Lucent Technologies
Bell Labs Innovations

The *NetMinder*® System's Network Trouble Patterning (NTP) Feature Set

Release 9.0

BB-GUI User's Guide

190-405-506
Release 9.0
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About This Document

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Overview of the User's Guide

Purpose

This book tells how to use the The *NetMinder*® System's Network Trouble Patterning (NTP) Feature Set browser-based graphical user interface (BB-GUI).

Documents

List of documents

The documents are as follows:

Document	Audience	Explains how to...
BB-GUI User's Guide, 190-405-505	Network or revenue analysts	Use the browser-based graphical user interface (BB-GUI).
System Administration Guide, 190-405-503	System administrator and O&M persons	Administer users and databases; perform application backup and recovery; start and stop the application.
CP Administration and O&M, 190-405-550	CP administrator and CP O&M persons	(Applicable only if your system has CP sources, which collect data from *4ESS* switches.) Manage CPs.

About documents

- **Comments**. If you have comments or suggestions about the NTP documents, contact your NTP support organization.
- **Ordering**. Follow your company's procedures to order additional copies of documents.
- **Media**. Documents are available in .pdf on CD-ROM. Also, the BB-GUI offers all documents in .pdf format, and the *BB-GUI User's Guide* in HTML format. You can print from .pdf.
- **Legacy interfaces**. AUI and X-GUI guides are frozen at the G8, Aug 1999. If you need these, contact your NTP support organization.
- **O&M**. The *Operations and Maintenance* book (190-405-504) has been replaced as follows:
  - **Backup and restore**. See Appendix D in the *System Administration Guide*.
  - **Other**. See vendor documents for vendor-specific information, including *Sun* hardware, HP hardware, TCP/IP and *Datakit*.

Install Adobe Acrobat Reader

Purpose

NTP offers user document files with the .pdf suffix. To read such files, you need free Adobe Acrobat Reader software. See the section "Install Acrobat Reader" in the chapter "Add or Delete Users" in the *System Administration Guide*.

Software Release Notes

Location of Release Notes

For a comprehensive listing of new features and enhancements made to the NTP software for most current generic, see the NTP Release Notes.

To access the Release Notes, direct your Web browser to the following URL:

http://<machine_and_domain>/info/start_page/htm

<Machine_and_domain> is the path you normally use to access the NTP launch page. For example:

- a machine name, such as hpn42.cb.lucent.com
- an IP address, such as 135.7.59.47.

System Description

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Contents

What NTP does

The problem

Voice and data networks produce far too many messages to understand without help.

Our solution

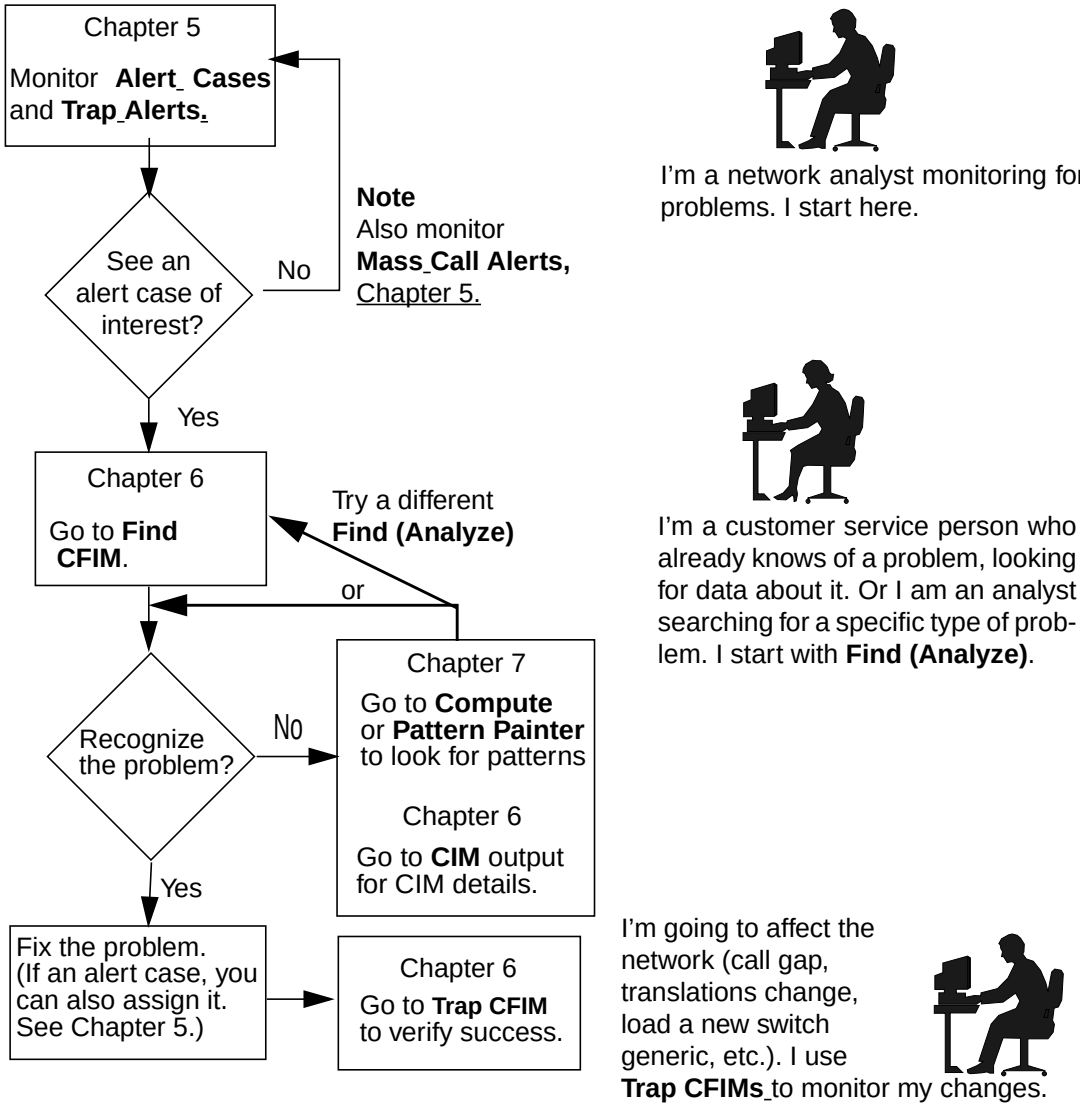
We solve the problem this way.

- **Standardization**. We translate different messages (we call these CIMs—call or session information messages) into common formats (we call these CFIMs—common format information messages). On-line helps explain each field of each message.; (Outputs: CIM, Find/Analyze CFIM, Trap CFIM.)
- **Retrieval**. We store messages (CFIMs), and let you retrieve them by any criteria you want, such as network element, date, and time. We also keep the CIM version of each CFIM, if you want to look at raw data. (Outputs: CIMs, Find/Analyze CFIM.)
- **Automatic alerting**. If the flow of messages varies from normal, We alert you. To do this, we automatically set millions of thresholds, and adjust them continually. (Outputs: Alert Cases, Trap Alerts, Mass Call Alerts.)
- **Analysis**. Whether you retrieve a group of messages (CFIMs) by criteria, or by selecting a group of messages on which we alerted, you can quickly format that data into tables, charts, or graphs, to look for patterns. (Outputs: Compute CFIM, Pattern Painter.)

Users

Work-flow, NTP-alone

This illustrates typical work flow. Outputs (**bold**) are explained at "Outputs" on page 2-15.



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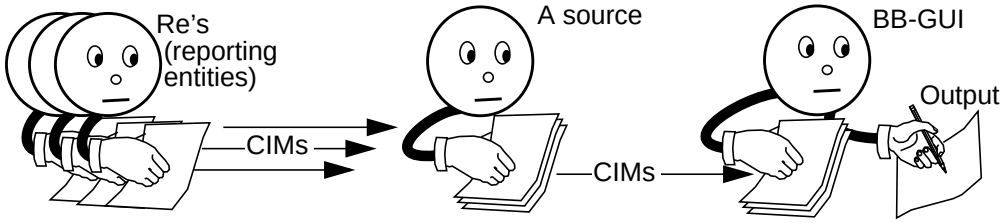
How NTP Works

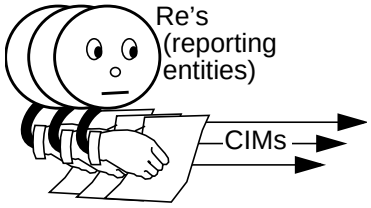
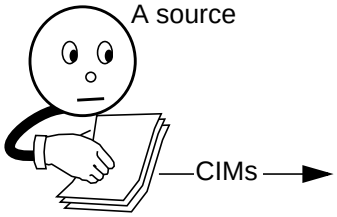
Data flow illustration

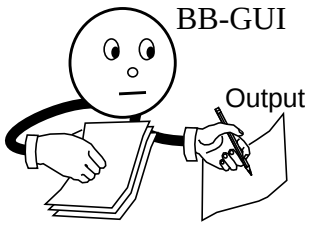
Here is a simplest-case data flow illustration. Terms in this illustration are explained in the next table.



Data flow

Here is an overview of data flow. Terms unique to our system are introduced in ***bold italic***.

	***Re's*** (Reporting entities) are network elements (such as switches, IP gateways, routers, etc.) that generate ***CIMs*** (call or session information messages).
	Re's forward their CIMs to a ***source*** that passes the CIMs to us. Source can be none (direct), an element management system (EMS) such as an NFM, or a mediation systems, such as BILLDATS or GeoProbe. Why do you care? Because sometimes knowing the source gives insights for interpreting data.



Outputs are listed at "Outputs" on page 2-14. Most noteworthy are:

- ***CFIMS***. For ease of use, we translate each CIM into a CFIM (common format information message, see "cfim Table" on page A-14). Translation includes populating the following important CFIM fields.
  - ***Fdc***. For categorizing CFIMs, we fill in each CFIM's FDC (final disposition code).
  - ***Re***. (Reporting entity.) The network element that originated the CIM.
  - ***De***. (Distant Entity.) Another network element involved. Often the network element the Re was trying to reach.
  - ***Related***. Another network element involved, if known.
- ***Alert Cases***. We use CFIM counts to automatically update millions of thresholds, indicating the normal state of the network. If a threshold is crossed, we report it as an Alert Case. See "Threshold outputs" on page 2-13.

Note

Sources. Typically, an EMS can affect the Re (for example to change sampling rates at the Re), while a mediation system just monitors. For our purposes, it does not matter. We never affect Re's.

Thresholding

Purpose

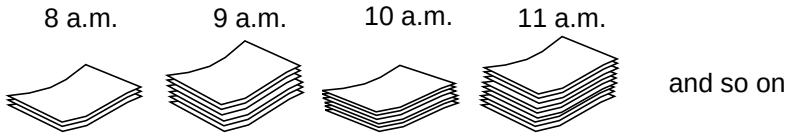
Thresholding creates alert cases, seen on outputs listed at "Threshold outputs" on page 2-13.

Note

You may encounter the terms thresholding and alerting used interchangeably. For example, "flexible thresholding" and "flexible alerting" mean the same thing.

Threshold example

This is a simplified view of thresholding.



- Imagine each CFIM arriving on a separate sheet of paper. Each hour, you collect all CFIMs from (for example) one Re (that is, one network element) and put those CFIMs into a separate pile. You might see, for example, a short pile for 8 a.m., a tall pile for 11 a.m., and so on.
- Do this every day for two weeks, and then figure out the average pile height for each hour of the week. Each hour's average is its threshold.
- Then, if a pile grows higher than its threshold, you know the Re has encountered something unusual.

Note

- **Re.** This shows thresholds by Re.
- **Tally intervals**. This shows counts tallied hourly.
- **Periods**. This shows different sets of thresholds for each hour of the week.

(Continued on next page)

Thresholding (Continued)

CFIMs to Alert cases

When a "pile" of CFIM's crosses threshold, it becomes an alert case, and:

1. When a threshold is crossed, we take the "pile" of CFIMs, summarize it into an "alert case", and put it (as one line) on Alert Case output.
2. Each time the alert case is again above threshold, we add the new over-threshold pile of CFIM's to the same alert case.
3. If an alert case stays below threshold for 4 hours (2 hours if CFIM count is low), we take the alert case off Alert Case output.

Manual thresholds

You may have millions of thresholds, so we automatically create and update them for you (using the basic and flexible methods, discussed next). But, you can have your system administrators manually override specific thresholds.

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Thresholding (Continued)

Two methods: Basic and flexible

We offer two automatic thresholding methods: basic and flexible. Each creates "Alert Case Overview" on page 2-13. Your administrator may implement either, or both. Implementation is system-wide (not by-user).

Note

Two more. Additional to basic and flexible thresholding are:

- **System day thresholding**. Takes all thresholds for FDCs you pick and thresholds on them daily (overrides basic thresholds on those FDCs). Does not affect flexible thresholding.This is most appropriate with operator trouble report (OTR) type CFIMs.
- **Mass call alerts thresholding**. Automatically used to put mass call alerts on the Mass Call Alerts screen. Unlike other threshold methods, above, this does NOT put alert cases on the Alert Case screen —but if there is a mass call event, you will see related alert cases on the Alert Case page. See "Mass Call Alerts Page" on page 5-16.

Tally intervals (alert case "at" field)

Basic thresholding tallies 5-minute and hourly (and system day, if implemented) thresholding in the SAME alert case, while flexible thresholding creates up to three alert cases—one for each interval type.

- To see an alert case's alert interval type, see its "at" (alert interval type) field.
- For one problem, there may be up to three alert cases (one for each interval type), all with the same tn.
- On output you see ONE of the up to three—the one that LAST crossed threshold.
- On the Alerts page, if you "search" to see just one "at", instead you see all that share the same value in the tn field. (Admittedly, not what you might expect.)

(Continued on next page)

Thresholding (Continued)

Compare basic and flexible

This table compares basic and flexible thresholding.

Note

Outputs. In this table:

- **Outputs**. "Output" refers to the Alerts, Trap Alerts, and Find/Analyze Acase pages (listed at "Threshold outputs" on page 2-13).
- **Both**. If your system administrator implements both basic and flexible thresholding, output is as described for flexible thresholding.

Compare	Basic	Flexible
Threshold periods	Uses different sets of thresholds for each of 15 weekly periods (call LSPs—load set periods).	Uses different sets of thresholds for each of 24 weekday hours, and 24 weekend hours. (Your system administrators can re-defined these—for example to emulate LSPs)
Ne versus Re and De	Output shows the Ne field.	Output shows the Re and De fields.
Tally intervals	Output shows tallies for 5-minute and hourly (and system day tallies, if implemented) in the SAME alert case, in different fields, below.	Output shows 5-minute and hourly (and possibly other) tallies in SEPARATE alert cases. An "at" (alert interval type) field indicates 5-minute or hourly (or other). **Reference** See "Tally intervals (alert case "at" field)" on page 2-9.
Tally fields **Reference** Fields are explained in "Output Tables" on page A-1.	Alert case tally fields are: ■ alrts5, alrtsh, alrtsd ■ asev5, asevh, asevd ■ cai5, caih, caid ■ cnt5, cnth, cntd	Alert case tally fields (along with "at" field, above) are: ■ alerts ■ asev ■ cai ■ count
Tables used	Records are in the acase, alert, and trapalert tables.	Records are in the f_acase, f_alert, and f_trapalert tables.) (Or "v_" for both, if you implement both.)

Compare	Basic	Flexible
CFIM Fields thresholded	Fdc/Re and Fdc/De	Any, but default is Ne (for Call Volume Alerts). **Reference** The set of fields thresholded is called an FQ (fundamental quantity). See "FQs" on page 2-12.
Map an alert case to its CFIMs **Note** In practice, to see CFIMs in an alert case, just select the Find/ Analyze button below output. See "Output Shortcut Buttons" on page 4-7.	Look for CFIMs where both: ■ The CFIM's Fdc is the Alert case's Fdc. ■ If the Alert case's Type is: — Re, the CFIM's Re is the Alert Case's Ne. — De, the CFIM's De is the Alert Case's Ne.	Look for CFIMs with field values matching the alert case's FQ fields (such as Re for Call Volume Alert alert cases).

(Continued on next page)

Thresholding (Continued)

FQs

Flexible thresholding can potentially threshold on any CFIM field or set of fields.

The default FQ is the Re field alone, used for the Call Volume Alerts.

Consultants can be contracted to create additional FQs for any set of CFIM fields. Such FQs are not documented in this book.

Note

In addition to the Re FQ, two other existing FQs are:

- Fdc/Ccd — Country code thresholding FQ.
- Fdc/Ccd/Rt — Country route thresholding FQ.

But they are used by one customer only, of little interest to most customers, and would require consultation to implement concurrent with the Re FQ.

Alert Case Overview

Threshold outputs

"Thresholding" on page 2-7 creates alert cases, seen on these outputs:

- "Alert Cases Page" on page 5-4. Shows open alert cases only. Updates every 5 minutes.
- "Trap Alerts Page" on page 5-12. Shows only the first alert (5-minute interval) in an alert case. Most alert case fields are omitted. Updates in real time.
- Find/Analyze "acase (v_acase) Table" on page A-5. Shows both open and closed alert cases. No updating.

Note

- **Alerts table**. In addition, the "alert Table" on page A-12 shows tallies for each interval in an alert case. You will probably never use this.
- **Alerts**. Technically (in error and help messages), an "alert" is one interval in an alert case. We rarely mention alerts in this book.

Introduction to alert cases

About alert cases:

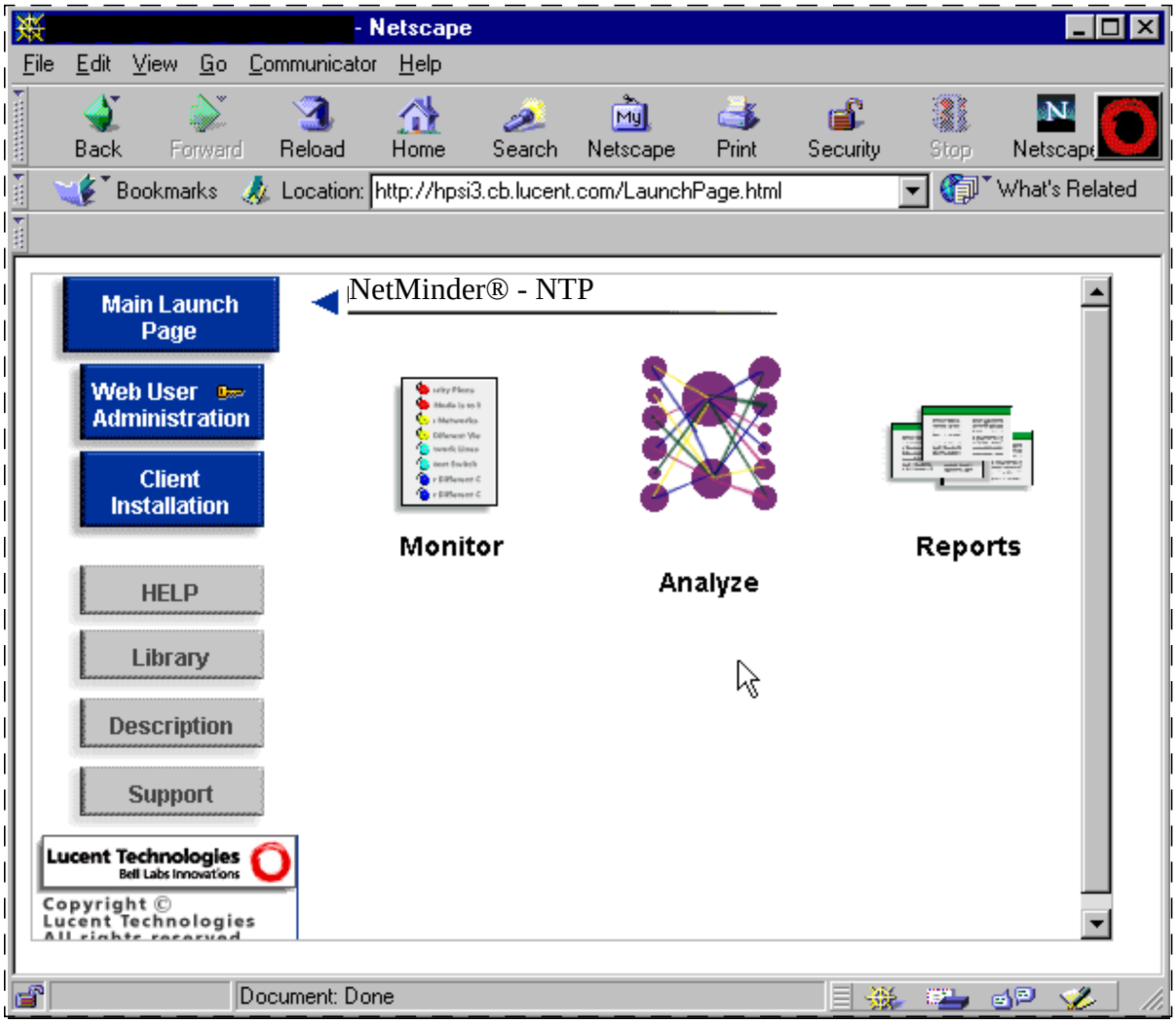
- **CFIM summary**. An alert case is a one-line summary of hundreds, even thousands, of CFIMs.
- **Modify**. You can modify alert cases, for example, to close, comment, or assign them. These modifications are seen by ALL users. See "How to Modify Alert Cases" on page 5-9.
- **Mass Call Alerts**. This output does NOT show alert cases, but shows mass call events. But, mass call events typically also show up as alert cases.
- **Map an Alert Case to its CFIMs**. To see how to CFIMs are assigned to alert cases, see "Thresholding" on page 2-7.

Outputs

Browser

Our browser-based graphical user interface (BB-GUI) can be either of the following browsers:

- Netscape Navigator (version 4.61 or later)
- Microsoft Internet Explorer (version 5.0 or later)



In the remainder of this book, we do not show the browser framing our GUI. For how to use your browser, see browser references.

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Outputs (Continued)

Inputs - CIMs

Let us mention again that *inputs* are CIMs. CIMs typically are reports of call failures.

Outputs

This table compares BB-GUI outputs.

Output	Auto update?	Shows
"Alert Cases Page" on page 5-4	Yes. Every 5 minutes.	Alert cases.
"Trap Alerts Page" on page 5-12	Yes. Real-time.	New alert cases.
"Mass Call Alerts Page" on page 5-16	Yes. Every minute.	Mass call events.
"Find CFIM Page" on page 6-4	No. A database retrieval.	CFIMs; in an alert case, or matching criteria you give.
"Find (Any Table)" on page 6-16		Any database table you want to see.
"Trap CFIM Page" on page 6-11	Yes. Real-time.	New CFIMs as they arrive; for an alert case, or matching criteria you give.
"CIMs Page" on page 6-14	No. A database retrieval.	CIMs that CFIMs were translated from.
"Compute" on page 6-21 **"Pattern Painter" on page 6-30**	No. Analyzes a database retrieval.	Patterns in a Find/Analyze (most often Find/Analyze on the CFIM table)

(Continued on next page)

Outputs (Continued)

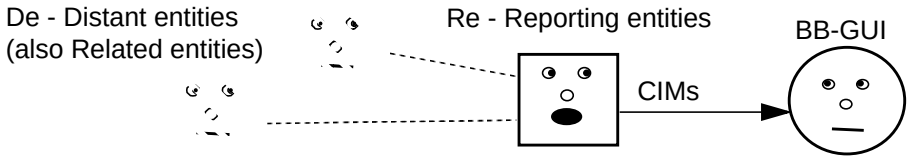
Output Descriptions The following are descriptions of outputs.

Output	Format
"Alert Cases Page" on page 5-4	Each line is one alert case, and each may summarize thousands of CFIMs.
"Trap Alerts Page" on page 5-12	Each line is a newly born alert case. Each moves to Alert Cases at the end of the 5-minute period.
"Mass Call Alerts Page" on page 5-16	Each line is a mass call event. **Note** Mass call events also show up on Alert Cases, but to identify them on Alert Cases you must look at an alert cases's CFIMs to see dialed digits.
"Find CFIM Page" on page 6-4 and "Find (Any Table)" on page 6-16	With Find/Analyze on CFIMs, each line is a CFIM, typically, each reporting a failed call (example at right). With Find/Analyze on other tables, each line is some other record.
"Trap CFIM Page" on page 6-11	Each line is one report of a failed call.
"CIMs Page" on page 6-14	The top line is a CFIM. The lines below are the CIM the CFIM was created from.
"Compute" on page 6-21	For analysis. Graphically represents a Find/Analyze, such as a Find/Analyze Cfim (for example, a Find/Analyze Cfim for all CFIMs in an alert case).
"Pattern Painter" on page 6-30	For analysis. Equivalent to multiple computes.

Network Elements

Network elements on CFIM's and alert cases

Network elements are what CFIMs and Alert Cases are about. We refer to network elements as Re's, De's and Related's, as follows.



	Re (reporting entity)	De (distant entity)	Related (entity)
Definition	Complaining network element	Element complained about, if any	Second element complained about, if any
Fields on CFIMs	Re	De	Related
Fields on Alert Cases	Ne, if Type field is Re	Ne, if Type field is De	Not on Alert Cases

CFIM point of view

Read CFIM's from the Re's point of view. For details, see "CFIM point-of-view exercises" on page 6-8.

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Network Elements (Continued)

Two flavors of CFIMs

CFIMs usually report call failures, but can also report successful calls. Compare:

Compare	Call failure CFIMs	Summary CFIMs
CFIM's billtype field	"-"	NOT "-"
CFIM point of view	CFIM is from Re's point of view.	Use Re's point of view, but it may be arbitrary. (See "CFIM point-of-view exercises" on page 6-8.)
FDCs	Many codes.	About a dozen codes.
Usually came from these conversions	Many codes.	Four codes.
On Ascreen	Different types of failures, by element reporting them.	Overall number of messages reports from or about an element.
System administrator can re-process late CIMs into CFIMs?	No	Yes

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Network Elements (Continued)

Compare Re, De, and Related

This table gives further comparison of network elements:

	Re (reporting entity)	De (distant entity)	Related (entity)
Thresholded (basic)?	Yes, with Fdc	Yes, with Fdc	No
What can be one		See "What can be De's" on page 2-19.	
Defined in	Rearch table	Swarch, or other "arch" tables.	
Element type is given in this CFIM field	Retype	Detype	Not given
Call direction, relative to Re, given in this CFIM field	Not applicable	D	R

What can be De's

ANY switch type can be a De or Related. Some NON-switches can also appear as a De or Related, as follows.

Non-switch De	Note
SCP	Signal control points.
ECOS area	This is a concept used by one customer only, F6244.
Adjunct switch role	This is a concept used by one customer only.
Location register	For AUTOPLEX, F6234.
Cell base station	For AUTOPLEX, F6234, and DMS MTX, F6276.
Others	Non-failure type CFIM's have other non-switch De's.

Getting Started

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Contents

Log In or Exit BB-GUI

How to log in Use this procedure to log in to the BB-GUI.

