spanning tree protocol is used). For spanning tree this means only one node within the spanning tree can be upgraded at a time.
The network element itself can induce traffic hits when new functionality is added. Examples are a new FPGA image or using new features of the board hardware. Maintenance releases will only rarely suffer from such a traffic hit. A major release upgrade like R4.0.x to R5.0.x is more likely to have traffic impact as new features are introduced.

Besides hardware also software based protocols like LCAS and Rapid Spanning Tree can be traffic impacting during an upgrade. Typically the dynamic behavior of a network element is disabled and corrective actions will not take place during an upgrade. Ensuring a stable network will limit the probability that traffic will be affected during the upgrade.

In a stable network SDH, PDH and Ethernet traffic is not affected for more than 50 milliseconds.

Upgrade from R5.x to R6.0

This upgrade will introduce a new FPGA image on the ASC108 ESW4_E14 card. Traffic using this card will not be impacted for more than 55 seconds. This outage occurs on both the E1 and the Ethernet ports.

Other Upgrades

Other upgrade paths depend on the Alcatel-Lucent 1350 OMS support.

Downgrading a controller from R6.0 to a previous Release

In case a Network Element should be operating with AMU R4.0 or R5.0 and the applicable main board already has AMU R6.0 installed the customer needs to perform a downgrade. Downgrades are not recommended as each release has many problems solved which are often not mentioned in the release notes.

The ASC110 may not be downgraded to any release lower than R4.0. The card is not supported in those Releases.

The ASC114 may not be downgraded to any release lower than R5.0. The card is not supported in those Releases.

Software availability

CIT and NE Software are available on CD-ROM (see table below:

Software	Comcode for the CD-ROM
NE Software Release 6.0 (ASW119)	109683482
CIT Software Version R20.01.12 (SAA621B)	109691287

Customers that have a password and privileges can download the NE software as a self-extracting WinZip package from the following website:

http://www.alcatel-lucent.com

6 Miscellaneous

Overview

Purpose This section describes the technical support available for Alcatel-Lucent 1655 AMU.

Reason for revision This is the first issue.

Contents This chapter contains the following:

Technical Support Services (TSS)

Technical Support Groups

Technical support is available through:
- Local/Regional TSC.
- OND OMSN Support TEC.

Contacting Your Local/Regional TSS

Local/Regional Technical Support Centers (TSC) personnel trouble-shoot field problems 24 hours a day over the phone and on site (if necessary) based on Alcatel-Lucent Service Contracts.
For Technical assistance, call your Local/Regional TSC team or the International Customer Management Center (ICMC) at 00800 00 lucent (toll free inside EMEA) or +353 1 6924579 (toll) for in-hours and emergency out-of-hours support. If the request cannot be solved by Local Regional TSC, it will be escalated to the TEC team who maintain direct contact with Alcatel-Lucent manufacturing, Research & Development, and other organizations to assure fast resolution of all assistance requests.

Product Support

The Alcatel-Lucent OND TEC organization is committed to providing customers with quality product support services. Each segment of the Technical Support organization regards the customer as its highest priority and understands your obligations to maintain quality services for your customers.

Services

Alcatel-Lucent 1655 AMU is complemented by a full range of services available to support planning, maintaining, and operating your system. Applications testing, network integration, and upgrade/conversion support is also available.

A technical support Platform

A global online trouble tracking system is used by all support teams to track customer assistance requests. The system communicates details about product bulletins, troubleshooting procedures, and other critical information to customers. All details of a request are entered into this database until closure. For online access to your trouble tickets via the web please contact your local support team.

Reference

For additional information about technical support, please contact your Alcatel-Lucent Local/Regional Technical Support Services or visit http://www.alcatel-lucent.com/support.