Step	Action
1	If you have not already done so, see your system administrator for: ■ A BB-GUI User ID and Password. ■ The BB-GUI location (http), on your internal or external web.
2	Start up your browser and navigate to the BB-GUI location.
3	Enter your User ID and Password and left-click **OK**. You will go to the Launch Page. See "Launch Page" on page 3-4.
Done	

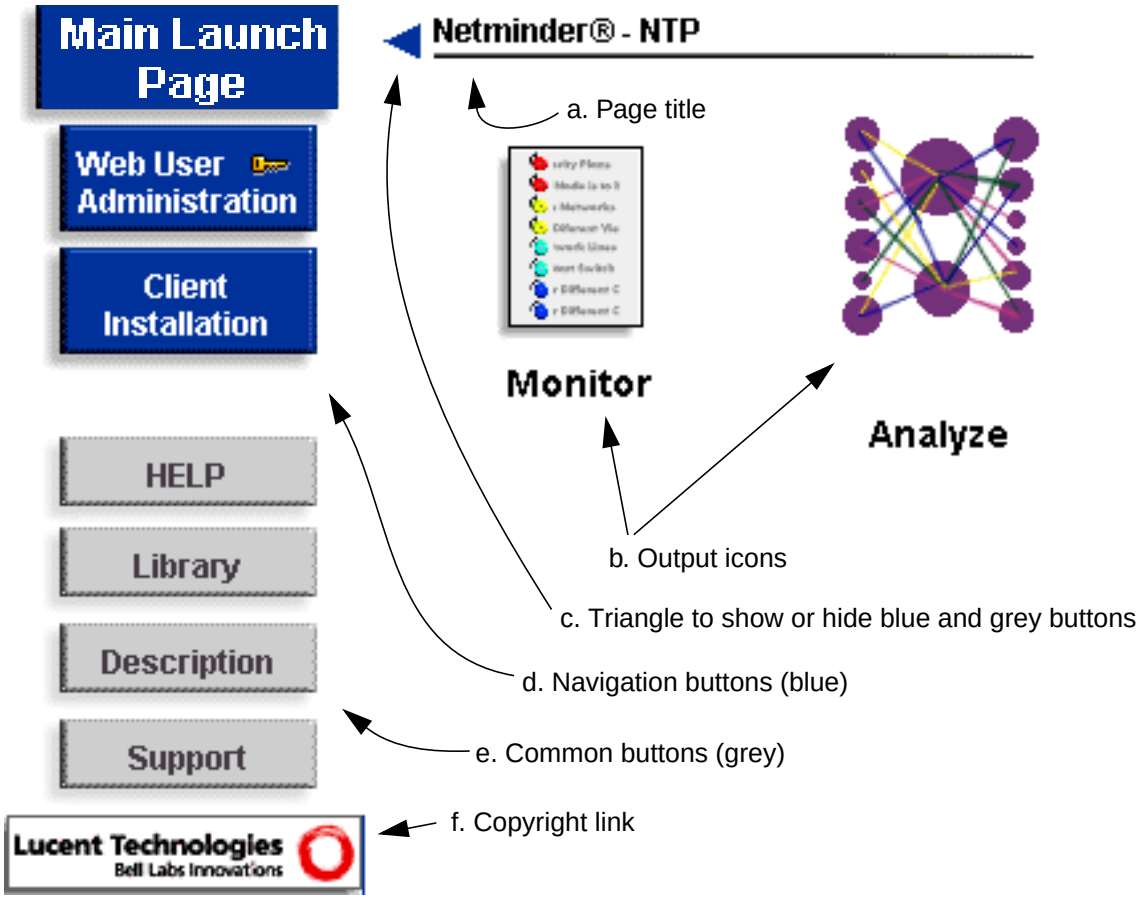
How to exit When we say "exit the BB-GUI", we mean either of two actions:

Select either:	When to do this:
File > Close on every browser window displaying a BB-GUI page.	■ Anytime, to routinely exit the BB-GUI.
File > Exit on any browser window to exit the browser entirely.	■ At the end of each workday, to ensure browser clean-up. ■ If you have Java problems, do this to kill the session.

Launch Page

Launch page example

Here is an example of the launch page



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Launch Page (Continued)

Launch page parts Launch page parts are as follows:

Part	Purpose	Additional Information
a	Page title.	
b	Output icons. ■ **Monitor**. ■ **Analyze**. **Note** After you go to an output, above, you can use its "Navigation Buttons (Blue)" on page 3-6 to go to other outputs (INCLUDING outputs with no icon on the launch page).	■ "Alert Cases Page" on page 5-4. ■ "Find CFIM Page" on page 6-4, "Find (Any Table)" on page 6-16.
c	Left click the blue triangle to show or hide both navigation (blue) and common (grey) buttons.	
d	Takes you to other pages.	"Navigation Buttons (Blue)" on page 3-6.
e	Calls up library and help.	"Common Buttons (Grey)" on page 3-7.
f	Links to copyright notice.	

Navigation Buttons (Blue)

Purpose

Each page has blue navigation buttons to take you to other pages.

Navigation button list

This table lists navigation buttons.

Page you go to	Page purpose	Additional Information
On launch page only.		
Web User Administration	Changes your preferences, and your password.	See "Web User Information Page" on page 7-3.
Client Installation	Installs software on your client enabling you to run NTP and its subsystems. See your system administrator for how to use this.	
On output pages.		
Main Launch Page	If you are on: ■ The launch page, select this to refresh the page. ■ Any other page, select this to go to the launch page.	See "Launch Page" on page 3-4.
Alert Cases	Output	See "Alert Cases Page" on page 5-4.
Mass Call Alerts	Output	See "Mass Call Alerts Page" on page 5-16.
Trap Alerts	Output	See "Trap Alerts Page" on page 5-12.
Find	Output.	See "Find CFIM Page" on page 6-4, and "Find (Any Table)" on page 6-16.
Trap CFIMs	Output.	See "Trap CFIM Page" on page 6-11.
Table Layout	Change output formats.	See "Table Layouts Page" on page 3-20.
On the library page, only.		
Local Practice	Local practices gives documentation (if any) added by your company. See the *System Administration Guide* for how to add local practices.	

Common Buttons (Grey)

Purpose Each page has grey common buttons that tell about NTP.

Common buttons list This table lists common buttons.

Button	Purpose
On launch and output pages.	
Help	Tells how to get system help, and how to do various tasks.
Library	Takes you to "Library Page" on page 3-8.
Description	Describes the page you are currently on. On the launch page, gives the system description.
Support	Tells how to get NTP product support.
On the library page.	
Search	Calls up a search window for the BB-GUI HTML book.
What's New	Takes you to the change memo for the latest release.
About the Library	Explains the library.
Library Legal	Mostly trademarks.
Comments	Tells how to comment on documentation.
How to Print	Tells how to print documents.
Library Help	Tells how to get additional help, for: Navigation Search Capabilities How to Print Making Comments Getting Additional Help Obtaining Software and Plug-Ins Local Practices.
Copyright ©	Link to documentation copyright page.
On the library page, if you select an HTML document you get the following ADDITIONAL buttons.	
Book Map	Table of contents for the BB-GUI HTML book.
Glossary	Terms in the BB-GUI HTML book.

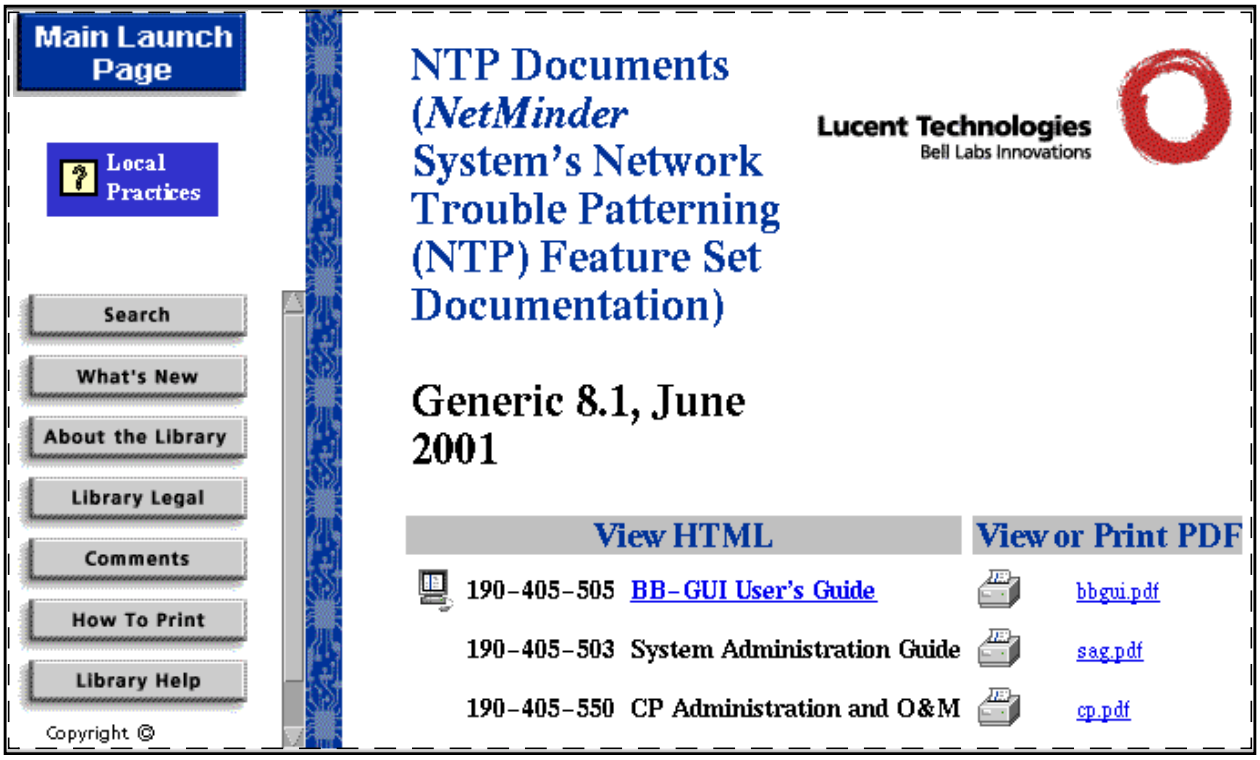
Library Page

Purpose

If you select the Library common button (on the Launch page or an output page) you go to the NTP library page, which offers NTP documents.

Library page example

This is an example of the library page.



What to do on the library page

On the library page, select from:

- **Navigation buttons (blue)**. "Main Launch Page" and "Local Practices." See "Navigation button list" on page 3-6.
- **Common buttons (grey)**. See "Common buttons list" on page 3-7.
- **View HTML**. Select *BB-GUI User's Guide* to view it via your browser.
- **View or Print PDF**. Select a book to view or print via *Adobe Acrobat Reader*.

Toolbar

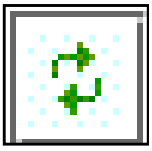
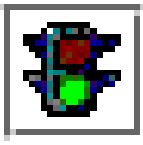
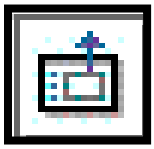
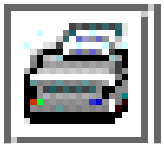
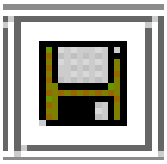
Purpose

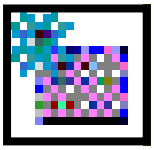
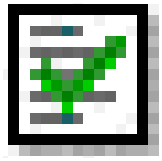
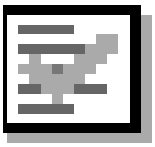
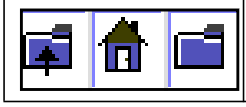
The toolbar offers tasks you commonly do.

Tooltip. Put your cursor on an icon to see a tooltip telling what the icon does.

Toolbar items

This table lists toolbar items.

Button	Purpose
	Select this to Refresh a table. You must do this to populate an added column (see "" on page 3-15). (This does NOT un-sort output, or return table layout to default. To do that, select a navigation button to call up output in a new window, and close the old window.)
	To stop auto update on the Alert Cases, Trap Alerts, Mass Call Alerts, or Trap CFIM page, press the red stop light. To start, press green.
	Select this to display output in projection mode. This changes the appearance of the screen so it can be more easily read from a projection.
	See "How to print to printer or postscript file" on page 3-10.
	See "How to save output to a file" on page 3-12.
	See "Sort" on page 3-13.

Button	Purpose
	Select this to add a table layout from scratch. For where used, see "Table Layouts Page" on page 3-20.
	Select this to select all rows in a table.
	Select this to deselect all rows in a table.
	Navigate a directory. For where used, see "How to save output to a file" on page 3-12

Toolbar (Continued)

How to print to printer or postscript file

Do this to print output to a printer or to a postscript file

Note

Your *browser's* Print icon may not work on different pages.

Step	Action
1	If the output is: ■ **Compute** — Go to "How to print compute output" on page 6-29. Do not return here. ■ **Pattern Painter** — Go to "How to get Pattern Painter output" on page 6-32. Do not return here. ■ **Other** — Go to the next step.
2	On any output page, left-click an output's printer icon.
3	Change magnification or orientation, if you want. You can choose a magnification percentage from the triangle, or type in a number.
4	Left-click **Print**.

Step	Action
5	Select **Printer** or (postscript) **File**, fill in fields as needed, and left-click **Print**. (If you select **File**, output is saved to a postscript file in your home directory.) **Note** Printing large files may take a while.
Done	

Toolbar (Continued)

How to save output to a file Use this procedure to save an output to a file.

Step	Action
1	If you are on: ■ Compute output, go to the next step. ■ Other output, and want to save just some records, select them now, so they are highlighted in reverse video. (Hold down the Control key to select multiple rows.)
2	On the output page, left-click the save-to-file icon. A Save window appears.
3	Do you see the "Data to Save" radio buttons at the top of Save window? (You see these unless you are on a Compute output.) ■ If NO, go to the next step. ■ If YES, Do you want to save just selected records (from Step 1)? — If YES, left click the "Selected" radio button in the Save window. — If NO, leave the Entire Table radio button selected in the Save window.
4	Use this window to navigate to the folder (on a PC) or directory (on a workstation) where you want to save the file.
5	Select or type in a file name in the "File name" box. **Note** If you are on: ■ Compute output, name the file with a .jpg or .png suffix. ■ Other output, name the file with a .txt suffix.
6	Left-click **Save**. **Note** ■ The file is saved outside NTP. So: — Use another application to view or edit the file. — Use workstation or PC tools to copy, move, or delete the file. ■ A .txt file can be input to Excel or similar applications for spreadsheet, databases, etc.
Done	

Sort

Scope

Re-sorting affects your login only, and only in the current browser window. You can resort most outputs, as well as the Tables Layout and Administrative pages.

Note

See "How to save a new sort for Alert Cases page" on page 5-8.

Arrows

After sorting, arrows in columns headings mean the following:

- Up arrow—sorted ascending.
- Down arrow—sorted descending.

Arrow colors mean the following:

- Dark arrow—Primary sort.
- Dark grey arrow—secondary sort.
- Light grey arrow—tertiary sort.

How to sort/unsort

Use this procedure to re-sort an output, one column at a time:

To sort:

- Left click the column heading to sort on it ascending. Click again to reverse sort order. (Do not move the cursor when you click.)
- Repeat on other columns, to further re-sort.

  Note

  You can also left-click the toolbar's sort icon to call up the sort window shown and use it to re-sort.

To unsort:

- On any output page, left-click the toolbar's sort icon. A Sort window appears.
- Left click the "Revert to default sort order" box and then left-click OK.

Right-Click Menus

Right-click menus purpose

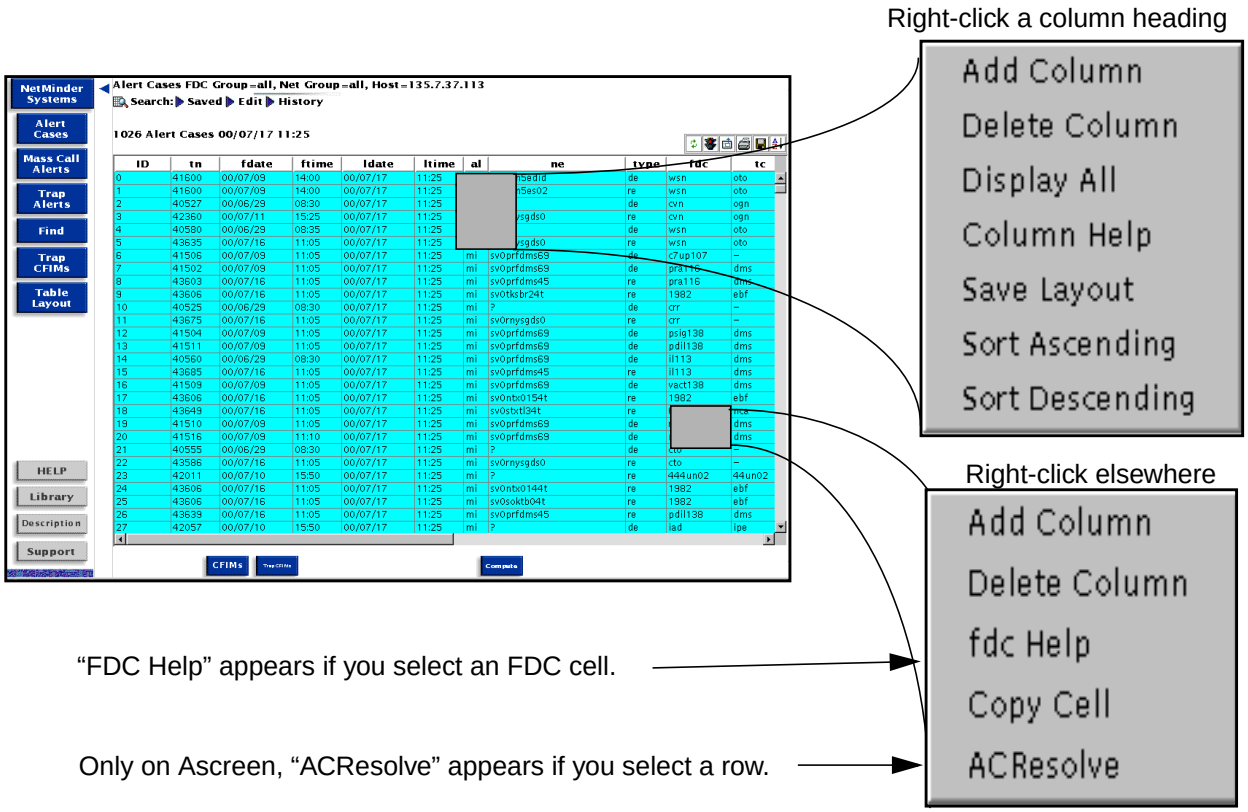
Right-click menus enable you to modify output, get help, and so on. Right click menus discussed here appear on outputs. Shorter menus appear on some other pages, such as Tables Layout and Administrative pages.

Reference

Also see "Pattern Painter parabox right-click menu items" on page 6-38.

Example

Here are examples of right-click menus.



Right-Click Menus (Continued)

Undo

To undo temporary changes you made to the table from a right-click menu, close the output window, and call it up again in a new window.

How to select rows, cells, FDCs, and columns

What items appear on a right-click menu depends on whether you previously selected a row or cell. (See "Right-click menus purpose" on page 3-14)

Here is how you select and un-select:

- **Select a column**. Right-click the column header to call up a menu. (The column does NOT appear in reverse video.)
- **Unselect a column**. Right or left click elsewhere. The menu is gone.
- **Select a row**. Left click in the row. It appears in reverse video.
- **Unselect a row**. Select another row. Or, hold down the control key and left-click it again.
- **Select a cell**. Left click in the cell. It is framed in yellow (it "has focus").
- **Unselect a cell**. Select another cell.
- **Select (unselect) an fdc**. Select, or unselect, it's cell (above).

Right-click menu items

Items in the column menu are detailed in the sections that follow with one exception: for information on ACResolve, see "How to modify an alert case (overview)" on page 5-9.

Right-Click Menus (Continued)

How to add a column This procedure adds a column to output.

Step	Action
1	Right-click the column heading—to the right of which you want to add a column. The column menu appears.
2	On the column menu, left-click **Add Column**. An Add Column window appears.
3	In the window, left-click to highlight the item you want to add (hold down the shift key if you want to left-click to highlight multiple items), and then left-click **OK**.
4	Left click the Refresh icon, to populate the new column or columns.
5	If you want to save this table layout, see "How to save an output's layout" on page 3-18.
Done	

How to delete a column This procedure deletes a column from output.

Step	Action
1	Right-click the heading of the column you want to delete. The column menu appears.
2	On the column menu, left-click **Delete Column**.
3	If you want to save this table layout, see "How to save an output's layout" on page 3-18.
Done	

How to display all columns This procedure displays all columns (all fields) for an output.

Step	Action
1	Right-click any column heading. A menu appears.
2	On the column menu, left-click **Display All**.
3	If you want to save this layout, see "How to save an output's layout" on page 3-18.
Done	

Right-Click Menus (Continued)

How to get table help See "How to get Table Name online help" on page 6-18.

How to get field help This procedure shows what a column heading means.

Step	Action
1	Right-click the column heading you want help on. A menu appears.
2	Left-click **Column Help**. A help window appears.
3	To dismiss the help window, left-click its **OK** button.
Done	

How to get FDC help This procedure shows what an FDC means.

Step	Action
1	Right click the FDC to call up a special right-click menu.
2	Right- or left-click the menu's **fdc Help** item to call up a window explaining the FDC.
3	To dismiss the window, left-click its **OK** button.
Done	

(Continued on next page)

Right-Click Menus (Continued)

How to save an output's layout

Use this procedure if you added or deleted output columns on an output page, and you want to save your output's format to use again later.

Reference

Also see "Table Layouts Page" on page 3-20.

Step	Action
1	Modify output. **Reference** Use a procedure listed at "Scope" on page 3-19.
2	Right-click any column heading. The column menu appears.
3	Left-click **Save Layout**. The Save Table Layout window appears.
4	Type in a name for the layout, and left-click **Submit**. **Result** Now the table layout is available at: ■ Output's **Table Layouts** field, illustrated at "Saved area example" on page 4-11. ■ "Table Layouts Page" on page 3-20.
Done	

How to copy from an output cell

Use this procedure to copy from an output cell.

Step	Action
1	Left-click the cell you want to copy from. It becomes framed in yellow.
2	Right-click anywhere on output (but not in the cell heading) to call up the right-click menu.
3	Left-click **Copy cell**. Now you can paste, in NTP, or in other applications.
Done	

Modify Output

Scope

Use these procedures to modify output. These modifications affect your login only, and only in the current browser window.

To save a modified output as a table layout, see "How to save an output's layout" on page 3-18.

How to move a column

Although you could use right-click menus to move a column, by deleting and re-adding the column, you can also left-click-and-hold the heading of the column you want to move. Then drag the column to its new position and release.

How to change a column's width

To change a column's width, in the column heading, left-click-and-hold on the right border of a column. Your cursor changes to this: ⟶| Drag the border and release.

Table Layouts Page

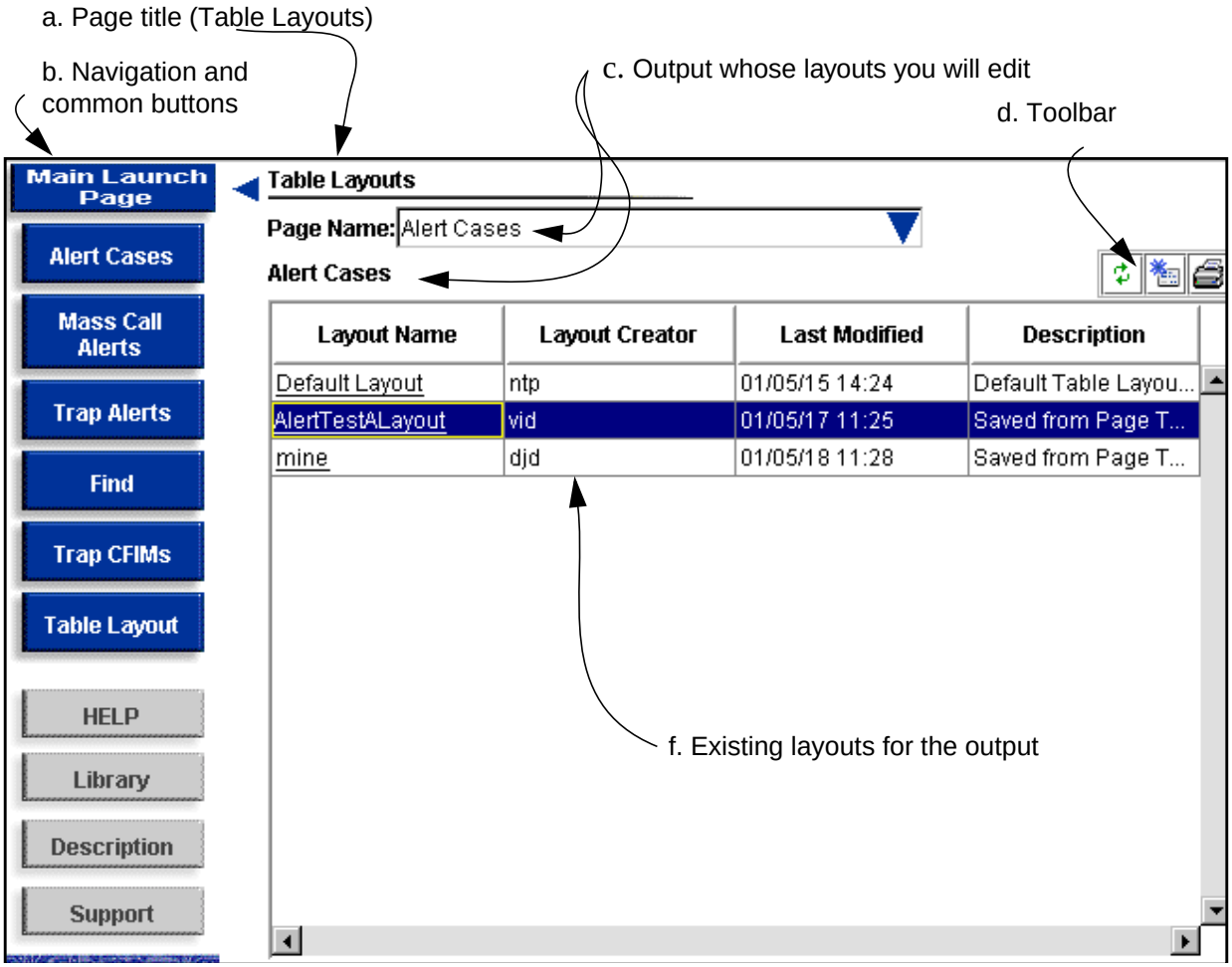
Table Layout's page Purpose

The Table Layouts page enables you to add, modify and delete table layouts for different outputs.

Once a table layout has been created, each output's table layout are offered in the output's Table Layouts field, illustrated at "Saved area example" on page 4-11.

Table Layouts page example

Here is an example of the Table Layouts page.



(Continued on next page)

Table Layouts Page (Continued)

Table Layouts page parts Table Layouts page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	See blue "Navigation Buttons (Blue)" on page 3-6. See grey "Common Buttons (Grey)" on page 3-7.
c	How to select a layout to edit: Use the blue triangle to select the page whose layouts you want to edit. Then in the output area, select the layout to edit.
d	See "Toolbar" on page 3-9.
e	Lists existing table layouts.

(Continued on next page)

Table Layouts Page (Continued)

How to add, modify, delete, or copy table layouts

Use this procedure to add, modify, delete, or copy a table layout.

Step	Action
1	Go to any page that has a **Table Layout** button (most do) and left click the button. You see the Table Layout screen.
2	In the **Page Name** field, left-click the blue triangle to select the type of output whose layout you want to add, modify, or delete.
3	Do you want to Add? ■ If no, go to the next step. ■ If yes, left click the add a table layout icon shown above. A Table Layout window appears. Fill in Layout Name and Description, and skip to Step 6.
4	Left click the **Layout Name** you want to modify or delete. An additional window appears.
5	Do you want to delete? ■ If yes, left click the **Delete** button. You are done. ■ If no, go to the next step. **Note** You can delete only those layouts with your ID in the **Table Creato**r window.
6	Modify output.
7	■ If you are adding, modifying, or deleting, left-click **Submit**. **Note** You can modify and "Submit" only those layouts with your ID in the Table Creator window. ■ If you are copying a table a. Left click the **Copy** button instead of **Submit**. b. Type a new name in the **Layout Name** field. c. If you want, type in a new **Description**. d. Left-click **Submit**. **Note** You can save any layout as your own copy.
Done	

Search

4

Contents

General

Purpose

This chapter tells how to call up outputs from the Search button.

Outputs called up from the Search button are:

- Alert Cases
- Trap Alerts
- Find CFIM (and Find any other table)
- Trap CFIM

This chapter also tells how to use search expressions (see "What is a search expression?" on page 4-25).

How to Get Output

Road map to outputs This tells how to get each output.

To get this output	Do this
Alert Cases	Use the procedure after this table ("How to get output, starting from the launch page" on page 4-5).
Trap Alerts	
Find CFIM (or other table)	
Trap CFIM	
Mass Call Alerts	
CIMs	Once you get Find CFIM or Trap CFIM, you can get CIM output. See "How to get CIMs page output" on page 6-14.
Compute	See: "How to get Compute output" on page 6-22.
Pattern Painter	See: "How to get Pattern Painter output" on page 6-32.

(Continued on next page)

How to Get Output (Continued)

How to get output, starting from the launch page

Use this procedure to get output, starting from the launch page:

Note

- To go to output from a shortcut button on another output page, see "How to use shortcuts to output" on page 4-7.
- Where ever you are, to go to the launch page, left click the blue Main Launch Page button.

Step	Action
1	First, look at the table, "Road map to outputs" on page 4-4, to see if you use this procedure for the output you want.
2	On the launch page, if you want to go to: ■ **Alert Cases**, left click the **Monitor** icon. Go to Step 6. ■ **Find CFIM** page, left click the **Analyze** icon. Go to Step 6. ■ **Find (any table)** page, left click the **Analyze** icon Go to Step 3. ■ **Trap Alerts, Trap CFIM, Mass Call Alerts**: First, click any icon above. Then go to Step 4.
3	To pick a table for **Find (any table)**; on the **Find** page, left click the **Edit** blue triangle to open its area. There, in the **Table Name** field, select the table you want to **Find**. Go to Step 6
4	For **Trap Alerts, Trap CFIM, Mass Call Alerts**: Left click its "Navigation Buttons (Blue)" on page 3-6**.**
5	Are you on the Mass Call Alerts page? ■ If NO, go to the next step. ■ If YES, you are done. Output is in progress. (No Search button)
6	Look at the page's current search criteria. To do this, left click the blue arrow beside **Edit**, and scroll down to the "Search Exp" field. (If the field is blank, it means "show all")
7	Do you want to use the page's current search parameters? ■ If YES, go to the next step. ■ If NO, left click the blue triangle beside either: — To re-use a search you saved. See "How to use Search/Saved" on page 4-12. — To execute, modify, or save a search. See "How to use Search/Edit" on page 4-23. — To re-use one of your last 20 searches, see "How to use Search/History" on page 4-17.
8	Left click search.
Done	

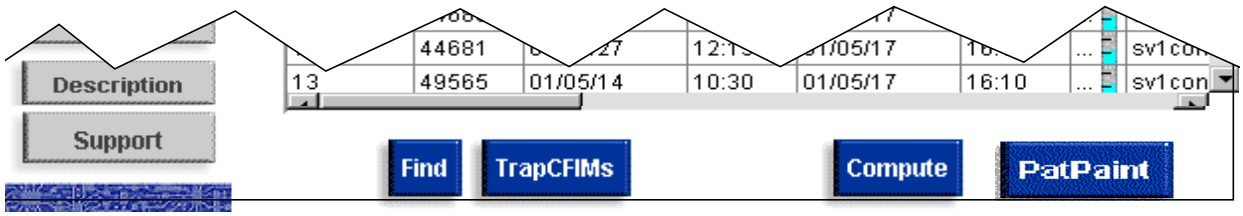
Output Shortcut Buttons

Example: Output shortcuts

Various outputs offer shortcut buttons.

Example

Here we show shortcuts from Alert Cases output.



How to use shortcuts to output

To use a shortcut button:

- Select the row or rows you want to map to the new output.
- Left-click the shortcut button.

Search Triangles

Purpose

Un-collapse one of the blue search triangles to open a search area where you:

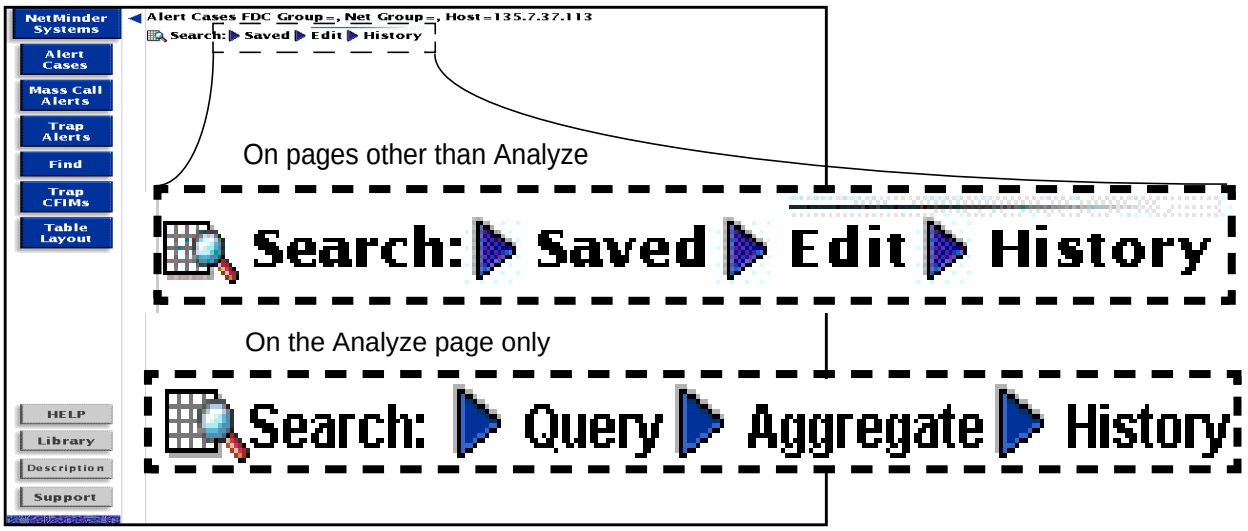
- First specify what to see on an output.
- Then select the Search button to see output.

Note

You can also select the Search button to get "Default search" on page 4-10.

Search triangles illustration

These are the blue search triangles. Here, they are all collapsed, so you see no search areas or Search button.



(Continued on next page)

Search Triangles (Continued)

Search triangles list Search triangles are listed below.

Triangle	On these pages	Purpose
Saved	Alert Cases, Trap Alerts, Find, Trap CFIM	Re-use a saved (named) search expression.
Edit	Alert Cases, Trap Alerts, Find, Trap CFIM	Create a new search expression, or edit an existing one, to execute now, or to save to execute later.
History	Alert Cases, Trap Alerts, FindCFIM, or Trap CFIM	Re-use a previously used search expression.

(Continued on next page)

Search Triangles (Continued)

Default search

Default search with the History blue triangle repeats the previous search. With other blue triangles, default search is as follows:

- **Alert Cases, Trap Alerts, Trap CFIM** — No restrictions. You see each record as it arrives. (These are auto-updating outputs)
- **Find**. No restrictions, EXCEPT data retrieval stops at either (whichever comes first):
  - — 5,000 records. (But see "How to change Find Table Size for one Find or Analyze" on page 4-21 and "How to change Find Table Size default" on page 7-8.)
  - — Records dated in the last 10 minutes (if the records are chronological, such as CFIMs). (But see "How to change Find Time for one Find or Analyze" on page 4-21. Also, if you enter a date or time in the search parameters, it overrides this.)

Search/Saved

Purpose

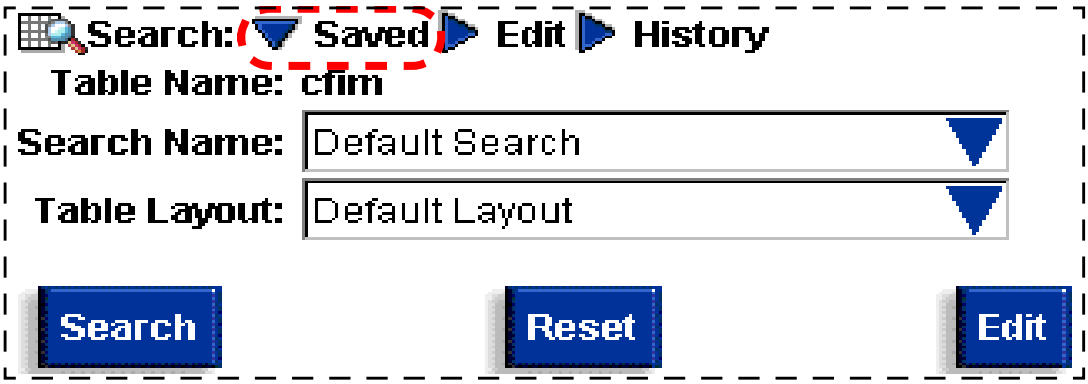
Saved enables you to re-use search expressions and table layouts previously saved.

Note

- Searches are saved (named) either by the system administrator (all users see these), or by you on the Edit page (only you see these).

Saved area example

This is the Saved area. Notice the Saved triangle is un-collapsed.



(Continued on next page)

Search/Saved (Continued)

Saved parts These parts appear when you un-collapse Saved:

Part	Purpose
Search Name	Left-click the arrow to pull down a list of searches previously saved. Then left-click a search to select it.
Table Layout	Left-click the arrow to pull down a list of output formats you previously saved. Then click a format to select it.
Search	Execute the search, using the search parameters named in the Search Name field, and output layout named in Table Layout.
Reset	Return to previous parameters.
Edit	Go to Search/Edit, to edit the search named in the Search Name field. See "Search/Edit" on page 4-18. **Note** If you left click the edit *triangle*, you also go to Search/Edit, but to edit *default* search.

How to use Search/ Saved Use this procedure to execute a search previously saved.

Step	Action
1	Go to a page with a Saved triangle (Alert Cases, Trap Alerts, Find, or Trap CFIM).
2	Un-collapse the Saved triangle to see the Saved area. See "Saved area example" on page 4-11.
3	Left-click the triangle beside Search Name to call up a list of saved searches. Then left-click the named search you want to use, so it appears beside Search Name.
4	If you want to use a table layout other than default, repeat the previous step, but with the Table Layout field. **Note** You cannot create or modify a table layouts here. To do that, Left-click the Table Layout blue navigation button. See "How to save an output's layout" on page 3-18.
5	If you want to: ■ Start over, left-click the **Reset** button. ■ Edit the search named in the "Search Name" field (either to modify and execute now, or modify and save), left-click **Edit** and go to "How to use Search/Edit" on page 4-23). ■ Execute the search, left-click the **Search** button.

Step	Action
	Done

Search/History

Purpose

History enables you to re-use search expressions you used earlier.

The History area lists your last 20 search expressions for the output page your are at. For example: Your last 20 search expressions for Alert Cases.

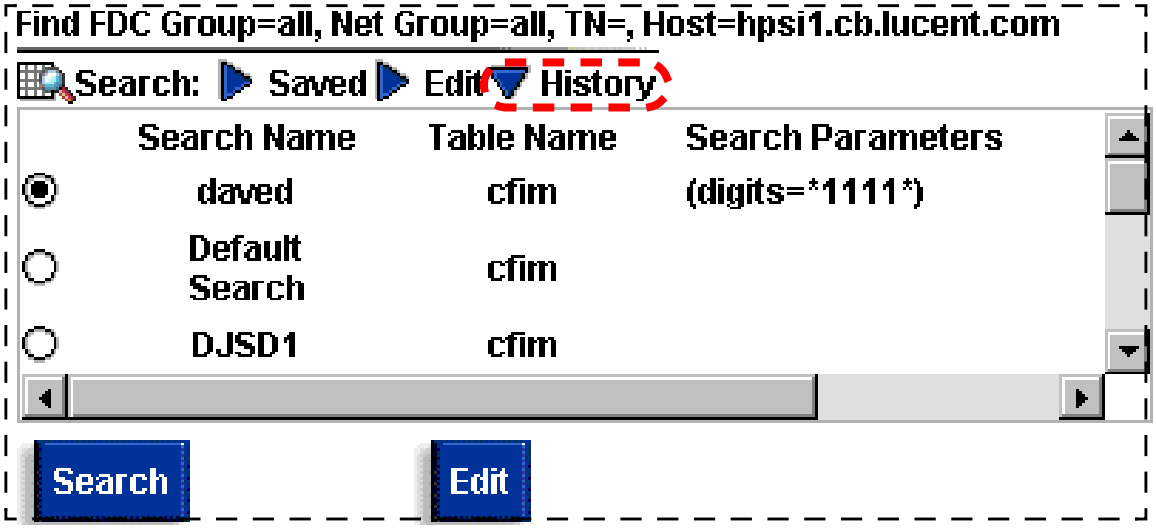
It lists search expressions for your login only.

If you have never called up output, History is empty.

(Continued on next page)

Search/History (Continued)

History area example This is the History area with Find. Notice the History triangle is un-collapsed



(Continued on next page)

Search/History (Continued)

History parts These parts appear when you un-collapse History.

Part	Purpose
Radio Button	Left-click it to select a search expression you used earlier.
Search Name	Identifies search expressions you used earlier. You see either: ■ "Default Search" (see "Default search" on page 4-10). ■ A search expression name. (See "How to save (to name) a search expression" on page 4-22.) ■ Nothing, if the search expression was neither default nor named.
Search Parameters	Shows the actual search expression. Blank if default (see "Default search" on page 4-10).
Table Name	On Find only. The table from which records were retrieved (most often, cfim).
Search	Execute the search that has a selected radio button.
Edit	Go to Search/Edit, to edit the Selected search. See "Search/Edit" on page 4-18. **Note** If instead you left click the Edit triangle, you also go to Search/Edit, but to edit the default search (once there, you could choose a search there to edit).

(Continued on next page)

Search/History (Continued)

How to use Search/ History

Use this procedure to execute a search from the history file.

Step	Action
1	Go to Alert Cases, Trap Alerts, Find CFIM, or Trap CFIM.
2	Un-collapse the History triangle to see the history area, listing the last 20 searches. See "History area example" on page 4-15.
3	Left-click a radio button to select a search.
4	If you want to: ■ Re-execute the search, left-click the **Search** button. ■ Edit the selected search left-click **Edit** and go to "How to create or modify a search expression by using ORs" on page 4-24. You can then save the modified search, execute it, or both.
Done	

Search/Edit

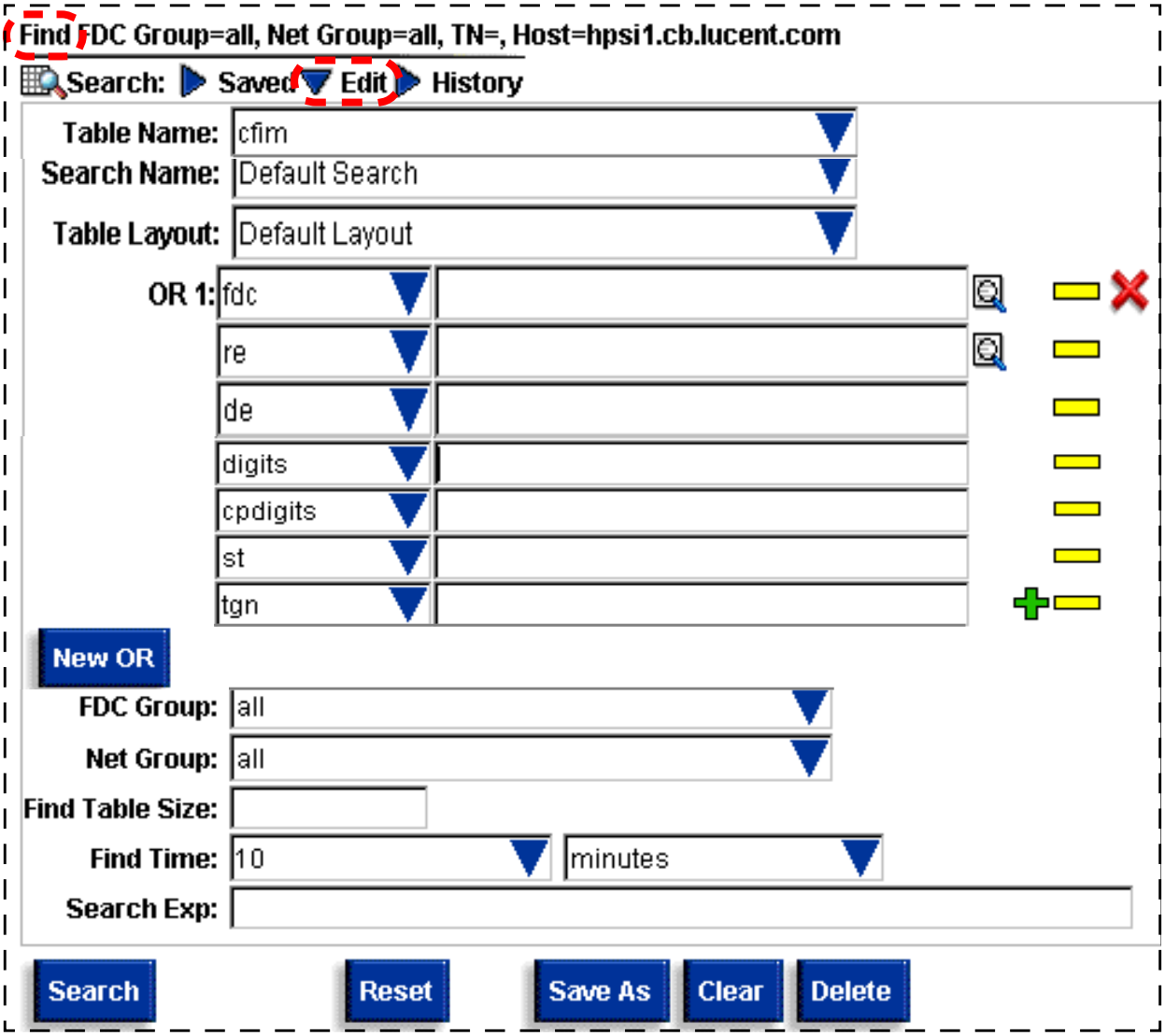
Purpose

Edit enables you to create a new search expression, or take an existing one, and:

- Execute it as it is (by selecting the Search button).
- Before executing it, modify it.
- Before or after executing a modified search, save it to a new or existing name.

Search/Edit (Continued)

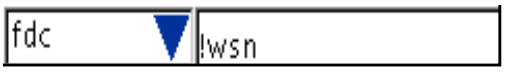
Edit area example This is the Edit area, in this case, on the Find page. Notice the Edit arrow is uncollapsed.



(Continued on next page)

Search/Edit (Continued)

Search/Edit parts These parts appear when you un-collapse Edit.

Part	Purpose
Table Name	The name of the database table who data you want to Find. Default is CFIM (for output, see "Find CFIM Page" on page 6-4). Left-click the triangle to select another (for output see "Find (Any Table)" on page 6-16).
Search Name	The name of a search, to use, edit, or delete. Left-click the triangle to select a different name. Leave blank for default (see "Default search" on page 4-10). A search name identifies a search expression, which limits output as explained at "Search Expressions" on page 4-25.
Table Layout	Left-click the triangle to pull down a list of output formats you previously saved. Then click a layout to select it. For maintaining table layouts, see "Table Layouts Page" on page 3-20.
OR Group	An OR group. A set of logical conditions that are boolean OR'd with other OR groups, if any.
OR 1	A boolean OR group (here "OR 1" means OR group 1).
	A boolean AND term in a boolean OR group, limiting output by the column label you put in first field, and the values and operators you put in the second.
Plus Sign. Add-restriction (add OR field) button	Add a line. (You need to this only if you have already entered restrictions in all lines already displayed for an OR group.)
Minus Sign. Delete-restriction (delete OR field) button	Delete this line. (Nothing is affected if you delete a line not used--that is, any line with nothing in the right-hand field.)
Red X. Delete-restrictions (delete OR group) button	Delete the OR group.
Refine button (magnifying glass icon)	This button is offered by a field if we have a list of values for that field. It enables you to select from the list. See "How to refine (magnifying glass)" on page 4-33.
New OR	Start a new OR group (for example, OR 2).
FDC Group	See "How to limit output by FDC, Group, Net Group, or both" on page 4-23.
Net Group	See "How to limit output by FDC, Group, Net Group, or both" on page 4-23.

Part	Purpose
Find Table Size	Find Table Size is how many records you can Find. Type a value to override default, which is (initially) 500. **Note** ■ This overrides default, for this Find only (and, for any saved copy of this search). ■ To *change* default for all Finds (initially 500), see "How to change Find Table Size default" on page 7-8. ■ This cannot exceed max table size. To change max table size (initially 10,000), see "How to change max table size" on page 7-8. ■ If a table is chronological (tables listed at "Output tables" on page A-4), then Find Time also applies. That is, Find stops at Find Table Size (initial default 500) or Find Time (default 10 minutes), whichever is smaller. (But remember, Find Time is overridden by anything you put in a date or time field.)
Find Time **Note** This appears only if you are doing a Find on a chronological table (CFIM and other tables listed at "Output tables" on page A-4).	Find Time is how far back you will Find records if you do not use a date or time field. Select a value to override default, with is 10 minutes. **Note** ■ This overrides default, for this Find only (and, for any saved copy of this search). ■ You cannot change the default, which is the last 10 minutes. ■ Find Time is overridden by anything you put in a date or time field (including the yymmddhh field of summary tables). ■ Find Table Size also applies. That is, a Find stops at Find Table Size (initial default 500) or Find Time (default 10 minutes), whichever is smaller. (But remember, Find Time is overridden by anything you put in a date or time field.)
Search Expression	The boolean expression derived from values you put in the OR groups. You can edit this expression directly. For example, here you could backspace over wsn and type in vca. But, the edit takes affect only when you left-click on the blue "update" arrow.
Search	Execute the search, including any changes you made.

Part	Purpose
Reset	Reset to the previous search expression.
Delta Triangle	A “delta” (triangle) means you changed the search. To save changes, use the Save As button.
Save As	Left-click to call up the Save As window, enabling you to save your changes to a new or existing “Search Name”.
Clear	Erase all terms in all OR groups.
Delete	1. Go to the output whose saved search you want to delete: Alert Cases, Trap Alerts, Find CFIM, or Trap CFIM. 2. Un-collapse the Edit triangle to see its area. See "Search/Edit" on page 4-18 and "Edit area example" on page 4-19. 3. Left-click the Search Name triangle to select the search you want to delete. 4. Select the Delete button. **Note** You can delete only searches you created. (For how to create a search, see "How to create or modify a search expression by using ORs" on page 4-24.)

(Continued on next page)

Search/Edit (Continued)

How to use Search/ Edit

Use this procedure to execute, modify, or save a search (or a combination of those actions).“Edit” is on other pages.

Step	Action
1	Go to Alert Cases, Trap Alerts, Find CFIM, or Trap CFIM.
2	Un-collapse the Edit triangle to see its area. See "Search/Edit (Continued)" on page 4-19 and "Edit area example" on page 4-19. **Note** If you want to use all defaults to retrieve data, skip to Step 10.
3	On Find only, select a table (most typically, cfim).
4	If you want, left-click the FDC Group triangle, Net Group triangle, or both, to select from groups defined by your system administrator. Or, skip to the next step to use default (default is typically the unrestricted “all”).
5	If you want, left-click the Table Layout triangle to select a layout other than default.
6	If you want, left-click the Search Name triangle to select an existing search. Or, skip to the next step, which means you are on the default search (see "Default search" on page 4-10). **Note** ■ A search name identifies a search expression. A search expression limits output by ORs, explained in Step 8. ■ If you want to delete the named search, select the Delete blue button. You are done. (See "How to delete a saved (named) search" on page 4-22.)
7	Take the search expression named in the previous step and either: ■ Use it, with no modification. To do this, skip to Step 9. ■ Edit it directly. To do this, use "Edit the Search Exp field directly" on page 4-30, then go to Step 9. (This is for advanced users.) ■ Edit it by using OR fields and groups. To do this, go to the next step.

Step	Action
8	Use this to edit search expressions (see "Search Expressions" on page 4-25). ■ **Fill in OR1 fields**. As needed: — Put values in an OR1 field or fields. For example, put “vca” in the fdc field in the illustration below. See: "What you can put in OR fields" on page 4-28. — See "How to refine (magnifying glass)" on page 4-33 for how to use the magnifying glass icon to fill in an OR field. — Left click the triangle in an OR field to change the field—for example, to change “fdc” to “ne”. — **Add or delete a field in OR1**. As needed, left click these icons: — Plus Sign to add an OR field. (See "Plus Sign. Add-restriction (add OR field) button" on page 4-20.) — Minus Sign to delete an OR field. (See "Minus Sign. Delete-restriction (delete OR field) button" on page 4-20.) ■ **Add a new OR group**. As needed, left click the New OR button to add an OR2 group. Then fill in its fields, and add or delete its fields, as you did with OR1. — As needed, use the New Or button to add additional OR groups. — Red X. As needed, click red this icon to delete an OR group. See "Red X. Delete-restrictions (delete OR group) button" on page 4-20.
9	If you want to save (to name) your search parameters to re-use latter, select the Save As button, and follow prompts. If you save with an existing name, you replace that saved search.
10	To get output, left click Search.
Done	

Search Expressions

What is a search expression?

A search expression is a set of criteria that limits output on Alert Cases, Trap Alerts, Find CFIM, or Trap CFIM. It is built from fields and values, with "Boolean AND and OR" on page 4-26.

Example

On Trap CFIM you could use the search expression "(fdc=wsn)" to limit output to only those CFIMs that have wsn in the fdc field.

Note

A search expression does NOT include Net Group, FDC group, Table Layout, Find Time, and so on. However, such criteria is retained among searches, as long as you remain logged on.

Where seen

You see or use search expressions when you un-collapse the following Search triangles:

- At "Search/History" on page 4-14, in the "Search Parameters" column. If the search expression is named, you see the name in the Search Name column.
- At "Search/Edit" on page 4-18, in the "Search Exp" field.y
  If an expression is named, you can enter the name in the Search Name field.
- At "Search/Saved" on page 4-11, If an expression is named, you can enter the name in the Search Name field (see illustration, above).

Note

If any of the above is blank, it means "Default search" on page 4-10.

(Continued on next page)

Search Expressions (Continued)

Build or modify search expressions

You build or modify a search expression in an Edit area, by either:

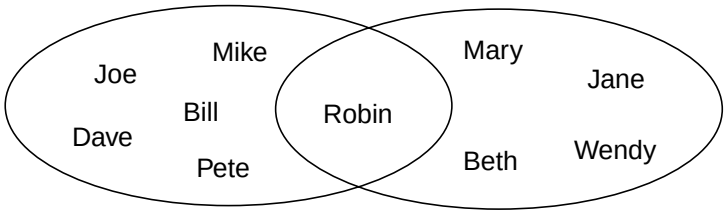
- Using OR groups. (See "How to create or modify a search expression by using ORs" on page 4-24.)
- Editing the “Search Exp” field directly (for advanced users).

Boolean AND and OR

Boolean search uses two operators to search:

- OR — Combination of sets. In the example below: the set of men’s names OR the set of women’s names is ALL names.
- AND — Intersection of sets. In the example below: in the set of men’s names AND the set of women’s names, the intersection of sets is Robin.

Example.



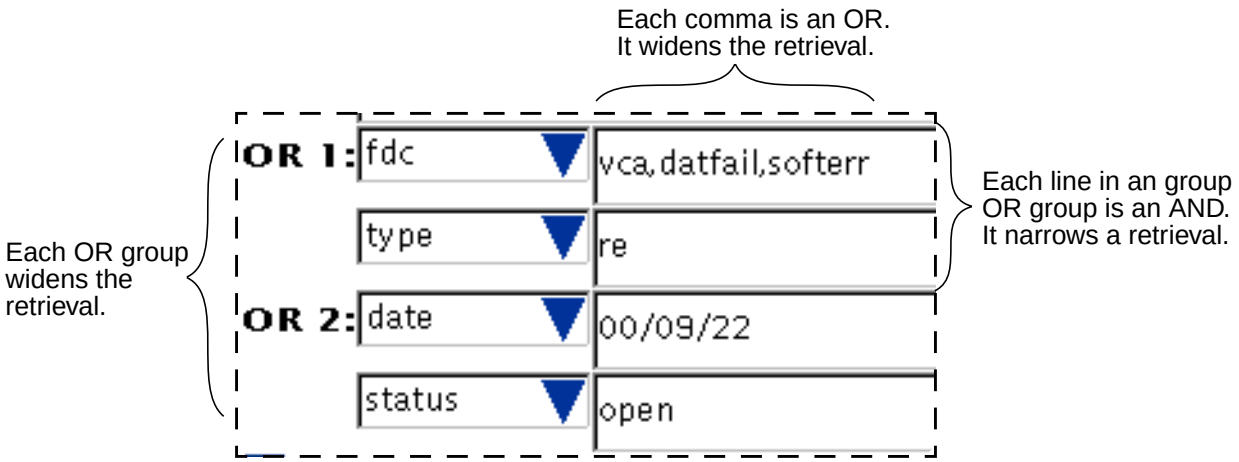
(Continued on next page)

Search Expressions (Continued)

Narrow and widen

At "How to create or modify a search expression by using ORs" on page 4-24 we tell how to add or delete OR fields and OR groups. Here we discuss why you would do that.

You narrow and widen record retrievals as illustrated here.



Example

In the example above, “Search Exp” is:
((fdc=vca,datfail,softerr and type=re) or (date=00/09/22 and status=open))

Note

When building a search expression, we suggest you start with an easy, wide, search to get more records than you need. Then narrow the search until you get what you want.

(Continued on next page)

Search Expressions (Continued)

What you can put in OR fields

The following table explains what you can put in OR fields:

Note

What you enter in an OR field appears in "Search Exp" after you left click another field.

Reference

What you can enter differs by field type. See "Field types" on page 4-31.

Put this in an OR field:	To retrieve these records:
OR 1: fdc Nothing.	Search Exp: All records. (In this case, a Find stops after 10,000 records, or after all CFIMs received in the last 10 minutes—whichever comes first.)
OR 1: fdc abc One value.	Search Exp: (fdc=abc) Records where FDC is abc
OR 1: fdc abc,xyz,000 Multiple values, with commas, no spaces. Comma means boolean OR.	Search Exp: (fdc=abc,xyz,999) Records where FDC is abc OR xyz OR 999.
OR 1: fdc !=abc,xyz,123 "!=" for "not equals".	Search Exp: (fdc!=abc,xyz,123) Records where FDC is NOT abc, xyz, or 123.
OR 1: fdc a,!=abc,aaa One operator (equal, greater than, less than, etc.) followed by a "!=" operator. (The "!=" is the only operator you can mix with other operators.)	Search Exp: (fdc=a* and !=abc,aaa) Records where FDC starts with "a", not including FDC's abc or aaa.
OR 1: de - Null value (not permitted in a key field). Either: ■ - dash means not applicable or none. ■ ? means missing data (tell your system administrator). This applies to a few fields.	Search Exp: (de=-) Records where de is not applicable. **Example** To see records where de is missing because something is not in the NTP database, use "de=?".

Put this in an OR field:	To retrieve these records:
OR 1: fdc 9* Meta characters. Either: ■ * means none or more characters. ■ & means one character.	Search Exp: (fdc=9*) Records where FDC is 9 or begins with 9. **Example** For a three-digit number beginning with 9, use 9&&.
OR 1: ict <777 .The following operators, with numeric or date/time field types only. ■ < for less than ■ > for greater than ■ <= for less than or equal too ■ >= for greater than or equal to ■ !< for NOT less than (you can use "!" with other operators in this list). **Note** If you omit operators, "=" is implied	Search Exp: (ict<777) .Records where ICT is less than 777Note **Mixed operators**. Let us say you want records where ict is less then 10 OR more than 100. ■ You might try to put "<10,>100" in one ict field, but you can NOT mix operators (=, !=, >, and so on) in one field. ■ You can try to put this on two ict lines in the same OR group, but that will not work, since lines within an OR group are AND'd (see "Narrow and widen" on page 4-27). ■ So, you must: — In one OR group, put <10 in an ict field. — Press the NEW OR button to start a new OR group, and there put >100 in another ict field.
OR 1: fdc vca ne am3 .Also, more than one field in an OR group.	Search Exp: (fdc!=vca and ne=am3) Records where FDC is vca AND the Ne is am3.
OR 1: fdc vca ne am3 OR 2: fdc busy .Also, more than one OR group.	Search Exp: ((fdc!=vca and ne=am3) or (fdc=busy)) Records where FDC is abc AND the Ne is am3; or records where FDC is busy.

(Continued on next page)

Search Expressions (Continued)

Edit the Search Exp field directly

Rather than use OR fields to cause a search expression to appear in the "Search Exp" field, you can type a search expression DIRECTLY in the "Search Exp" field—or edit an expression already in that field.

If you do that, an arrow appears to the right of the field.
Left click the arrow to make OR fields match what you typed in "Search Exp".

"Search Exp" syntax is:

Syntax	Note
Blank	Means retrieve all records.
field operator value **Examples** fdc=abc fdc!=abc fdc=abc,xyz,999 fdc=a* ct>100 ct!>100 ct=100-200	Where: ■ **Fields**. For the list of fields, left click an OR field's blue arrow. ■ **Operators and values**. These are the same as listed in "What you can put in OR fields" on page 4-28, with one exception: The "=" operator is implied there, but MUST be included here.
field operator value *boolean* **field operator value** *boolean* **field operator value** and so on **Examples** (fdc=abc) and (re=999) (fdc=abc) and (re=999 or de=999)	Where ■ **Booleans**. Booleans are "and" and "or". See "Boolean AND and OR" on page 4-26. ■ **Use parentheses**. Statements in parentheses are executed first, starting with the deepest nested parentheses.

(Continued on next page)

Search Expressions (Continued)

Field types

Each OR field has a type. For example, FDC is a string. Field types are:

- **String** — alphanumeric.
- **Set** — a defined set of strings.
- **Numeric** — digits.
- **Date, time** — dates, times, or both.

To see a field's type, see the field in Appendix A, "Output Tables", or use "How to get field help" on page 3-17.

Field type determines what operators and values you can enter in a field for a search expression

You can use this operator and value			With this field type			
Operator	**Value**	**Example**	**string**	**set**	**numeric**	**date, time**
Either: None (= is implied) != (means "not equals")	Single value	5367 !=5367	yes	yes	yes	yes
	Multiple values (use commas, omit spaces; comma is boolean OR)	5367,5389,5398 !=5367,5389,5398	yes	yes	yes	yes
	Range of values. Use dash.	5233-5264 !=5233-5264	no	no	yes	yes
	- (means null; for non-key fields) ? (means missing data; for a few non-key fields)	- !=- ? !=?	yes	yes	yes	no
	* (wild card for none or more characters) & (wild card for one character)	abc* !=abc* abc&&&123 !=abc&&&123	yes	yes	no	no
>, <, >=, <=, !>, !<, !<=, !>=	Single number or date or time	<5200	no	no	yes	yes

(Continued on next page)

Search Expressions (Continued)

Date and time format

Some search expression fields are for dates, times, or both.

This table shows various ways to enter date and time. Use military time; for example, 06:30 for 06:30 a.m., and 18:30 for 6:30 p.m.

These fields	Use these formats	Example
Time, Ftime, Ltime	HH:MM	13:45
Date, Fdate, Ldate	YY/MM/DD (*Omitted YY defaults to current year.)	96/02/21
Datime, Fdatime, Ldatime	YY/MM/DD HH:MM **(**Omitted YY/MM/DD defaults to current day.)	96/12/21 13:50

This table shows how NTP interprets date and time.

IF you enter...	THEN NTP searches for records time-stamped...
date only	Between midnight and 23:59 p.m. on the date.
time only	At the specified time, for the current date.
time and date	At the time and date specified.
datime—datime	Within the specified range of dates and times.

You can enter dates and times as follows:

- **Range**. Example: 95/03/24 8:15-95/03/31 10:25
- **Range**. Example: 95/03/24 8:15-10:25
- **With operator**. Example: <=95/03/25
- **Multi-value**. Example: 95/3/7 8:15,95/3/9 8:15

(Continued on next page)

Search Expressions (Continued)

How to refine (magnifying glass)

This refine symbol beside a field means you can call up a list of values for the field to help you build a search expression, as follows:

Step	Action
1	In the field beside the refine symbol, type either: ■ A * to list all values for the field. ■ A string using meta characters (* or &) to list just some values for the field. **Example** To limit values offered for the FDC field, you might type: — a* to list all FDCs beginning with "a". — a&&& to list all four-character FDCs starting with "a". ■ Beginning of a string, to retrieve the first match. **Example** If you want to enter CLLI code abcdefghij in the Re field, and you know that it is the only CLLI beginning with abc, type just abc.
2	Left click the refine symbol. **Response** In the third case in the previous step, the string expands, and you are done. In the other two cases, a refine window appears. **Note** If you see an FDC listed more than once (such as busy and busy, above), select just one, which is the same as selecting them all. A repeated FDC means there is more than one acode mapped to the FDC. See "What are acodes?" on page 4-34.
3	Left click the box beside each field you want to "OR" into the search expression. **Example** If I left click the box beside amt213 and amt113, I am saying, show me all records where FDC is amt213 OR amt113 (which appears in the search expression field as fdc=amt213,amt113).
4	Left click Select.
Done	

(Continued on next page)

Search Expressions (Continued)

What are acodes?

To determine some FDCs, we use the Acode2fdc table. The table has three fields:

- **Fname** — A code found in a CIM, which NTP maps to one or more FDCs.
- **Acode** — A string found in a CIM, used to map one Fname to different FDCs.
- **FDC** — The FDC mapped to.

Here is how acodes are used:

- Usually, NTP looks in a CIM for just one code to map to just one FDC. In this case, NTP does NOT use the Acode2fdc table (the FDC is NOT in the acode2fdc table).

  Example
  Each 4ESS FHC code maps to just one a unique FDC. Each 5ESS MDII code maps to just one a unique FDC.

- Sometimes (especially with DMS) NTP starts with a CIM's code (Fname), and maps it to DIFFERENT FDCs according to different strings (Acodes) NTP locates in the CIM.

  Example
  If a CIM with code (Fname) c7up100 contains the string (Acode) "no ack circuit reset", we assign FDC of 100p_1. If a CIM with code (Fname) c7up100 contains the string (Acode) "no ack grp crkt reset" we assign FDC of 100p_2.

- Less often, we may map multiple Acodes mapped to one Acode.

  Example
  If a CIM is with code (Fname) trk114 contains the string (Acode) "partial_dial" or the string (Acode) "partdialdial", we assign FDC of pd114.

Note

1AESS switch conversion uses the ess12fdc table.

(Continued on next page)

Search Expressions (Continued)

How to see an FDC's acode

To see acode-to-FDC mapping, do a Find on the acode2fdc table. (For how to Find, see "Find (Any Table)" on page 6-16.)

Alternately, you can use this procedure.

Step	Action
1	In the field beside the refine symbol, type either: ■ A * to list all values for the field. ■ A string using meta characters (* or &) to list just some values for the field. **Example** To limit values offered for the FDC field, you might type: — a* to list all FDCs beginning with "a". — a&&& to list all four-character FDCs starting with "a".
2	Left click the refine symbol. **Response** You see a list of matching FDCs. **Note** If there are many FDCs, you may want to check the box beside the FDC or FDCs whose acodes you want to see. This will help you identify their acodes in the next step.
3	Use the pull-down menu to change FDCs to Acodes. **Response** FDCs are now shown as Acodes. **Note** ■ If you see one acode for an FDC, then you can select that acode (just as you can select the FDC) and then left click **Select** for a search. ■ If you see multiple acodes for one FDC, you might think you can select one acode, and then left click **Select**, to search on just that acode, but that does not work. Instead, your search will be on ALL acodes that map to the same FDC.
Done	

Monitor

5

Contents

Overview of Outputs that Alert You

Outputs that alert

Outputs in this chapter automatically identify problems and report them to network managers. These outputs are:

Output	Description
"Alert Cases Page" on page 5-4	■ Each output row is an alert case. ■ Updates every 5 minutes.
"Trap Alerts Page" on page 5-12	■ Each output row is a NEW alert case, shown as soon as it is created. ■ Updates in real time. At the end of each 5-minute period the alert cases move from this output, to the Alert Cases page.
"Mass Call Alerts Page" on page 5-16	■ Each row is a mass call event, caused when too many calls were placed to the same number. ■ Updates once a minute. **Note** Mass call events are NOT alert cases. But, if you check the Alerts Case page, you will see one or more alert cases matching each mass call event on the Mass Call Alerts page.

Note

You can use the Trap CFIM page to alert you of problems, but in that case, you must set up its search parameters to look for a problem. You do not need to do that with these outputs. They automatically identify problems.

Alert Cases Page

Alert Cases page purpose

NTP thresholds CFIMs into alert cases, and lists alert cases on this page.

About output

On the Alert Cases page:

- **Sort**. Alert cases are sorted, with the biggest problems (most lost calls, most recently) at the top. For details, see "What is Alert Cases page default sort?" on page 5-8.
- **Alert level**. Each alert case's al (alert level) field is color coded according to the importance you place on its FDC.
- **Updates**. The Alert Cases page updates every 5 minutes. At that time:
  - Tallies type fields are updates.
  - Expired alert cases disappear.
  - New alert cases appear.
  - Alert cases are re-ordered (but each keeps its Tn field value).

Reference

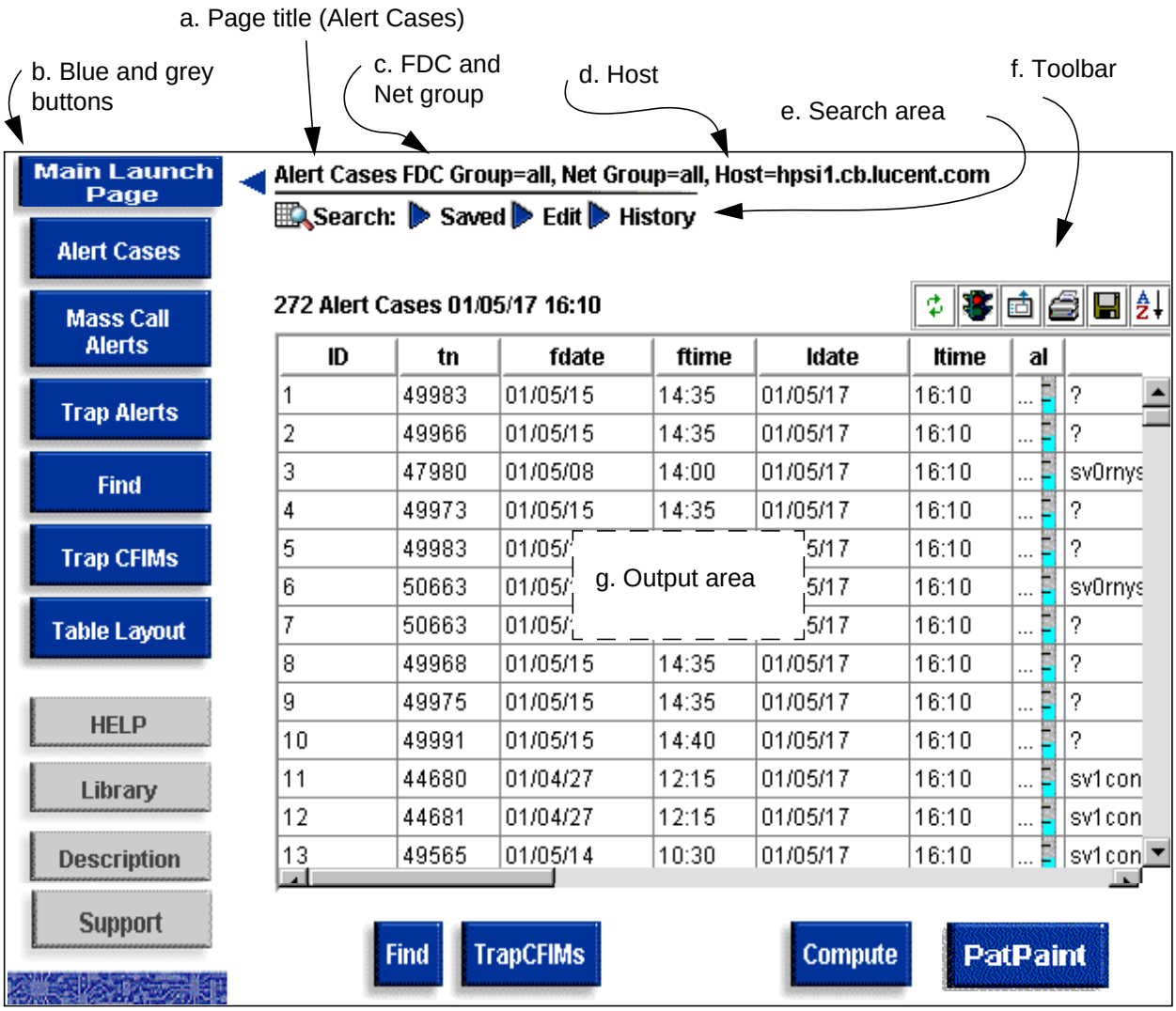
- **Thresholds**. For how CFIMs are thresholded into alert cases, see "Thresholding" on page 2-7.
- **Other outputs.** For other outputs that show alert cases, see "Alert Case Overview" on page 2-13.
- **Expired alert cases.** To see expired alert cases use Find Acase. See "Find (Any Table)" on page 6-16 and "acase (v_acase) Table" on page A-5.

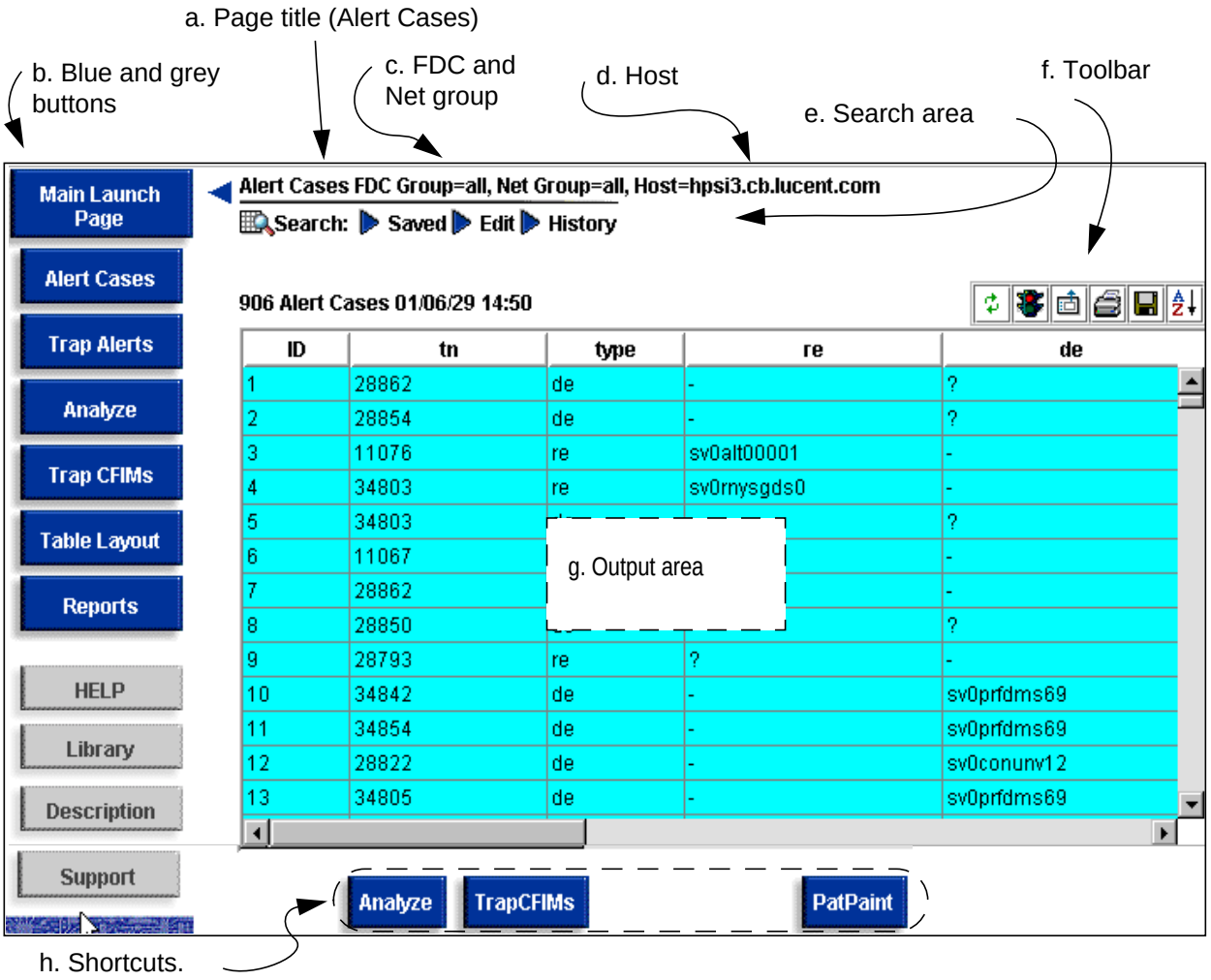
(Continued on next page)

Alert Cases Page (Continued)

Alert Cases page example

This is an example of the Alert Cases page.





(Continued on next page)

Alert Cases Page (Continued)

Alert Cases page parts Alert Cases page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	"Navigation button list" on page 3-6. "Common buttons list" on page 3-7.
c	See "FDC Groups" on page 7-9, "Network Group/Segment" on page 7-9.
d	Host machine where NTP is running, chosen by your system administrator.
e	"Search triangles illustration" on page 4-8.
f	See "Toolbar" on page 3-9.
g	Output area: ■ What columns mean: "acase (v_acase) Table" on page A-5. ■ How to add, or delete columns; get column and FDC help, etc., see: "Right-Click Menus" on page 3-14. ■ Sorting, "Sort" on page 3-13. ■ Default sort, "How to save a new sort for Alert Cases page" on page 5-8. ■ Modify alert cases, "How to modify an alert case (overview)" on page 5-9.
h	See "How to use shortcuts to output" on page 4-7.

(Continued on next page)

Alert Cases Page (Continued)

What is Alert Cases page default sort?

Default sort on the Alert Cases page is on the Ldatetime field descending, and then the Lcnt field descending. This puts the Alert Cases with the-biggest-most-recent CFIM counts at the top.

How to save a new sort for Alert Cases page

Use this procedure to override default sort. This affects your own login only.

Step	Action
1	Go to the Alert Cases page and call up output.
2	Change the output's sort to what you want.
3	Go to the Edit mode, and use Save As to save the page. **Example** If I sorted on FDCs, I might name the page "FDC sort".
4	Whenever you want to use the same sort in the future, go the Ascreen's Saved mode, and use the saved search.
Done	

How to Modify Alert Cases

About modifying alert cases

- Here we tell how to modify alert cases on the Alert Cases page.
- These changes are seen by ALL users.
- If you want to see the login ID that modified an alert case, look in the alert case's Userid field.

How to modify an alert case (overview)

Use this procedure to close, assign, comment, or otherwise modify an alert case.

Step	Action
1	Go to the Alert Cases page and call up output. **Reference** See "How to get output, starting from the launch page" on page 4-5.
2	Select (left click) the alert case you want to modify.
3	Right-click in the output area to call up the right-click menu.
4	Left click **ACResolve**. **Result** The Alert Case Resolve window appears.
5	Do you want to close the alert case: ■ If NO, go to the next step. ■ If YES, use the pull-down menu to change the Status box to **closed** and SKIP the next step. **Note** ■ There is no need to close alert cases. They close themselves. ■ If you accidentally close an alert case, you can NOT re-open it. However, if the problem is still crossing thresholds, a new alert case will be created. ■ After an alert case is closed, its Status field says closed. ■ You can NOT see closed alert cases on the Alert Cases page. You can see them by doing a Find on the Acase table (see "Find (Any Table)" on page 6-16). **Warning**! Do not attempt to change an alert cases status by selecting Open, Assigned, or Referred into the Status field. Although the interface lets you do this, the result is not logical.

Step	Action
6	Do you want to assign (give to an "owner") or refer (and retain forever) an alert case? ■ If NO, go to the next step. ■ If YES, put a name or initials in Owner (to make assigned), Referred, or both fields. **Note** ■ Assign and refer means a name or initials has been put in the Owner (for assigned) or Referred, or both fields, to everyone know who is handling an alert case. But, — **Assigned** — Means the alert case expires normally. — **Referred**— Means the alert case is retained FOREVER, or until you close it (previous step), or un-refer it (next step) and let it close itself. ■ **Status**. After you complete this procedure, in an alert case's status field you see: — **Assigned**, if you put something in the Owner field. — **Referred**, if you put something in the Referred field or if you put something in both fields.
7	Do you want to un-do a previous assign or refer? ■ If NO, go to the next step. ■ If YES, do the same as the previous step, except erase the name or initials from Owner Referred, or both.
8	Do you want to give an Fcause to the alert case? ■ If NO, go to the next step. ■ If YES, use the pull-down menu to select an Fcause. **Note** Fcauses are defined by your system administrator.
9	Do you want to add a comment to the alert case? ■ If NO, go to the next step. ■ If YES, type a comment in the Comments field.
10	Left click **Submit**.
Done	

Alert Cases Page (Continued)

Cnt5 versus CFIM counts in an alert case

On the Alert Cases page, you can left-click an Alert Case, and then click the CFIMs button to call up all CFIMs in the Alert case. But notice a seeming discrepancy:

A. The alert case's Cnt 5 field shows a count of CFIM's in the alert case.

B. The list of CFIM's lists all records in the alert case.

But B is often MORE than A, because:

- A is the tally of CFIMs ONLY for 5-minute periods when the alert case was ABOVE threshold.
- B lists ALL CFIMs, for all 5-minute periods since the alert case was born.

Trap Alerts Page

Trap Alerts page purpose

NTP collects reports of failed calls and organizes them into alert cases—each indicating a problem. NTP lists alert cases on Alert Cases, the worst at the top. Ascreen updates every 5 minutes. If you want to see NEW alert cases as they are born--in real time--use Trap Alerts.

At the end of each 5-minute period, any alert cases on Trap Alerts disappear from that output, and appear on Alert Cases.

Reference

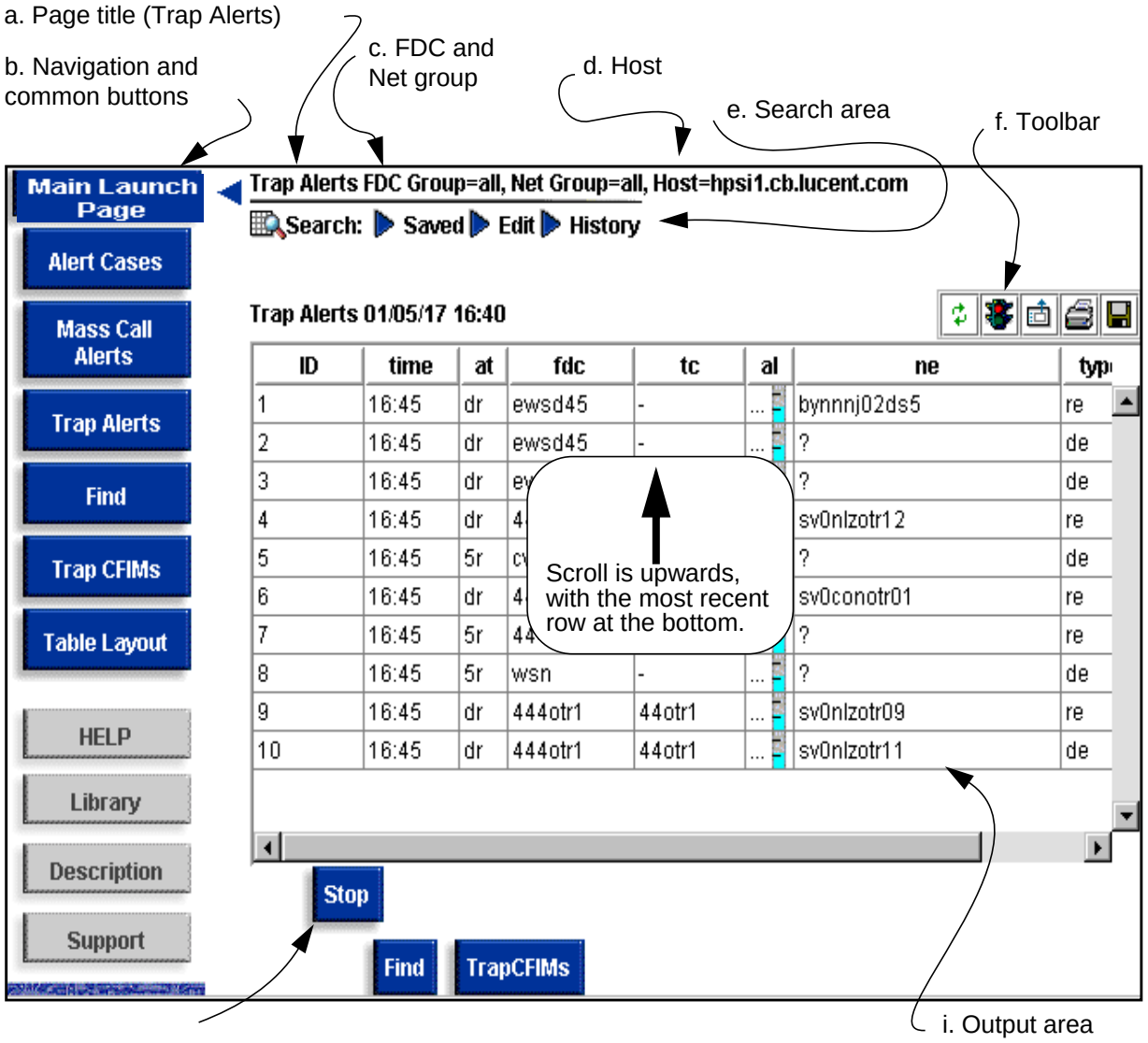
- For how CFIMs are thresholded into alert cases, see "Thresholding" on page 2-7.
- For other outputs that show alert cases, see "Alert Case Overview" on page 2-13.
- To see closed alert cases use Find Acase. See "Find (Any Table)" on page 6-16 and "acase (v_acase) Table" on page A-5.

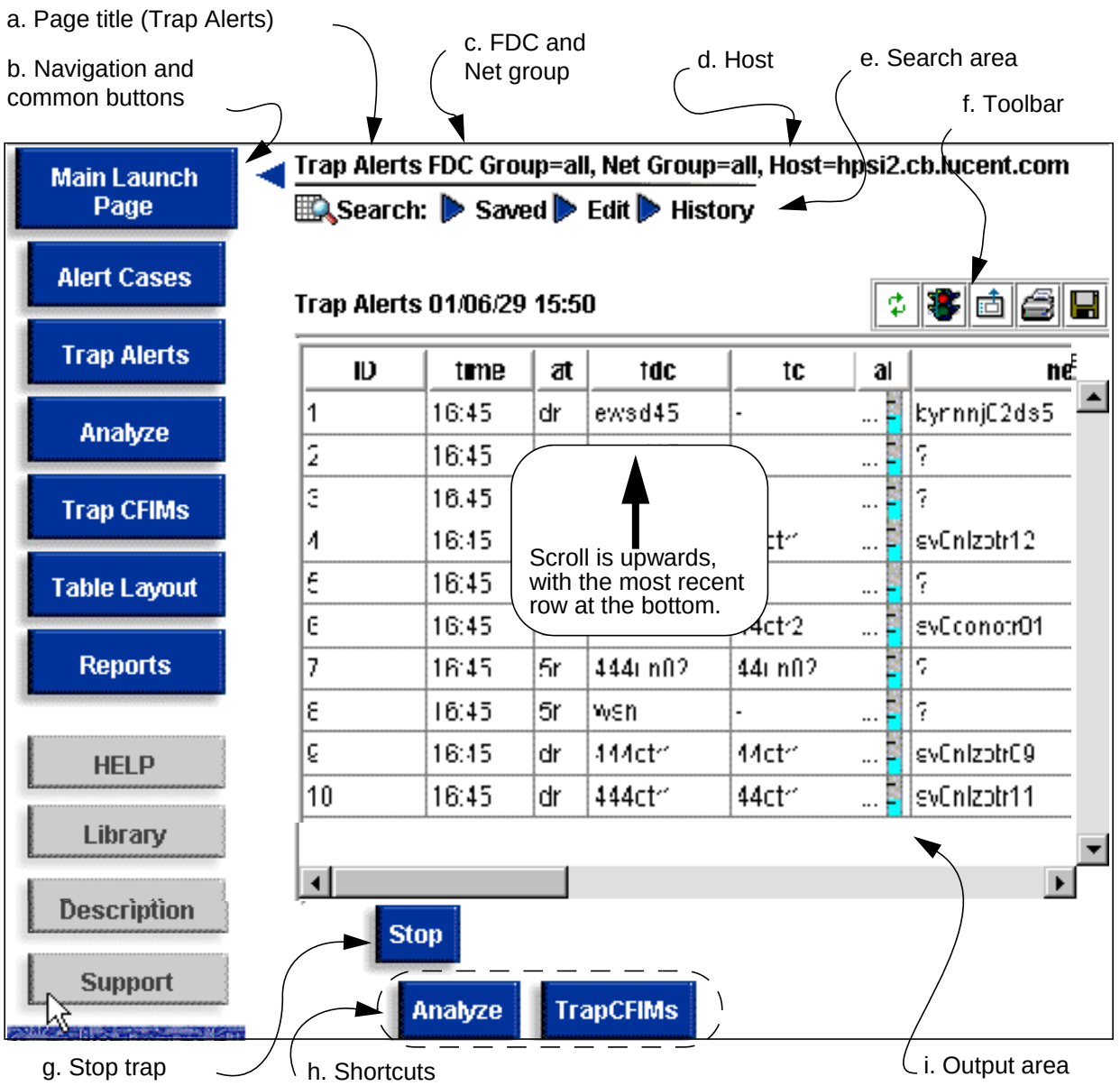
(Continued on next page)

Trap Alerts Page (Continued)

Trap Alerts page example

Here is an example of the Trap Alerts page.





(Continued on next page)

Trap Alerts Page (Continued)

Trap Alerts page parts

Trap Alerts page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	See "Navigation button list" on page 3-6. See "Common buttons list" on page 3-7.
c	See "FDC Groups" on page 7-9, "Network Group/Segment" on page 7-9.
d	Host machine where NTPRL is running, chosen by your system administrator.
e	"Search triangles illustration" on page 4-8.
f	See "Toolbar" on page 3-9.
g	Left click to stop. To restart, re-execute Search.
h	See "How to use shortcuts to output" on page 4-7.
i	Output area: What columns mean: "alert Table" on page A-12. How to add, or delete columns; get column and FDC help, etc., see: "Right-Click Menus" on page 3-14.

Mass Call Alerts Page

Mass Call Alerts purpose

The Mass Call Alerts page tells which dialed digits are showing up in many CFIMs, indicating a mass call event.

Example

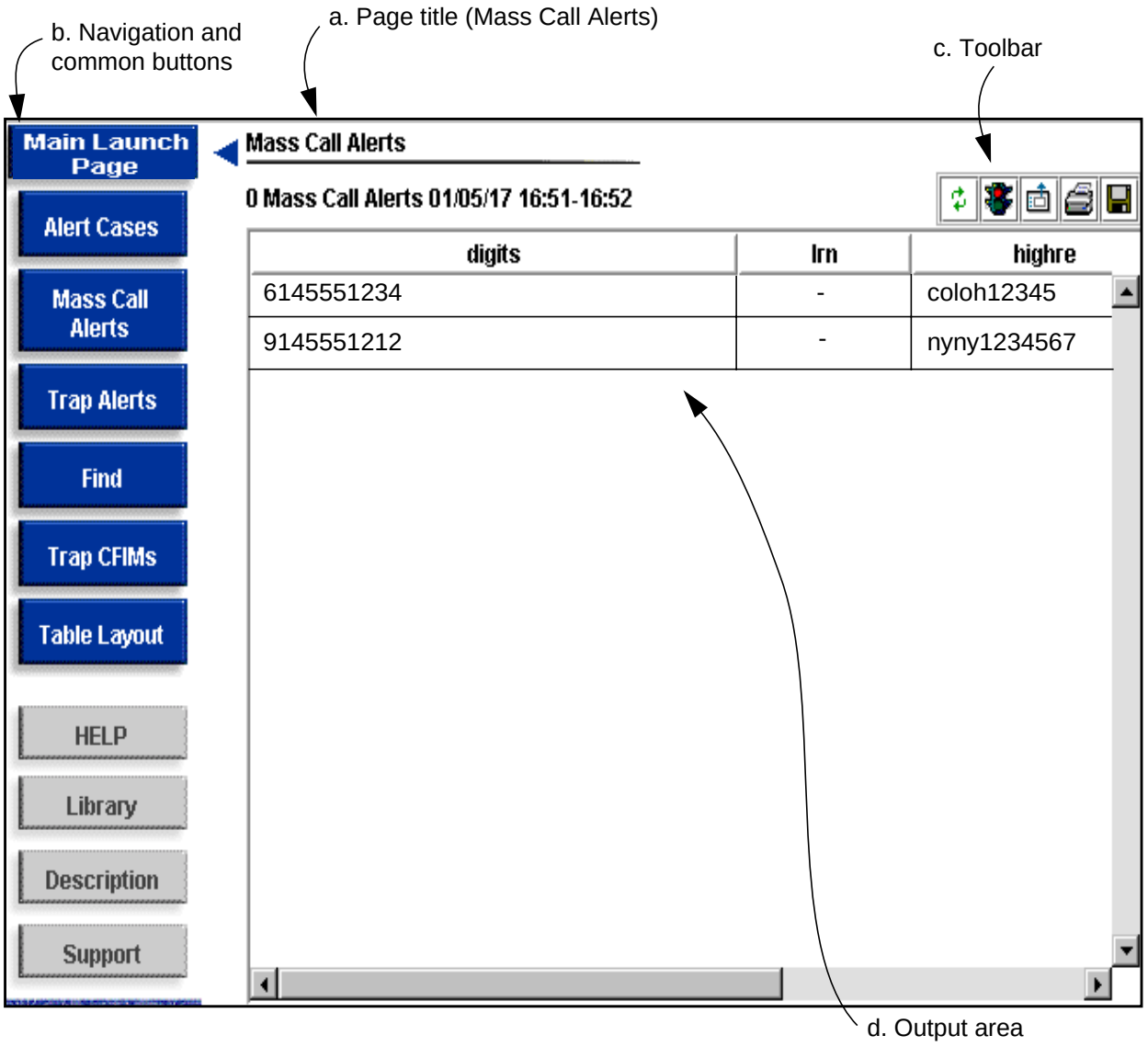
A radio station announces a call-in number without warning you for call gapping. The number quickly shows up on this output.

(Continued on next page)

Mass Call Alerts Page (Continued)

Mass Call Alerts page example

Here is an example of the Mass Call Alerts page.



(Continued on next page)

Mass Call Alerts Page (Continued)

Mass Call Alerts page parts

Mass Call Alerts page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	See "Navigation button list" on page 3-6. See "Common buttons list" on page 3-7.
c	See "Toolbar" on page 3-9. **Note** There is no sort toolbar item. You cannot sort.
d	Shows output. For what columns mean, see: "Output Tables" on page A-1. How to add, or delete columns; get column and FDC help, etc., see: "Right-Click Menus" on page 3-14.

Mass Call Alerts page output notes

On the Mass Call Alerts page's output.

- **ID**. Each row is uniquely identified by the combination of values in its Digits and Lrn fields (so, the same digits can appear more than once).
- **Duration**. A row stays on this output as long as its Mcnt stays above mass call threshold (see "Set Mass Call Alerts thresholds" on page 5-19).
- **Sort**. Sort is on Mcnt. You cannot change sort.
- **Add/Delete Columns**. You cannot add or deleted columns.

No shortcuts from Mass Call Alerts

The Mass Call Alerts page has no shortcut buttons, but a mass call event should cause one or more alert cases. You may need to see an alert case's CFIMs (to see if they have the same number in the digits field) to identify it as a mass call event. Also, you could do a Find CFIM with the digits field equal to the digits from the Mass Call Alerts page, to see CFIMs from the mass call event.

Administering Mass Call Alerts

Screen Mass Call Alerts by FDC

Mass Call Alerts output does NOT use FDC group or network group filtering. (Those are filtering groups the system administrator sets up and network managers can switch among.)

However, you CAN ask your system administrator to tell Mass Call Alerts to do its own FDC screening, to ignore CFIMs with FDCs you do not care about.

To see which FDCs are ignored, do a Findon the FDC table (see "Find (Any Table)" on page 6-16). If an FDC in that table has N or a dash in the Mc field, that FDC is ignored.

Examples

Call gaps generate many CFIMs with the same dialed digits. You do not care, since a call gap is a solution to a problem. So, in the fdc table, the system administrator puts N in the Mc field beside each FDC that refers to call gaps. Then, no mass call alerts are generated by call gaps.

Set Mass Call Alerts thresholds

If Mass Call Alerts output shows you too many or too few mass call alerts, ask your system administrator to change the mass call threshold. (He or she would use **setsys** on the mcthresh parameter.)

Default is five CFIMs with the same digits and lrn, in the same minute.

Example

The system administrator sets mcthresh to 6. In a 1-minute period, 7 CFIMs arrive that have the same Digits and Lrn. This creates a mass call alert on Mass Call Alerts output.

(Continued on next page)

Administering Mass Call Alerts (Continued)

Store mass call alerts data

When a mass call alert disappears from its output window, it is gone. There is no way to retrieve historical data.

However, You could ask your system administrator to write a shell program to store mass call alerts into an ASCII file, along with time stamps. Then, if you have access to shell, you can **vi**, **cat**, **grep**, or print the file.

Someone needs to occasionally delete the file, to prevent it from growing unmanageable.

Note

The shell program would resemble this:

```
sui mcalert > mcalert_file &
while true
do
           date >> mcalert_file
           sleep 60
done
```

Set Mass Call Alerts page window headings

If you are running NTP on machines in more than one region, you may want Mass Call Alerts's heading to tell you in which region it is running. If so, ask your system administrator to contact your NTP support organization.

Note

- This heading also appears on Ascreen and other screens.
- To clarify what you are asking for, you can mention that you need your NTP support organization to use the **sysinfo** command.

Analyze

6

Contents

Overview of Outputs with CFIMs

Purpose Outputs in this chapter show you CFIMs or CIMs.

Outputs In this chapter we discuss these outputs.

Output	Description
"Find CFIM Page" on page 6-4	■ Each output row is a CFIM. ■ It does not update. It is a snapshot.
"Trap CFIM Page" on page 6-11	■ Each output row is a CFIM. ■ It updates in real time.
"CIMs Page" on page 6-14	■ Each row is a CFIM, with its raw CIM. ■ It does not update. It is a snapshot.
"Find (Any Table)" on page 6-16	■ Each output row is a a record from some table (does not have to be a CFIM). ■ It does not update. It is a snapshot.

Find CFIM Page

Find CFIM page purpose

Find CFIM page enables you to retrieve a set of CFIMs from the database, using search criteria.

Once you retrieve a set of CFIMs, you can can analyze them.

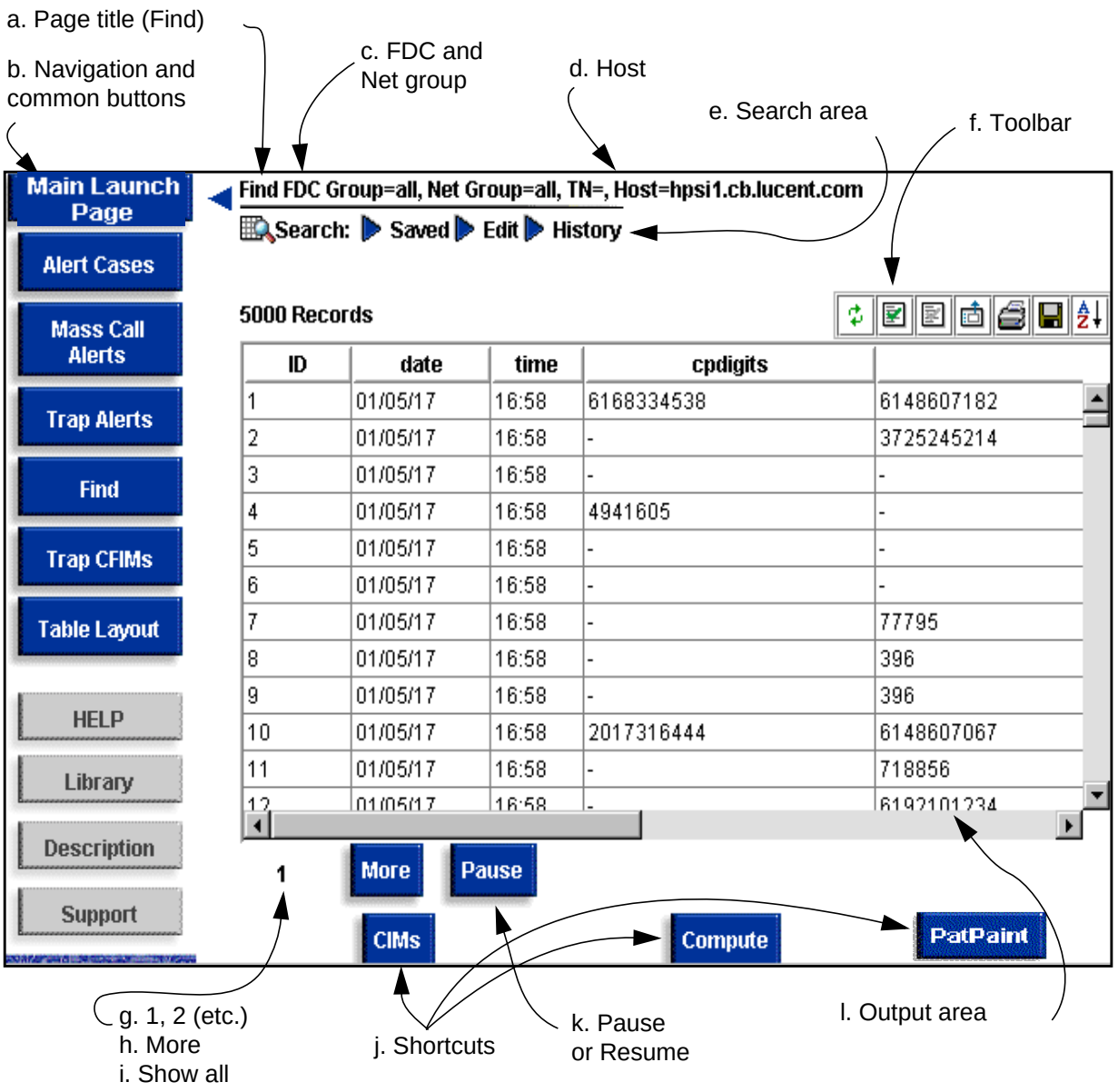
- Sort them. See "Sort" on page 3-13.
- For Find output take shortcut buttons to "Compute" on page 6-21 or "Pattern Painter" on page 6-30.

(Continued on next page)

Find CFIM Page (Continued)

Find CFIM page example

Here is an example of the Find CFIM page:



(Continued on next page)

Find CFIM Page (Continued)

Find CFIM page parts Find CFIM page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	See "Navigation button list" on page 3-6. See "Common buttons list" on page 3-7.
c	See "FDC Groups" on page 7-9, "Network Group/Segment" on page 7-9.
d	Host machine where NTP is running, chosen by your system administrator.
e	"Search triangles illustration" on page 4-8.
f	See "Toolbar" on page 3-9.
g	See "How to More with Find" on page 6-7.
h	
i	
j	See "How to use shortcuts to output" on page 4-7.
k	A large Find may take a long time.To stop it, so you can look at (and compute on) the records found so far, left-click the **Pause** button which then changes to **Resume**. Left-click **Resume** if you want to resume the find.
l	Shows output.

(Continued on next page)

Find CFIM Page (Continued)

How to More with Find

About the More button:

- An Find retrieves up to the value of "table size" number of records. Initially, table size is 500 (to change this, see Reference, below).
- After Find, you see 1 beneath output.
- If more records are available you see a More button.
- If you select More, you retrieve the next "table size" chunk of records and you see 1 and 2.
- If still more records are available, you again see a More button, and you can select again, and you see 1, 2, and 3, so on, up to the value of "max table size". Initially, max table size is 10,000 records (to change this, see Reference, below).
- Note that you can click 1 to see records 0-500, or 2 to see records 500-1,000, 3 to see records 1,000-1,500, and so on. An underlined number can be selected (think of it as a hypertext link). A not-underlined number is the page you are on.

Note

- You can retrieve all up-to-"max table size" records at one time by selecting Show All. This may take a while.
- Even if you retrieve only the default "table size" records, if you compute, you compute on all up-to-"max table size" records.

Reference

- To change table size, see either:
  - — "How to change Find Table Size default" on page 7-8.
  - — "Search/Edit parts" on page 4-20.
- To change max table size, see "How to change max table size" on page 7-8.

Re, De, Related

The CFIM's Re, De, and Related fields are the network elements the CFIM is about. See "Network Elements" on page 2-17.

(Continued on next page)

Find CFIM Page (Continued)

CFIM point-of-view exercises

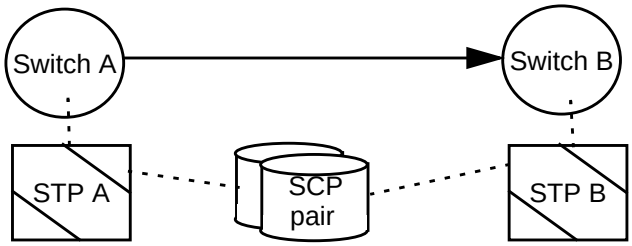
Always read CFIMs from the Re point of view. The following exercises show what we mean.

Note

If you see a "-" in the CFIM's billtype field, the CFIM probably came from the Re, and these exercises apply fully. Otherwise, the CFIM probably came from a mediation system, such as a Billdats, and the meaning of Re, De, and Related may be somewhat arbitrary.

Diagram 1

Use this diagram with the next three scenarios.



Scenario 1

Switch A attempts to reach switch B and encounters an NCA (no circuit available) condition. Find Cfim Output shows the following:

Reporting entity	Home entity's STP	Distant entity's STP	Distant entity	Call direction	Related entity	Related direction
Re	Rs	Ds	De	D	Related	R
Switch A	STP A*	STP B*	Switch B	O	—	—

(Continued on next page)

Find CFIM Page (Continued)

Scenario 2

Switch A attempts to reach the SCP pair and gets a time-out. Find Cfim Output shows the following:

Reporting entity	Home entity's STP	Distant entity's STP	Distant entity	Call direction	Related entity	Related direction
Re	Rs	Ds	De	D	Related	R
Switch A	STP A*	STP B*	the SCP pair	O	—	—

Scenario 3

Switch A miss-routed information to switch B and switch B issued a vacant code. Find Cfim Output shows the following:

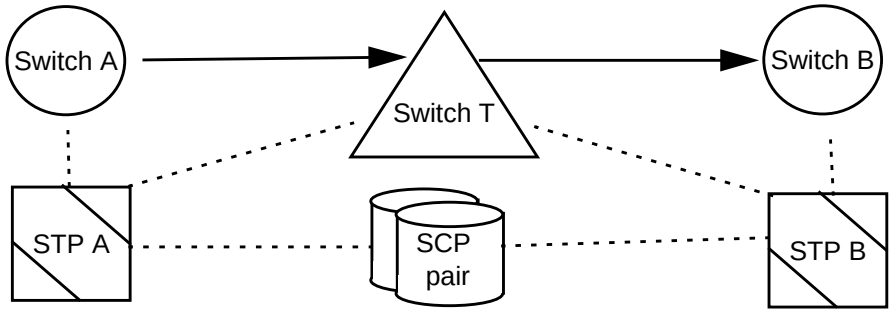
Reporting entity	Home entity's STP	Distant entity's STP	Distant entity	Call direction	Related entity	Related direction
Re	Rs	Ds	De	D	Related	R
Switch B	STP B*	STP A*	Switch A	I	—	—

(Continued on next page)

Find CFIM Page (Continued)

Diagram 2

Use this diagram with the next scenario.



Scenario 4

Switch A attempts to reach switch B via switch T. Switch T encounters a no circuit available condition. Find Cfim Output shows the following:

Reporting entity	Home entity's STP	Distant entity's STP	Distant entity	Call direction	Related entity	Related direction
Re	Rs	Ds	De	D	Related	R
Switch T	STP A*	STP B*	Switch B	0	Switch A	I

Note

STP A*, STP B*. In all four scenarios, STP A* and STP B* means the STP would be reported IF the FDC indicates a signalling problem.

Trap CFIM Page

Trap CFIM purpose page

Trap CFIM enables you to see CFIMs as soon as they arrive. This serves two purposes:

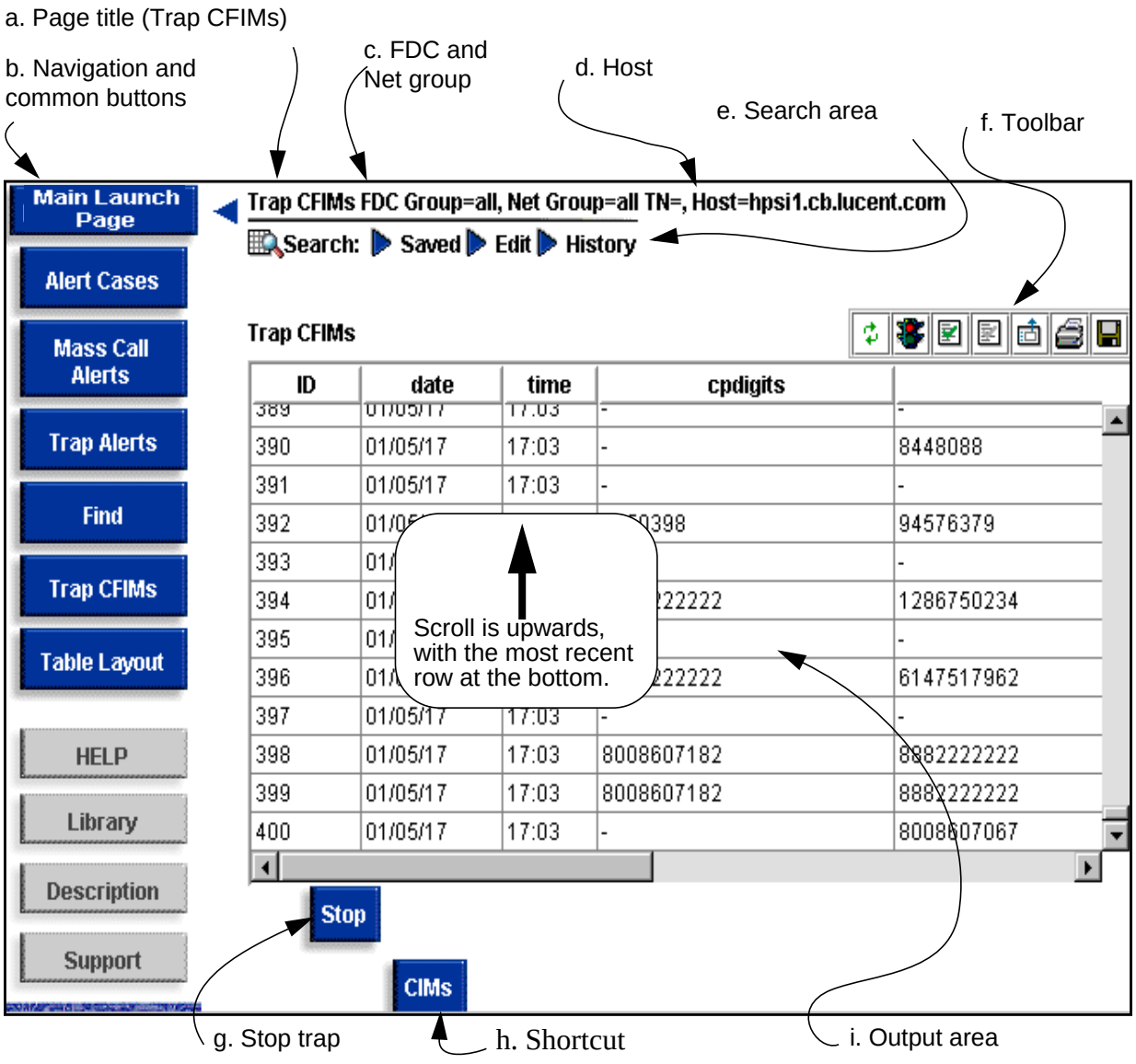
- You see a problem. You trap on it, so that you see its CFIMs scrolling onto the Trap CFIM page. You then correct the problem, and the moment the correction takes affect, scrolling stops.
- You trap on something, you are going to change (such as an area code). You see no or few CFIMs. You make the change. If you suddenly see many CFIMs, you know your change has caused calls to be lost.

(Continued on next page)

Trap CFIM Page (Continued)

Trap CFIM page example

Here is an example of the Trap CFIM page.



(Continued on next page)

Trap CFIM Page (Continued)

Trap CFIM page parts

Trap CFIM page parts are:

Part	Purpose
a	Page title. Identifies the page you are on.
b	See "Navigation button list" on page 3-6. See "Common buttons list" on page 3-7.
c	See "FDC Groups" on page 7-9.
d	Host machine where NTP is running, chosen by your system administrator.
e	"Search triangles illustration" on page 4-8.
f	See "Toolbar" on page 3-9.
g	Left click to stop. To restart, re-execute Search.
h	See "How to use shortcuts to output" on page 4-7.
i	Output area: For what columns mean, see "cfim Table" on page A-14. For how to add, or delete columns; get column and FDC help, etc., see "Right-Click Menus" on page 3-14.

CIMs Page

CIMs page purpose

The CIM page shows you the raw CIM that a CFIM was converted from. We enable you to quickly call up a CFIM's raw CIM, to look for any information not in the CFIM.

Note

- We may discard revenue type CIMs (such as Billdats CDRs), since usually all of the CIMs information is in the CFIM. Any unwanted information would be screened at the mediation system (such as at the Billdats). However, CDR CIMs from GeoProbe may be retained by NTP.

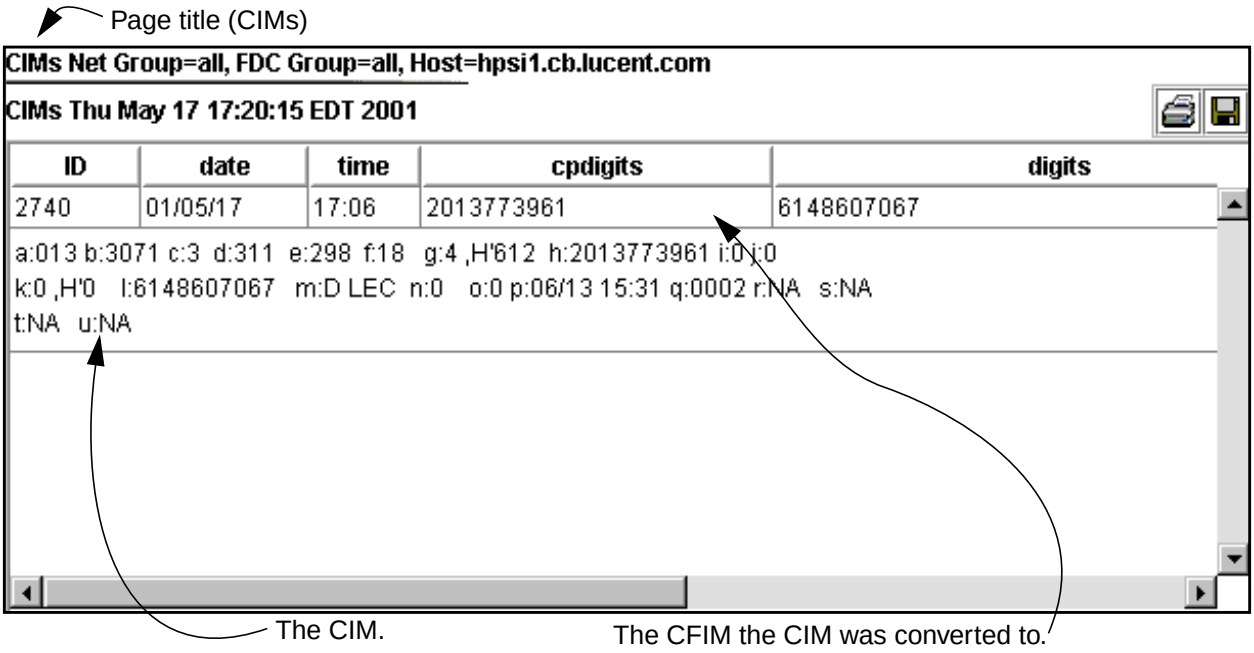
How to get CIMs page output

On an output that shows CFIMs, select one or more CFIMs and left-click the CIMs button.

(Continued on next page)

CIMs Page (Continued)

CIMs page example This is an example of a CIMs page.



How to read CIMs

To read a CIM, see vendor documents of the system that created it—which may be the Re (such as a 5ESS switch), or the source (such as a BILLDATS). To identify what created the CIM:

- First figure out the CFIM's.
- Then look up the conversion on the left side of the table and see the right side of that table for what created the CIM. This tells you what vendor documents to look in (for example, Billdats documents).
- The right side also tells you what types of messages the CIMs are, so you know what to look up in vendor documents.

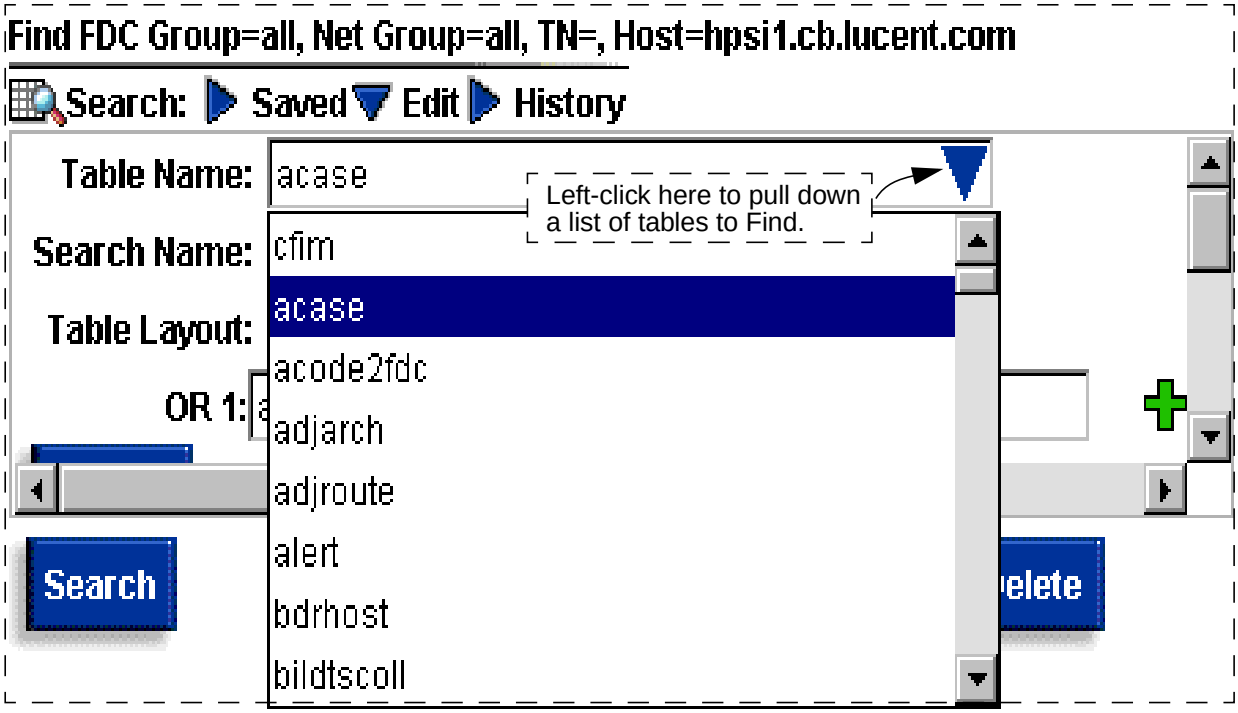
Find (Any Table)

Tell me about the Find any table page

- **Tables**. For table help, see "How to get Table Name online help" on page 6-18.
- **All other**. See "Find CFIM Page" on page 6-4. Find *CFIM* references apply—but replace CFIM with the table you are looking at.

Find any table page purpose

The significant difference between Find CFIM, and Find any table, is in the second case you select a table other than CFIM.. .



Note

Some tables are of no interest to you or your system administrator. These are omitted from the Table Name pull-down list.

(Continued on next page)

Find (Any Table) (Continued)

Two types of tables All tables are listed together in the Table Name pull-down menu, but we classify our database tables into two groups, as follows:

Type of table	Where documented	Notes
Output	See "Output tables" on page A-4.	Also called surveillance tables, and chronological tables. These hold collected data (such as CFIMs) or calculations (such as alerts). **Note** ■ Since Find CFIM is so often used, we document it separately, at "Find CFIM Page" on page 6-4. ■ Since output tables hold chronological data, they are affected by Find Time. See "Search/Edit parts" on page 4-20.
Reference	*System Administration Guide*.	Also called system admin tables. These are tables your system administrator populates. **Example** Some reference tables that may be of interest to you are: ■ Rearch — to see the list of Re's. ■ Swarch — to see the list of De's. ■ Fdc — to see the list of Fdc's.

(Continued on next page)

Find (Any Table) (Continued)

How to get Table Name online help

Use this procedure to see the definition of any table.

Step	Action
1	Select the table into the Find page's Table Name field. **Example** In "Find CFIM page parts" on page 6-6 we select "acase" into Table Name.
2	Right click on the Table Name field, to call up the "Help", "Help All" menu.
3	Either: ■ Left click Help to see the purpose of the table in Table Name. ■ Left click Help All to see the purpose of all tables.
Done	

Compute and Pattern Painter Overview

Purpose of Compute and Pattern Painter

Compute takes records from your Find (typically, Find CFIM), and groups them by criteria you choose. It displays the results in a table, or in graphical output, enabling you to see patterns (groupings) to identify problems.

Pattern Painter can be used as the equivalent of multiple computes.

Example

A burst of CFIMs arrives in the last few minutes. Use Compute or Pattern Painter to see where they come from (grouping them by Re), or what they are reporting (grouping them by FDC).

Compute and Pattern Painter Outputs

In this chapter we discuss:

Output	Description
"Compute" on page 6-21.	Output is charts or graphs analyzing your Find. It does not update. It is a snapshot of data.
"Pattern Painter" on page 6-30.	Output is equivalent to multiple Computes. It does not update. It is a snapshot of data. **Note** Available on PC clients only.

Compute and Pattern Painter Overview (Continued)

How to change the number of records in Find, Compute, and Pattern Painter output

You may want to see Find output for longer or shorter periods, such as Monday only, or Monday through Friday. To do this, simply enter the date and time range you want in the Find's search parameters (for example, use datime in an OR).

But what if there are so many records for Monday that Find stops before it reaches Friday? You would need to Find a bigger set of records.

Within limits set by your system administrator, you can increase the number of records retrieved into a Find. To change the number of records retrieved for:

- A specific Find, see "Search/Edit" on page 4-18.
- All Finds see "Web User Administration Page" on page 7-2.

The number of records in a Find does NOT affect Compute or Pattern Painter. Instead, within limits set by your system administrator, you can increase the number of records retrieved:

- Use the Max Records field when calling up Compute output. Typically, you can go up to 1,000,000.
- Use the Max PP Records field when calling up Pattern Painter output. Typically, you can go up to 50,000.

How to sort to emulate Compute

You can emulate compute by taking your Find, sorting on a column, and looking for meaningful clumps in the column. However, this method can be cumbersome when there are many CFIMs in your Find.

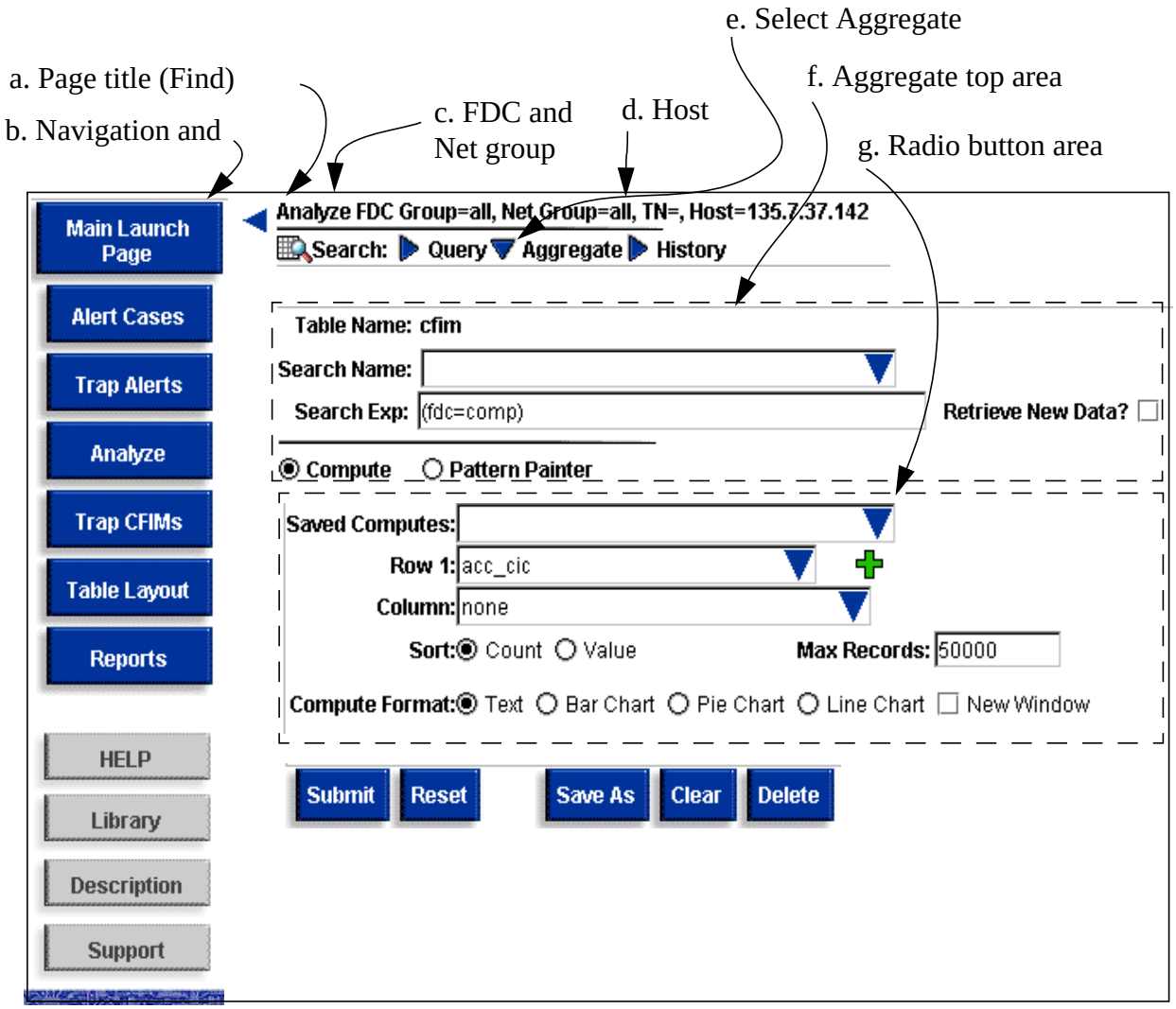
Example

You sort on digits, and scroll the column, and see most digits are the same (clumped together by the sort), indicating a mass call event.

Compute

Compute input page example

Call up Compute from the area under the Compute radio button of the Aggregate area of the Find page, below.



Note

The areas in the dotted boxes do not appear all at once on your screen. You must scroll to see all fields shown here.

(Continued on next page)

Compute (Continued)

How to get Compute output

Use this procedure to call up Compute output.

Note

See "How to change the number of records in Find, Compute, and Pattern Painter output" on page 6-20.

Step	Action
1	To call up Pattern Painter from: ■ **Find** — go to the NEXT step. ■ **Alert Cases —** do this: — From the Main Launch Page, left click the Monitor icon to go to the Alert Cases page. — You see the Saved triangle un-collapsed. If you want, select a search into the Search Name field. Or, un-collapse the Edit triangle, and enter search criteria. Or, un-collapse the History triangle and select a past search. — Left click the Search button to call up Alert Case output. — Left click an alert case. (You can left click multiple alert cases to group them. If alert cases have the same TN, we assume they are related, and you may want to group them.) — Left click the Find button. You go to the Find page, with the Query triangle un-collapsed, displaying search criteria matching the alert case. — Left click the Aggregate button (NOT the Aggregate triangle—since the triangle does not bring search criteria with it). — The Compute Radio button is pre-selected. Go to Step 3.

Step	Action
2	From the Main Launch Page, left click the Find icon to go to the Find page. Notice that the **Query triangle** is un-collapsed. ■ In the Query area, to define your own search, fill in the OR field and other search parameters, as desired. For how, see "Search/Edit" on page 4-18. ■ Left click the **Aggregate button** (NOT aggregate triangle) replace the Query area with the Aggregate area (and to carry any search parameters over to Aggregate—the Aggregate triangle does not do this). ■ In the Aggregate area, if you did NOT define your own search, above, select a pre-defined search into the **Search Name** field. ■ The Compute Radio button is pre-selected. **Note** ■ You see no CFIM records. If you want to see them, un-collapse the Query triangle, and left click the Search button. (If you do this, you can look at each column, and make a note of which columns you may want to put the Row field, in the next step. You would not want to use a column where values are all the same.) ■ Default and other templates are defined by your system administrator. ■ Use this to increase or decrease the number of records used by Pattern Painter. Typically, default is 50,000, and maximum you can enter is 50,000—set by your system administrator. Max PP Records is NOT affected by changing maximum table size.
3	In the Compute area below the Compute radio button: ■ Put a column heading (or comma-separated list of headings) from in the Row field. ■ Use other fields and buttons as needed. ■ Then left click Submit.
Done	

(Continued on next page)

Compute (Continued)

Compute parts

Here we explain parts of the screen you see when you are calling up compute output. These parts are from "Compute input page example" on page 6-21.

Part	Purpose
a	Page title.
b	See "Navigation button list" on page 3-6. See "Common buttons list" on page 3-7.
c	See "How to change FDC group" on page 7-9, "How to change network group/segment" on page 7-9.
d	Host machine where NTP is running, chosen by your system administrator.
e	Left click a triangle to un-collapse each area to do the following: ■ **Aggregate**. Here you can set Compute parameters. See "How to use Compute parameters" on page 6-26. Also, you can use radio buttons to toggle between Compute and Pattern Painter. ■ **Query.** See "Search/Edit" on page 4-18. ■ **History**. Here you can left click a radio button beside one of our last 20 computes, and then left click then re-execute it.
f	These are: ■ **Table Name**. The name of the table on which you can use Compute or Pattern Painter. ■ **Search Name**. A pre-named search expression. (You create these from the "Save As" button.) ■ **Search Exp.** The search expression matching Search Name. For how to read these, see "Search Expressions" on page 4-25. ■ **Retrieve New Data?** Get new records, matching the search. ■ **Radio Buttons**. This determines whether you see Compute or Pattern Painter input fields below these buttons, in the **Find > Aggregate, bottom area**.
g	If you select the radio button for: ■ **Compute**: For fields in this area, see "Compute parameters" on page 6-25. ■ **Pattern Painter**: For fields in this area, see Step 2 in "How to get Pattern Painter output" on page 6-32.

(Continued on next page)

Compute (Continued)

Compute parameters

Compute parameters are at Find page > Aggregate triangle > Compute radio button. They are below the radio button, as illustrated at "Compute input page example" on page 6-21.

Compute parameters list

This is the list of compute parameters.

Part	Purpose
Saved Computes	Left-click the arrow to pull down a list of computes you saved. Then left-click a compute to select it. For how computes get saved, see the "Save As" button, later in this list. Also see the Delete button, later in this list.
Row 1	Left-click the arrow to pull down a list of column headings you want to sort into rows. For additional rows, left-click the green cross. You must have at least one row item.
Num Digits	Num digits field appears only if you put a digits type item (Digits, Cpdigits, Servdig, Psn or Dsdigits) in a Row. Use it to select which digits to compute on. See "Num Digits" on page 6-28.
5 min	The (unlabeled) interval column appears only if you put a date or time item in a Row. It enables you to select what interval of data to display.
Column	Left-click the arrow to pull down a list of column headings you want to sort into columns.
Sort	To order output by the value in Row 1, left-click **Value**. Otherwise, left-click **Count** to order by CFIM (or other record) count. **Example** To make a line graph showing how many CFIMs arrived over time, use datime in row and left-click **Value**.
Compute Format	Left-click the output format you want.
Search	Execute the compute.
Reset	Return fields to default.
Delta Triangle	Delta. This triangle means you have made a change to the search you selected from history.
Save As	Use this to name and save a Compute, so you can use it later from the Saved Computes field.
Delete	Delete a search you highlighted on the Saved Computes page.
Max Records	See "How to change the number of records in Find, Compute, and Pattern Painter output" on page 6-20.

Compute (Continued)

How to use Compute parameters

Use this procedure to use Compute parameters.

Note

See "How to change the number of records in Find, Compute, and Pattern Painter output" on page 6-20.

Step	Action
1	Start from "How to get Compute output" on page 6-22. **Result** You see parameters illustrated under the Compute radio button, at "Compute input page example" on page 6-21.
2	If you want to use a saved compute, use the Saved Computes field to select one, edit its fields as needed, left-click **Search**, and you are done. Otherwise, go to the next step.
3	Select an a column heading into Row 1. **Note** ■ Use a column heading with differing values in the column. ■ If you want to show output chronologically, put a date or time item (such as datime) in Row 1.
4	If you want an additional Row, left-click  to call up Row 2 and enter another column heading. Repeat as needed. **Note** More than two Rows often gives confusing output. For multi-field analysis, use "Pattern Painter" on page 6-30 instead.
5	Did you select a digits type Column heading (Digits, Cpdigits, Servdig, Psn, or Dsdigits) into a Row? If NO, go to the next step. If YES, see "Num Digits" on page 6-28.
6	Did you select a date or time type Column heading (such as datime) into a Row? If no, go to the next step. If yes an unlabeled field appears showing your output interval is “5 min”. Change it if needed.
7	If you want to format on Columns, use that Column field. Otherwise, leave it blank. Select either: ■ **Count**. If you want output ordered by record count, most to least. This is default. ■ **Value**. If you want output organized by the value of the item. Use this if you put a date or time column heading in Row 1, and you want to show output chronologically.

Step	Action
8	Use or ignore the Max Records field (see "How to change the number of records in Find, Compute, and Pattern Painter output" on page 6-20).
9	Select output format — bar, pie, line chart, or text.
10	Left-click **Submit**.
11	If you want to use the Compute in the future, left-click **Save As** and give it a name. (You can then re-use it from the Saved Computes field.)
Done	

(Continued on next page)

Compute (Continued)

Num Digits

Num Digits field appears only if you put a digits-type item (Digits, Cpdigits, Servdig, Psn, or Dsdigits) in a Compute Row.

In this field, type in a string to represent how you want the digits-type item displayed and computed. Type in either:

- A single position.

  Example: **Num Digits: 5**
  Result: xxxx**X**xxxxxxxxxxxxxxx

- A range.

  Example: **Num Digits 1-3**
  Result: **XXX**xxxxxxxxxxxxxxxxx

- A combination.

  Example: **Num Digits 1,3-5,19-21**
  Result: **X**x**XXX**xxxxxxxxxxxxx**XXX**

On output, the string appears as follows:

- "x" is in each digit position you ignored.
- "-" is in each digit position that was empty.
- Numbers (sometimes letters) in significant digit positions not ignored.

Example

You set Num Digits to "1-6,11-13". On output, "8001234567" is displayed as: 800123xxxx---xxxxxxx

Note

For CFIMs, range is 1 to 21 and default is **Sigdig** 1-21.

(Continued on next page)

Compute (Continued)

How to print compute output

Use this procedure to print compute output.

Step	Action
1	Call up compute output. **Note** Output will be either text, line graph, bar graph, or pie chart.
2	On the output page, use the save-to-file icon to save output to a .jpg or .pgn file.
3	Outside of NTP, call up the saved file in any graphics application, and use that application to print the file.
Done	

Pattern Painter

Find page

You can come to Pattern Painter from the Find Page > Aggregate Triangle > Pattern Painter Radio button. For an illustration of the Find page, Aggregate area, see "Compute input page example" on page 6-21. For page parts (except the two fields in Step 2 in "How to get Pattern Painter output" on page 6-32) see "Compute parts" on page 6-24.

(Continued on next page)

Pattern Painter (Continued)

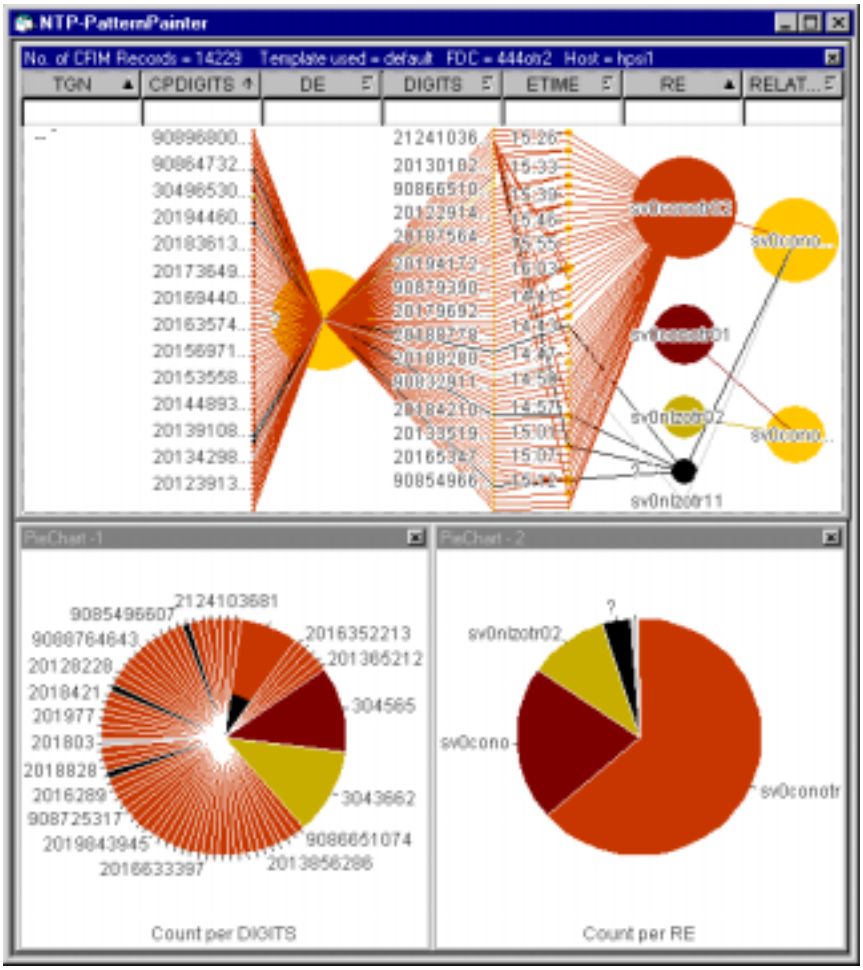
Pattern Painter purpose

Recall that the Compute page enables you to take a group of records (from the Find CFIM page or the Alert Case page) and "compute" on it by sorting its records according to a field you choose. If that field is not helpful, you can compute again, on a different field.

Pattern Painter is like an automatic multiple compute. Specifically, it has a parabox (parallel box plot) area with multiple columns, and each column is like a Compute on a different field.

Parabox area. Each column is a different CFIM field.

Two pie charts.



Pattern Painter also has two pie charts, each for a different CFIM field. You can change what fields are in the parabox and pie charts. See "How to select which fields are on Pattern Painter output" on page 6-44.

(Continued on next page)

Pattern Painter (Continued)

How to get Pattern Painter output

Use this procedure to get Pattern Painter output.

Notes

See "How to change the number of records in Find, Compute, and Pattern Painter output" on page 6-20.

Step	Action
1	To call up Pattern Painter from: ■ **Find** — go to the NEXT step. ■ **Alert Cases —** do this: — From the Main Launch Page, left click the Monitor icon to go to the Alert Cases page. — You see the Saved triangle un-collapsed. If you want, select a search into the Search Name field. Or, un-collapse the Edit triangle, and enter search criteria. Or, un-collapse the History triangle and select a past search. — Left click the Search button to call up Alert Case output. — Left click an alert case. (You can left click multiple alert cases to group them. If alert cases have the same TN, we assume they are related, and you may want to group them.) — If you want to use: ■ Default template and default number of records: Left click the PatPaint button. **You are done**. ■ A pre-defined template or a different number of records, or both: Left click the Find button to go to Find. There, left click the **Aggregate button** (the Aggregate triangle will also go to the Aggregate area, but it does not bring your search criteria). Then select the Pattern Painter radio button to access the “Template” and “Max PP Records” fields (for how to use them, see note in Step 2). Then left click Submit. **You are done**.

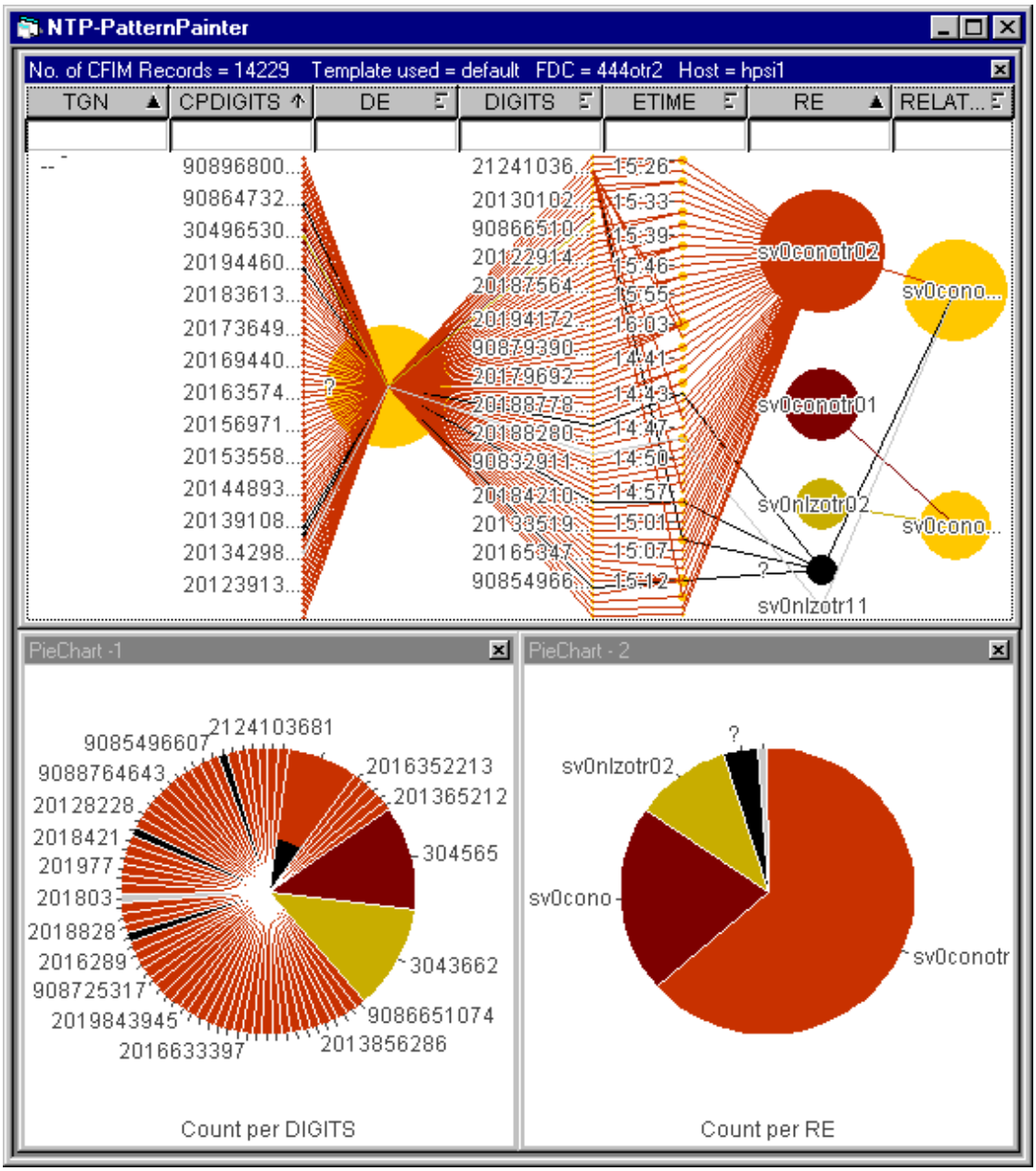
Step	Action
2	From the Main Launch Page, left click the Find icon to go to the Find page. Notice that the **Query triangle** is un-collapsed. ■ In the Query area, if you want to define your own search, fill in the OR field or fields, and other search parameters, as desired. ■ Left click the **Aggregate button** to replace the Query area with the Aggregate area (and to carry any search parameters over to Aggregate—the Aggregate triangle does not do this). ■ In the Aggregate area, if you did NOT define your own search, above, select a pre-defined search into the **Search Name** field. ■ Select the Pattern Painter radio button. ■ Fill in Pattern Painter parameters, as desired (see note, below). ■ Left click the Submit button. **Note** ■ You see no CFIM records. If you want to see them, un-collapse the Query triangle, and left click the Search button. ■ Default and other templates are defined by your system administrator. ■ Use this to increase or decrease the number of records used by Pattern Painter. Typically, default is 50,000, and maximum you can enter is 50,000—set by your system administrator. Max PP Records is NOT affected by "How to change max table size" on page 7-8.
Done	

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter example

This is an example of Pattern Painter output.



(Continued on next page)

Pattern Painter (Continued)

Pattern Painter parts

As seen in the previous illustration, Pattern Painter output has three parts:

- **Parabox** (top). (Parallel box plot) Each column is one CFIM field.
- **Pie char**t (bottom left). For one CFIM field.
- **Pie chart** (bottom right). For another CFIM field.

Pattern Painter FDC templates

You come to Pattern Painter with a set of CFIMs, from either:

- **Alert Case page**. In this case all CFIMs in any one alert case have the same FDC. (But, if you picked more than one alert case, FDCs may differ.)
- **Find CFIM page**. All CFIMs may or may not have the same FDC, depending on your Find.

When you come to Pattern Painter:

- If all CFIMs have the same FDC, and if your system administrator has pre-defined an output template for the FDC, then NTP will automatically use that template. (For example, for one FDC you might choose to show FDC, Re, De, Related, Digits, CPdigits and Tgn as parabox fields, and Re and De in the pie charts.)
- If CFIMS have more than one FDC, or you do not have a template defined, a general default template is used.
- In either case, you can override templates (see "How to select which fields are on Pattern Painter output" on page 6-44) and move columns (see "How to move Pattern Painter parabox columns" on page 6-37).

Note

With other BB-GUI outputs, you can save your own output formats as “table layouts”. Although you can override a template, you can NOT save that format. Instead, ask your system administrator to create a template and to assign it to an FDC, so it will be used automatically if all CFIMs in a set have that FDC.

(Continued on next page)

Pattern Painter (Continued)

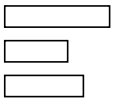
How to get Pattern Painter's Visual Insights on-line help

Pattern Painter is build from a application called Visual Insights. Use this procedure to get Pattern Painter's Visual Insights on-line help.

Step	Action
1	Right-click in a parabox or pie chart area to call up the right click menu.
2	On the menu, left-click Properties, to call up a Properties window.
3	On the Properties window, left click the Help button. **Note** Please ignore parts of Visual Insights help dealing with outputs other than parabox and pie chart.
Done	

How to sort Pattern Painter parabox

To sort a column of bubbles in the Pattern Painter parabox output, left click the column heading. Each time you click, you cycle to the next of five different sorts, each indicated by an icon, as follows.

Sort icon	Meaning
	Original sort.
	Sort by record (e.g. CFIM) count, from smallest (bottom) to largest (top).
	Sort by record (e.g. CFIM) count, from largest (bottom) to smallest (top).
	Sort by label, from A (bottom) to Z (top).
	Sort by label, from Z (bottom) to A (top). **Note** Use this with etime, time, or datime, to see trends.

(Continued on next page)

Pattern Painter (Continued)

How to move Pattern Painter parabox columns

To move parabox columns:

- Left-click-hold on a column heading. (Your cursor becomes a hand.)
- Move your cursor right or left, to where you want to move the column.
- Release.

How to highlight output parts

To highlight part of a pie chart, or bubbles in parabox column, thereby causing corresponding output to be highlighted in the other pie chart and other parabox columns, either:

- Left click a bubble.
- Left click hold and draw a box around, or touching, bubbles, or pie pieces, to be highlighted. Then release.

Note

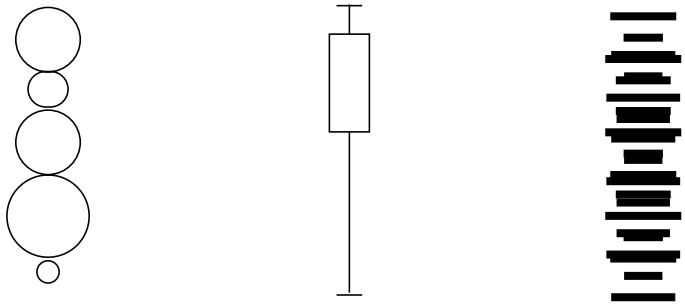
Change. You can change how your cursor selects. See "Selector Operation" on page 6-48.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter parabox right-click menu items

These items are listed on the menu that appears if you right click in the parabox window.

Item	How to use it
parallel axis	Draw lines between columns showing correspondence.
show selection	Use lines to connect bubbles that share records.
same scale	Use the same largest-to-smallest range for all columns that are boxplots or dotstrips.
as bubbles as boxplot as dotstrip	Chooses how to display the column. Numerical columns can be boxplot or dotstrip. Other columns can be bubble only: Bubbles (Bubblestrip) Boxplot Dotstrip 
explain	Give a general explanation of a pie chart or parabox.
properties	Select this to open windows to set output properties. See: ■ "Pattern Painter properties: Data tab" on page 6-41. ■ "Pattern Painter properties: Data Color tab" on page 6-45. ■ "Pattern Painter properties: Selecting tab" on page 6-48. ■ "Pattern Painter properties: Parabox tab" on page 6-49 (if you called up this menu by right-clicking the parabox). ■ "Pattern Painter properties: Pie Chart tab" on page 6-50 (if you called up this menu by right-clicking a pie chart).
undo	Undo previous actions. You can select this multiple times.
redo	Repeat the previous action.
select all	Select all bubbles (and all pie pieces) so all are in color. Otherwise, only the bubble or pie piece select is in color, and all else is grey.

Item	How to use it
unselect all	Un-select all pie pieces, so all are gray (or all are hidden, if "show un-selected" is off—see "show unselected" on page 6-51).
toggle all	Reverse selected and un-selected.
exclude unselected del	Hide not-selected bubbles and pie pieces.
restore excluded	Un-hide not-selected bubbles and pie pieces.
save image	Save the image to a GIF file, for s printing, emailing, etc.
print	Select print to send the image to a printer.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter pie chart right-click menu items

These items are listed on the menu that appears if you right click in either pie chart window.

Item	How to use it
show unselected	If turned on, show un-selected (uncolored) pie pieces in grey. If turned off, un-selected pieces are hidden.
rotation	Offers menu to rotate pie chart.
explode	Make bigger or smaller gaps between pie pieces.
animate	See "How to animate Pattern Painter" on page 6-53.
primary order	Offers menu to re-order pie labels; Original, Label, Size, Total Selected, or % Selected.
label mode	Offers menu for how to display pie labels; Best fit, Selected, All, Off, Custom. Same as menu that appears if you select Properties > Labels Shown (see "labels shown" on page 6-51).
explain	Same as in previous table.
properties	
undo	
redo	
select all	
unselect all	
toggle	
exclude unselected del	
restore excluded	
save image	
print	

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Data tab

This window appears if you:

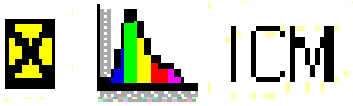
- Right-click in the parabox OR pie area to call up a menu.
- Then left click Properties.
- Then left click Data.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Data tab, how to use

This table lists parts of the Data window, and tells how to use them (at right-click menu > Properties > Data tab).

Item	How to use it
Tree view area	Select icons to choose which fields appear on output. You do this separately for the parabox and each pie chart. **Examples** The ICM field is NOT selected to appear on output.  The ICM field IS selected to appear on output.  The ICM field is selected to appear on output, and to color output. (Only ONE field can color output).  **Reference** See "Pattern Painter tree view icons" on page 6-43. See "How to select which fields are on Pattern Painter output" on page 6-44. See "How to select which field colors Pattern Painter output" on page 6-47.
delete table button	Pattern Painter has just one table, for CFIMs. It must not be deleted.
reset data pool button	Do NOT select this. **Note** If you select this, you lose all table settings. To restore them, close the Pattern Painter window and start over by selecting the PatPaint button.
data file (and browse button)	Pattern Painter has just one data table, for CFIMs. So you would not browse to select another.
Help button	Select to see Visual Insights help. (Please ignore parts of help dealing with outputs other than parabox and pie chart.)

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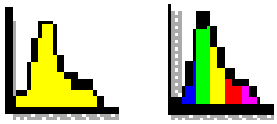
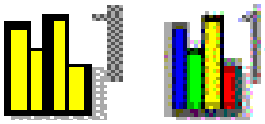
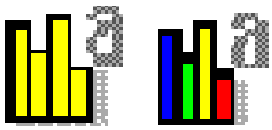
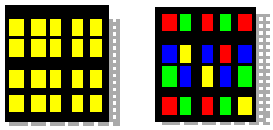
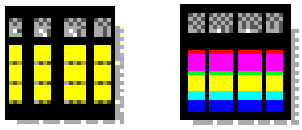
Pattern Painter (Continued)

Pattern Painter tree view icons

This table lists icons you see in the tree view area (at right-click menu > Properties > Data tab).

Icons showing selection	
	Field is selected to be on output (left), or is NOT selected (right).
Icons showing type of data, and if it colors output (only ONE item can be selected to color output)	
	The field is a real number. Not selected (left) or selected (right) to color output.
	The field is an integer. Not selected (left) or selected (right) to color output.
	The field is a string. Not selected (left) or selected (right) to color output.
	The field is a date. Not selected (left) or selected (right) to color output.
	The field has been selected as a Y-Axis (left), or is not available for selection (right).
	A table with no colors (left), or with colors (right).

(Continued on next page)

Pattern Painter (Continued)

How to select which fields are on Pattern Painter output

You do this separately for the parabox and each pie chart.

Step	Action
1	To call up the right click menu, right-click in either: ■ The parabox area ■ A pie chart area **Note** Where you click is where you change output. For example, to change a pie chart, click its area.
2	On the menu, left-click Properties, to call up a Properties window.
3	On the Properties window, left click the Data tab. **Example** See "Pattern Painter properties: Data tab" on page 6-41.
4	In the tree view, left click boxes to either of the following two states: ■ Item not selected to be on output.  ■ Item selected to be on output.  **Note** If you click twice, X becomes Y. Y is not used by NTP, so click again. If you are modifying a pie chart, we recommend you select just one item.
5	Left click OK. **Reference** See "How to select which field colors Pattern Painter output" on page 6-47.
Done	

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Data Color tab

This window appears if you:

- Right-click in the parabox or pie area to call up the menu.
- Left click Properties.
- Left click Data Color.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Data Color tab, how to use

This table lists parts Data Color window, and tells how to use them.

Item	How to use it
Help button	Select to see Visual Insights help. (Please ignore parts of help dealing with outputs other than parabox and pie chart.)
Color Using Field	
Table	This is not applicable because we use just one table, so we do not care about selecting tables.
Field	See "How to select which field colors Pattern Painter output" on page 6-47.
Reapply color to field	Let us say you select a pie piece, or a bubble, or a range of bubbles, and then select “exclude unselected del” to hide the unselected (see "exclude unselected del" on page 6-39). That would limit your range of colors—for example, from the full rainbow, to just yellow-to-green. To restore the range to the full rainbow, select this item.
Color Scale	
green/red, rainbow, pastel, gray, equalized, thermal	Modify colors as indicated by the name.
smallest values are high priority	Reverse colors.
Standard Tool Element Colors	
black, blue, and white buttons	Rather than pick element colors one a time (under Component Element Colors), use a set of colors based on a black, blue, or white background.
Component Element Colors	
background, foreground, etc.	Use this to change the color of the element named. To do this, left click the existing color, and use the resulting window to change the color.

(Continued on next page)

Pattern Painter (Continued)

How Pattern Painter output is colored

One parabox column is selected to have different colors for each bubble. Then those same colors are used for lines to other bubbles, and to corresponding pieces in the two pie charts.

Example

The etime column colors output on "Pattern Painter example" on page 6-34.

How to select which field colors Pattern Painter output

Use this procedure to choose which field colors your output.

Step	Action
1	Right-click to call up the right-click menu. **Note** It does not matter if you right-click in the parabox of pie chart area.
2	On the menu, left-click Properties, to call up a Properties window.
3	On the Properties window, left click the Data Color tab, to call up that tab. **Example** See "Pattern Painter properties: Data Color tab" on page 6-45.
4	On the Data Color tab, Left click the "Field" pull-down arrow, and select the field you want to color output.
5	Left click OK.
Done	

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Selecting tab

This window appears if you:

- Right-click in the parabox or pie area to call up the menu.
- Left click Properties.
- Left click Selecting.

Pattern Painter properties: Selecting tab, how to use

This table lists parts of the Selecting window, and tells how to use them.

Item	How to use it
Help button	Select to see Visual Insights help. (Please ignore parts of help dealing with outputs other than parabox and pie chart.)
Selector Shape	
Rectangle, Lasso, Circle, Rectangular Brush, Circle Brush	Select one button to pick the kind of area used when you left-click-hold-sweep on output.
Interactive Labelling	
details	Choose from the pull-down menu.
location	Choose from the pull-down menu.
flicker free drawing	Default is on.
Selector Operation	
Replace, Toggle, Add, Subtract, Intersect	Choose what will happen when you left click in the parabox.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Parabox tab

This window appears if you:

- Right-click in the parabox area (NOT a pie chart area) to call up the menu.
- Left click Properties.
- Left click Parabox.

Pattern Painter properties: Parabox tab, how to use

This table lists parts of the Parabox properties window, and tells how to use them.

Item	How to use it
Help button	Select to see Visual Insights help. (Please ignore parts of help dealing with outputs other than parabox and pie chart.)
tool tips	Toggle on to show tool tip for any item your cursor is touching.
Strip Options	
show selected subset	Display box plot (optional) in yellow (default).
show labels	Beside icons.
numerics use same scale	For all columns.
Parallel Axis	
show parallel axis	Show or hide lines connecting corresponding bubbles across columns.
show unselected lines	Show or hide unselected (gray) lines.
use background2 color	Switch to background2 color. You pick this color at the Data Color tab (see "Component Element Colors" on page 6-46).
Bubble Options	
size from magnitude	Tells how to display negative values. Ignored, since NTP has no negative values.
size from smallest value	

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Pie Chart tab

This window appears if you:

- Right-click in a pie chart area (NOT the parabox area) to call up the menu.
- Left click Properties.
- Left click Pie Chart.

(Continued on next page)

Pattern Painter (Continued)

Pattern Painter properties: Pie Chart tab, how to use

This table lists parts of the Pie Chart properties window, and tells how to use them.

Note

What you do here applies to only the pie whose right-click menu you called up.

Item	How to use it
Help button	Select to see Visual Insights help. (Please ignore parts of help dealing with outputs other than parabox and pie chart.)
show unselected	Select on or off to show or hide unselected pie pieces and bubbles.
stack colors	Default is to select stack colors, which causes a pie chart to be colored in layers corresponding to the paraboxe's colored column. **Examples** A pie chart stacked (left) and un-stacked (right). 
rotation	Rotate pie.
explode	Make bigger or smaller gaps between pie pieces.
labels shown	Pick how to show pie piece labels. Either: ■ Best fit — (Default.) Label for readability. ■ Selected — Label a pie piece when it is selected. ■ All — Label all pieces. ■ Off — No labels. ■ Custom — Let you label, as follows: **How to custom label pie charts** 1. Go to the Pie Chart tab. See "Pattern Painter properties: Pie Chart tab" on page 6-50. 2. Left click the "Labels Show" pull-down arrow, and select "Custom". 3. Select each section of the pie, in turn. 4. Press letter "l" key to turn labelling on or off. 5. Left click OK to implement.

Item	How to use it
Order	
primary, secondary	Choose for each.
Animation	
animation	See "Pattern Painter animate options" on page 6-53.

(Continued on next page)

Pattern Painter (Continued)

How to animate Pattern Painter

Animate selects (colors) slices of a pie chart in turn, and at the same time selects corresponding parts of the other pie chart, and the parabox.

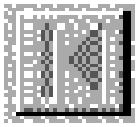
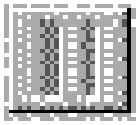
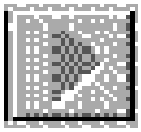
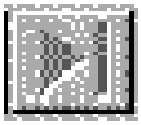
Use this procedure to animate output.

Step	Action
1	Right click in a pie chart area to pull down the menu, and select Animate. **Note** ■ See "Pattern Painter pie chart right-click menu items" on page 6-40. ■ To pause and restart, type x and t. ■ To stop, select Animate again.
2	Do you want to modify animation? ■ If NO, you are done. ■ If YES, either: — Use a keyboard shortcut (see second column, below). — Go to the Pie chart tab (see "Pattern Painter properties: Pie Chart tab" on page 6-50) and use animation options (see the first column, below) and select OK.
Done	

Pattern Painter animate options

Here we tell how you can modify animation.

Icon on Pie Chart > (right-click) menu > (left-click) Properties > (left click) Pie Chart	Keyboard shortcut	Purpose
	None. But you can select Animate from the pie chart right-click menu (see "Pattern Painter pie chart right-click menu items" on page 6-40).	Animate.
Slower button	- or <	Slower.
Normal button	=	Normal.
Faster button	+ or >	Faster.

Icon on Pie Chart > (right-click) menu > (left-click) Properties > (left click) Pie Chart	**Keyboard shortcut**	**Purpose**
	backspace	One step back.
	x	Stop.
	t or enter	Resume.
	space or tab	One step forward.

Web User Information and Administration

7

Contents

Web User Administration Page

Web User Administration page purpose

This page displays your login's attributes and enables you to change some of them.

The Web User Administration button takes you to the Web User INFORMATION page. (If you have an administrative login, this button takes you to the Web User ADMINISTRATION page. That page is never visible to regular logins.)

How to go to the Web User Administration page

Use this procedure to access the Web User Administration page.

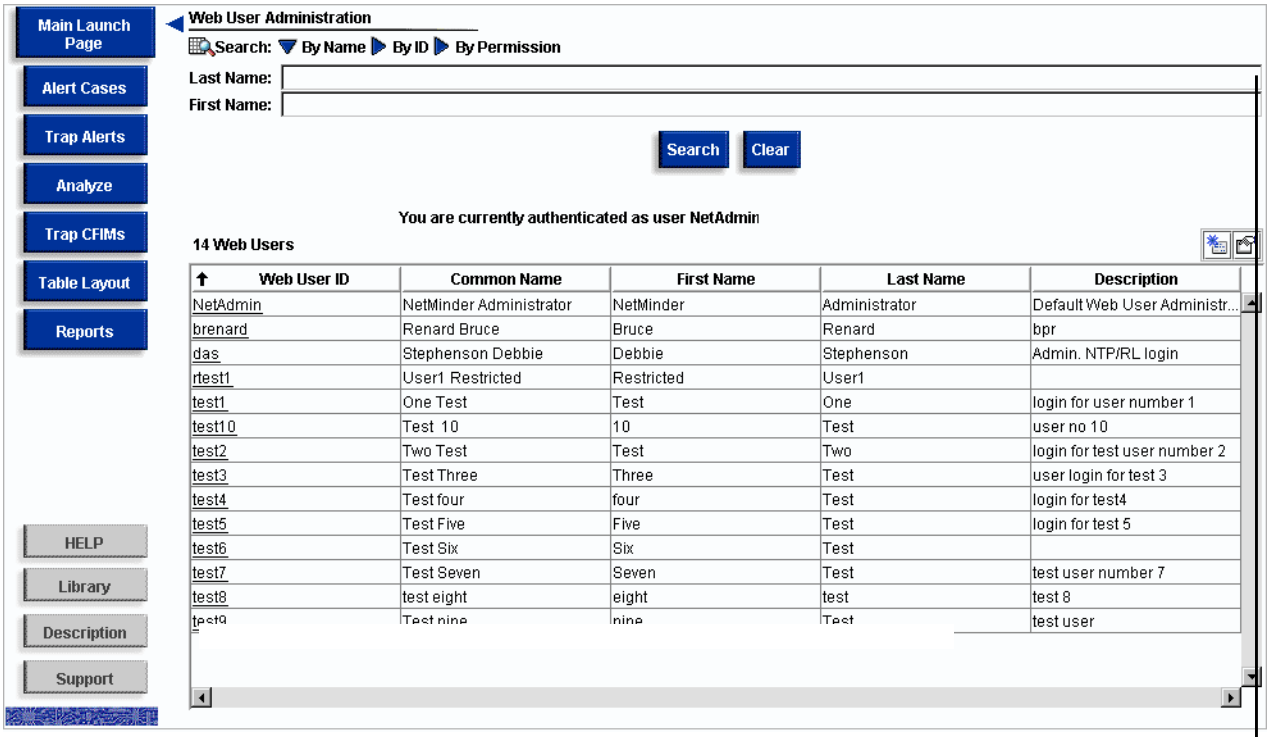
Step	Action
1	Go to the Launch page. **Note** You go to the Launch page when you log in. To return there from another page, select the **Main Launch Page** navigation button
2	On the Launch Page, select the **Web User Administration** button. The Web User Administration Page appears.
Done	

(Continued on next page)

Web User Administration Page (Continued)

Web User Administration page example

Here is an example of the Web User Administration page.



(Continued on next page)

Web User Administration Page (Continued)

Web User Administration page parts

The Web User Administration page has two areas:

- Search area
- Web User Information area.

Field	Description
Search	
Search Criteria	Search for a user by: ■ name ■ id ■ permission
Search Button	Select the Search Button to begin your specified search.
Web User Information	
Web User ID	User's BB-GUI login ID.
Common Name	User's name.
First Name	
Last Name	
Description	Information about user.

Web User Information Page

Web User Information page purpose

This page displays your login's attributes and enables you to change some of them.

The Web User Administration button takes you to the Web User Administration page. (If you have an administrative login, this button takes you to the Web User Information page. That page is never visible to regular logins.)

How to go to the Web User Information page

Use this procedure to access the Web User Information page.

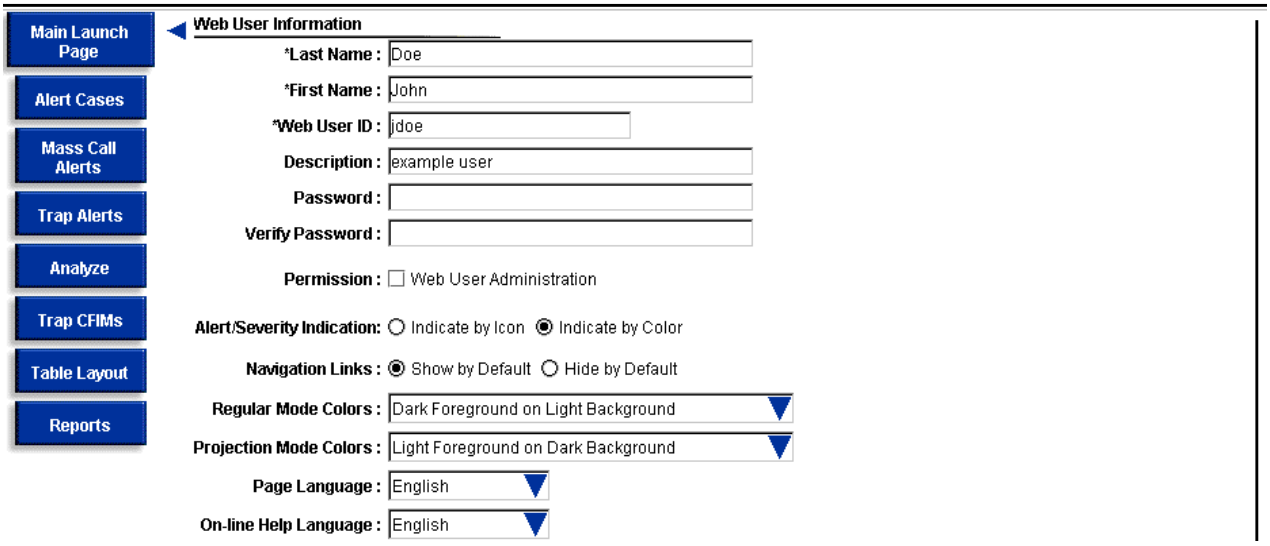
Step	Action
1	Go to the Launch page. **Note** You go to the Launch page when you log in. To return there from another page, select the **Main Launch Page** navigation button
2	On the Launch Page, select the **Web User Administration** button.
3	Select user. The Web User Administration page appears.
Done	

(Continued on next page)

Web User Information Page (Continued)

Web User Information page example

Here is an example of the Web User Information page.



(Continued on next page)

Web User Information page purpose (Continued)

Web User Information page parts

The Web User Information page has two areas:

- Web User Information area
- NTP Preferences area

Note

Permissions. Permissions in this table mean:

- **Network analyst**. You can change this field.
- **Administrator**. Your administrator can change this field.
- **System**. Neither you nor your administrator can change this field.

Field	Description	Permission
Web User Information		
Last Name	Your name.	Administrator
First Name		
Web User ID	Your BB-GUI login ID.	Administrator
Description	Information about you, if desired.	Administrator
Password	Enter a new password in the two fields presented to you. Then left-click **Submit**.	Network analyst
Verify Password		
Permission	A check mark here means you have administrator permission. **Nework analyst**. You can change this field. **Administrator**. Your administrator can change this field. **System**. Neither you nor your administrator can change this field.	Administrator

Field	Description	Permission
Exception Level	Select one of the following: Indicate by Icon, Indicate by Background Then left-click **Submit**. **Note** These choices mean: ■ **Indicate by Icon** — A thermometer icon is displayed in the Al (Alert Level) field. ■ **Indicate by Background** (default) — The background of the entire row is colored as follows: — Red — critical — Yellow — major — Cyan (blue-green) — minor **Note** The text, instead of background, is colored if you selected Light Foreground on Dark Background.	Network analyst
Navigation Links	Select one of the following: Show by Default, Hide by Default: Then left-click **Submit**. **Note** Initial default is to hide. You can manually hide or show an area by left-clicking its blue triangle.	Network analyst
Regular Mode Colors Projection Mode Colors	To set colors, for regular and projection modes, left-click the blue triangles to pull down menus to select from: Regular Mode Colors, Projection Mode Colors After selecting from one or both menus, left-click **Submit**..	Network analyst
Page Language	The language in which the BB-GUI displays pages.	System
On-line Help Language	The language in which the BB-GUI displays online help.	System

Field	Description	Permission
Table Size	Type a new table size in the field. Do not use commas. This cannot exceed max table size. Then left-click **Submit**. **Definition** Table size is the maximum number of scrollable rows displayed in your Query at one time. Each chunk of rows identified by the numbers and arrow under the bottom left corner of output. Initial default is 1000. **Example** If table size is 5,000, and a line above your Analyze CFIM says "15000 records found", then below the bottom left corner of output you see "**1** 2 3". The bold **1** means you are looking at records 1-5,000. Left-click **2** to see records 5,001-10,000, and left-click **3** to see records 10,001-15,000.	Network analyst
Max Table Size	Type a new max table size in the field. Do not use commas. This cannot exceed 30,000. Then left-click **Submit**. **Definition** The Max Table Size field sets the Table Size default parameter on the Query page. This is the maximum number of records your Analyze retrieves. **Note** ■ Max Table Size and Table size have no affect on the number of records in Compute or Pattern Painter.	Network analyst
Font Size	Select from the following: Small, Medium, Large, Largest. Then left-click **Submit**.	Network analyst
NTP Preferences		

Field	Description	Permission
Exception Level	Select one of the following: Indicate by Icon, Indicate by Background Then left-click **Submit**. **Note** These choices mean: ■ **Indicate by Icon** — A thermometer icon is displayed in the Al (Alert Level) field. ■ **Indicate by Background** (default) — The background of the entire row is colored as follows: — Red — critical — Yellow — major — Cyan (blue-green) — minor **Note** The text, instead of background, is colored if you selected Light Foreground on Dark Background.	Network analyst
Navigation Links	Select one of the following: Show by Default, Hide by Default: Then left-click **Submit**. **Note** Initial default is to hide. You can manually hide or show an area by left-clicking its blue triangle.	Network analyst
Regular Mode Colors Projection Mode Colors	To set colors, for regular and projection modes, left-click the blue triangles to pull down menus to select from: Regular Mode Colors, Projection Mode Colors After selecting from one or both menus, left-click **Submit**..	Network analyst
Page Language	The language in which the BB-GUI displays pages.	System
On-line Help Language	The language in which the BB-GUI displays online help.	System

Field	Description	Permission
Table Size	Type a new table size in the field. Do not use commas. This cannot exceed max table size. Then left-click **Submit**. **Definition** Table size is the maximum number of scrollable rows displayed in your Query at one time. Each chunk of rows identified by the numbers and arrow under the bottom left corner of output. Initial default is 1000. **Example** If table size is 5,000, and a line above your Analyze CFIM says "15000 records found", then below the bottom left corner of output you see "**1** 2 3". The bold **1** means you are looking at records 1-5,000. Left-click **2** to see records 5,001-10,000, and left-click **3** to see records 10,001-15,000.	Network analyst
Max Table Size	Type a new max table size in the field. Do not use commas. This cannot exceed 30,000. Then left-click **Submit**. **Definition** The Max Table Size field sets the Table Size default parameter on the Query page. This is the maximum number of records your Analyze retrieves. **Note** ■ Max Table Size and Table size have no affect on the number of records in Compute or Pattern Painter.	Network analyst
Font Size	Select from the following: Small, Medium, Large, Largest. Then left-click **Submit**.	Network analyst
NTP Preferences		

Field	Description	Permission
FDC Groups	Left-click the blue triangle to pull down the menu to select from. After selecting, left-click **Submit**. **Note** ■ **Purpose.** Select an FDC group to limit output to only those alert cases (or CFIMs) with FDCs in the group. The "all" means no limits. ■ **Define groups**. The system administrator defines FDC groups. If you see only "all", there are no groups defined. ■ **Displayed.** Your current group is listed beside the output page's page name. ■ **Override**. If you use search criteria ("Search/Edit-or-Query" on page 4-15) to specify FDCs, the FDC group is ignored. ■ **Core**. FDC groups is a core feature.	Network analyst
Network Group/ Segment	Left-click the blue triangle to pull down the menu to select from. After selecting, left-click **Submit**. **Note** Similar to FDC group. Select a network group or segment to limit output to only those alert cases with those CLLIs in the NE field (or CFIMs with those CLLIs in the Re or De fields).	Network analyst
Host Name	Your NTP host.	Administrator
Host UID	Your login ID on the NTP host.	Administrator

Output Tables

A

Contents

Introduction

Purpose

Database tables fall into two groups:

- **Surveillance data tables** — These hold collected data (such as CFIMs) or calculations (such as alert cases). These tables are in this chapter.
- **Reference tables** — Also called system admin tables. These are tables your system administrator populates. They are in the *System Administration Guide*. Or use online help (see reference below)

Reference

- To see what is in a table, see "Find (Any Table)" on page 6-16.
- To see what each table is for, see "How to get Table Name online help" on page 6-18.

(Continued on next page)

Introduction (Continued)

Output tables These are the output tables.

Table	Purpose
"acase (v_acase) Table" on page A-5	Populates the "Alert Cases Page" on page 5-4. Lists all alert cases, INCLUDING closed cases, which are no longer on the Alert Cases page.
"alert Table" on page A-12	Indirectly populates "Alert Cases Page" on page 5-4 and "Trap Alerts Page" on page 5-12. Lists each 5-minute period in an alert case. (Generally, not useful to you.)
"cfim Table" on page A-14	Populates the "Find CFIM Page" on page 6-4. Lists CFIMs.
"cim Table" on page A-30	Populates the "CIMs Page" on page 6-14. Lists the raw CIMs the CFIM's came from.
"fdccount Table" on page A-32	Populates no page. Lists hourly peg counts for each Re/Fdc and De/Fdc.
"linkalert Table" on page A-33	Populates no page. Lists links (switch-source-NTP connections) that may be down or degraded.
"mcalert Table" on page A-35	Populates the "Mass Call Alerts Page" on page 5-16. Lists mass call alerts.
"otr Table" on page A-36	Partially populates the CFIM page. Lists operator trouble report CFIMs. These are also in the CFIM table, but they are retained longer in the otr table.
"trapalert (v_trapalert) Table" on page A-39	Populates the Trap Alerts page. Lists to-be-created alert cases.

acase (v_acase) Table

Purpose

Each row of this table summarizes a problem's CFIMs for all intervals in which the problem's CFIM count was above its threshold.

If you implement flexible thresholding, F6268, then look at the v_acase table to see both basic and flexible thresholding. The acase table shows basic thresholding only. (See "Compare basic and flexible" on page 2-10.)

We note which fields are "v_acase table only" or "acase table only".

Where used

To see records in this table, see "Find (Any Table)" on page 6-16. Records in this table, where status is NOT closed, appear on the Alerts Cases page (see "Alert Cases Page" on page 5-4).

---

acn (v_acase table only.) Acase record number (acn), used to number alert case records. Field Type: 12-digit numeric.

acstart When the alert case started (from the datime field of the first CFIM in the acase record). Field Type: date/time.

al Alert level (al) is the seriousness of a CIM. Valid values are "cr" for critical, "ma" for major, and "mi" for minor. Field Type: Set.

alrts (v_acase table only.) Number of 5 minute, hourly, or daily intervals during which the alert has been above threshold. Field Type: 5-digit numeric.

alrts5 (acase table only.) Number of 5-minute intervals during which the alert case has been above threshold. Field Type: 5-digit numeric.

alrtsd (system day) (acase table only.) Applies only to system day type alerts. See "System Day Thresholding (F6118)" on page B-53. Number of days during which the alert case has been above threshold. Field Type: 5-digit numeric.

alrtsh (acase table only.) Number of hourly intervals during which the alert case has been above threshold. Field Type: 5-digit numeric.

asev (v_acase table only.) Average severity of the alerts in an alert case. Severity of a single alert is the CFIM count divided by the threshold (cnt/thresh). Range from 0.0 to 99.9. Field Type: 3-digit numeric.

asev5 (acase table only.) Average severity of the 5 minute alerts correlated by an alert case record. Severity of a single alert is the CFIM count divided by the

threshold (cnt/thresh). The asev5 field can range from 0.0 to 99.9. Field Type: 3-digit numeric.

asevd (system day) (acase table only.) Applies only to system day type alerts. See "System Day Thresholding (F6118)" on page B-53. This field contains the average severity for system day alerts. The asevd field can range from 0.0 to 99.9. Field Type: 3-digit numeric.

asevh (acase table only.) Average severity of the hourly alerts correlated by an alert case record. Severity of a single alert is the CFIM count divided by the threshold (cnt/thresh). The asevh field can range from 0.0 to 99.9. Field Type: 3-digit numeric.

at (v_acase table only.) Type of period for which the alert was generated.

- 5r - 5-minute for basic thresholding
- 5m - 5-minute for flexible thresholding
- 1h - hourly
- 1d - daily

See "Tally intervals (alert case "at" field)" on page 2-9.

Field Type: Set.

cai (v_acase table only.) Number of consecutive intervals during which alerts associated with this case have (+ value) or have not (- value) been generated. Field Type: 4-digit numeric.

cai5 (acase table only.) Number of consecutive 5 minute intervals (12 intervals per hour) during which alerts associated with this case have (+ value) or have not (- value) been generated. The cai5 field can range from -9999 to 9999. Field Type: 4-digit numeric.

caid (system day) (acase table only.) Applies only to system day type alerts. See "System Day Thresholding (F6118)" on page B-53. This field contains the number of consecutive system days during which alerts associated with this case have (+ value) or have not (- value) been generated. The caid field can range from -9999 to 9999. Field Type: 4-digit numeric.

caih (acase table only.) Number of consecutive hourly intervals during which alerts associated with this case have (+ value) or have not (- value) been generated. The caih field can range from -9999 to 9999. Field Type: 4-digit numeric.

count (v_acase table only.) Count of CFIMs from an alert case's above-threshold intervals. Field Type: 8-digit numeric.

cnt5 (acase table only.) Count of CFIMs from an alert case's above-threshold 5-minute intervals. Field Type: 8-digit numeric.

cntd (system day) (acase table only.) Applies only to system day type alerts. See "System Day Thresholding (F6118)" on page B-53. This is the count of CFIMs for all System Day Alerts matching this Acase. Field Type: 8-digit numeric.

cnth (acase table only.) Count of CFIMs from an alert case's above-threshold hour intervals. Field Type: 8-digit numeric.

comments The comments field provides space for user comments concerning the problem. This field is useful for cause and resolution summaries. You may search on the comments field, but you should follow these guidelines when you enter your search pattern. Surround your search value with double quotes. Enter the pattern with the "*" meta-character as a delimiter, so that the system will retrieve just the string you're looking for wherever it may appear in the comments field. Example: se=(comments="*killer trunk*"). Field Type: 308-character string.

date The date (date) is the date the record was last modified. The date field format is YY/MM/DD. Valid formats: YYMMDD, YY/MM/DD, MM/DD, or MMDD. Leading zeroes can be left out in the slash (/) formats. Field Type: date/time. Examples of valid search expression entries are:

Single entry date=95/03/24
Range date=950325-950328
Relational date<=950325
Multi-value date=95/3/7,95/03/14,3/21,0328

datime The date/time (datime) field contains the combination of the date and time. The datime field format is YY/MM/DD HH:MM. Datime is useful for searching a span of time beginning on one date and time and ending on another date and time. Valid formats are YY/MM/DD HH:MM or MM/DD HH:MM. You must include the time portion of the field, the date portion is optional. Field Type: date/time. Examples of valid search expression entries are:

Single entry datime=95/03/24 8:15
Range datime=95/03/24 8:15-95/03/31 10:25
Range datime=95/03/24 8:15-10:25
Relational datime<=95/03/25 8:15
Multi-value datime=95/3/7 8:15,95/3/9 8:15

de (v_acase table only.) Re and De fields are seen (in place of the Ne field) only if you are using flexible thresholding, F6268. Re is the same as on CFIMs. See "de" on page A-18.

fcause The failure cause (fcause) field identifies the failure cause of the trouble. It can be one of up to 100 values which are in a table populated by the

administrator. While in the "Update" function of the GUI ascreen, you can double click in the fcause field to select from the list of possible fcause values. This field is validated against the reason field of the fcause table. Field Type: 10-character string.

fcnt The first alert CFIM count (fcnt) is the count of CFIMs for the first alert record. The fcnt field can range from 0 to 65535. Field Type: 5-digit numeric.

fdate The first alert date (fdate) field indicates the date when the first alert record was generated. The format for the fdate field is YY/MM/DD. If your search expression only specifies a date field (and no time field), the default time range searched is 00:00- 23:59. Valid formats: YYMMDD, YY/MM/DD, MM/DD, or MMDD. Leading zeroes can be left out in the slash (/) formats. Field Type: date/time. Examples of valid search expression entries are:

Single entry fdate=95/03/24
Range fdate=950325-950328
Relational fdate<=950325
Multi-value fdate=95/3/7,95/03/14,3/21,0328

fdatime The first alert date/time (fdatime) field indicates the time when the first alert record was generated. The fdatime field format is YY/MM/DD HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Datime is useful for searching a span of time beginning on one date and time and ending on another date and time. Valid formats are YY/MM/DD HH:MM or MM/DD HH:MM. You must include the time portion of the field, the date portion is optional. Field Type: date/time. Examples of valid search expression entries are:

Single entry fdatime=95/03/24 8:15
Range fdatime=95/03/24 8:15-95/03/31 10:25
Range fdatime=95/03/24 8:15-10:25
Relational fdatime<=95/03/25 8:15
Multi-value fdatime=95/3/7 8:15,95/3/9 8:15

fdc See "fdc" on page A-20.

fsev The first alert severity (fsev) is the severity for the first alert record. Severity of a single alert is the CFIM count divided by the threshold. The fsev field can range from 0.0 to 99.9. Field Type: 3-digit numeric.

ftime The first alert time (ftime) field indicates the time when the first alert record was generated. The ftime field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system.Field Type: date/time.

lcnt The last alert CFIM count (lcnt) is the count of CFIMs for the last alert record. The lcnt field can range from 1 to 65535. Field Type: 5-digit numeric.

ldate

The last alert date (ldate) field indicates the date when the last alert record was generated. The ldate field format is YY/MM/DD. If your search expression only specifies a date field (and no time field), the default time range searched is 00:00- 23:59. Valid formats: YYMMDD, YY/MM/DD, MM/DD, or MMDD. Leading zeroes can be left out in the slash (/) formats. Field Type: date/time. Examples of valid search expression entries are:

Single entry ldate=95/03/24
Range ldate=950325-950328
Relational ldate<=950325
Multi-value ldate=95/3/7,95/03/14,3/21,0328

ldatime

The last alert date/time (ldatime) field indicates the time when the last alert record was generated. The ldatime field format is YY/MM/DD HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Datime is useful for searching a span of time beginning on one date and time and ending on another date and time. Valid formats are YY/MM/DD HH:MM or MM/DD HH:MM. You must include the time portion of the field, the date portion is optional. Field Type: date/time. Examples of valid search expression entries are:

Single entry ldatime=95/03/24 8:15
Range ldatime=95/03/24 8:15-95/03/31 10:25
Range ldatime=95/03/24 8:15-10:25
Relational ldatime<=95/03/25 8:15
Multi-value ldatime=95/3/7 8:15,95/3/9 8:15

lsev

The last alert severity (lsev) is the severity for the last alert record. Severity of a single alert is the CFIM count divided by the threshold. Field Type: 3-digit numeric.

ltime

The last alert time (ltime) field indicates the time when the last alert record was generated. The ltime field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: date/time. Examples of valid entry types are:

Single entry ltime=10:30
Range ltime=13:30-15:30
Relational ltime<=10:30
Multi-value ltime=9:00,10:30- 12:30

ne

(acase table only.) (If you are using flexible thresholding, F6268, this field replaced by the Re and De fields.) The network entity (ne) field supplies the ID of the network element alerted on. A "?" in this field indicates an unknown entity. This field is validated against all recognized entities. Field Type: 16-character string.

owner

The owner field is the name of the person investigating the alert. Field Type: 10-character string.

re (v_acase table only.) Re and De fields are seen (in place of the Ne field) only if you are using flexible thresholding, F6268. Re is the same as on CFIMs. See "re" on page A-25.

referred The referred field is for the name of the individual or support organization to whom the trouble has been referred. Field Type: 10-character string.

s This field indicates whether the FDC is fatal ("f") or non-fatal ("n") as determined from the *status* field of the FDC in the FDC table.

status State of the alert case, either:

- open
- assigned
- referred
- closed (closed alert cases can be seen on the acase table)

Field Type: Set.

tc The trouble category (tc) field is used to categorize FDCs, typically by error type (such as "vca") or by switch type (such as "5e"). Field Type: 6-character string. See "tc" on page A-28.

time The time (time) is the time the record was last modified. The time field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: date/time.

tn The trouble number (tn) is used to automatically and manually group alert case records caused by the same network problem.The tn field can range from 1 to 65535. Field Type: 5-digit numeric.

type Type of network element alerted on. Valid values for basic thresholding are:

- de - distant entity
- re - Reporting Entity.

Valid values for flexible thresholding are abbreviated names of FQs. Currently:

- cc - country code alerting
- rt - country route alerting

Field Type: Set.

userid The user identification (userid) is the id of the user who last modified the alert case record. This field is "auto" if the system closed the record automatically. Field Type: 10-character string.

alert Table

Purpose

Each row (record) in this table is an alert. An alert is one interval (5-minute or hourly) of an alert case. Alerts are created for above-threshold intervals only.

Where used

This table is generally not useful to users, but to see records in this table, see "Find (Any Table)" on page 6-16. Records in this table appear on NO outputs—however, they are summarized into alert cases.

Note

Perhaps the only time you would refer to the alert table would be when you need to see the threshold used when the alert case was generated (see the thresh field).

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aistart (system day)

This field comes from the datime field of the first CFIM record that was pegged for this alert within the current system day period. See "System Day Thresholding (F6118)" on page B-53. Field Type: date/time.

al

The alert level (al) field indicates the severity of the CIM. Valid values are: “cr” - critical, “ma” - major, “mi” - minor. Field Type: Set.

at

Type of period for which the alert was generated

- 5r - 5-minute
- 1h - hourly
- 1d - daily

Field Type: Set.

count

How many CFIMs in the last time period identified by the alert type (at). Field Type: 5-digit numeric.

date

The alert date (date) field indicates the date on which this alert record was generated. The format of the date field is YY/MM/DD. Field Type: date/time.

datime

The date and time (datime) field combines the date and time field value together. The format of the datime field is YY/MM/DD HH:MM. Field Type: date/time.

fdc

See "fdc" on page A-20.

ne This field contains the ID of the network entity for which the threshold was crossed. The entity must be defined in one of the architecture tables.This field must be a valid network entity. Field Type: String of 16 printable characters.

sev This field contains the Severity (sev) of an alert. If the threshold is zero, then the sev value will be 99.9. The sev field can range from 0.0 to 99.9. Field Type: 3-digit numeric.

tc The trouble category (tc) field provides the trouble category of the FDC. "-" is a valid value that indicates the field is not applicable or there is no data available. Field Type: 6-character string. For a list of suggested values, see "tc" on page A-28.

thresh The threshold (thresh) field identifies the active threshold of the network entity on which the alert was generated. The thresh field can range from 0 to 65535. Field Type: 5-digit numeric.

time The alert time (time) is the time that the alert record was generated. The format of the time field is HH:MM where HH and MM are a two decimal digits based on a 24 hour time system. Field Type: date/time.

type Type of network element alerted on.

- de - distant entity
- re - Reporting Entity.

Field Type: Set.

cfim Table

Purpose

Each record in the cfim table is a common format call or session information messages (CFIM), which is a standardized translation of a call or session information messages (CIM).

Where used

A record in this table maps to a row on the following outputs:

- Cfim Output —see "Find CFIM Page" on page 6-4.
- Trapcfim Output —see "Trap CFIM Page" on page 6-11.

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acc_cic

Local Carrier Id of the access provider. The service provider who owns the switch or element (wireline) or antennae (wireless) used by another service provider's customer. Field Type: 6-character string.

act

The act field defines the number of active trunks in the trunk group at the time the 1AESS or 5ESS CIM was sent. The value is the number of trunks in the trunk group less the number of trunks that are out-of-service because of maintenance. A "-" means the field is not applicable or there is no data available. Field Type: 4-digit numeric.

answer

Time, in seconds, from session setup start (start_datime field), to when billing starts. With IPDRs for VOIP, billing starts when the called party answers. Field type: 4-digit numeric.

ant

The antenna field defines the antenna face on which the mobile originated. Range from 1 to 6. "-" means the field is not applicable or there is no data available. Field Type: 1-digit numeric.

area

(This applies to one customer only.) ECOS (end-to-end class of service real-time network routing [RTNR], which is a concept used by one customer only) is a way to group calls by some criteria, so we can treat each grouping (called an ECOS "area") as if it is a distant entity. For domestic ECOS areas (DECOS), De is the CLLI of a switch that is the door to the area. For international ECOS areas (IECOS), De is a code built from city code (4 characters), country code (2 characters), carrier code (3 characters) and an area code (2 characters). (Hint: Typically, if the pair of characters in the fifth and sixth position of this field is a state abbreviation, the area is domestic ECOS. If the pair is a country code, the area is international.) See also the svogt field. The one customer who uses this can see their NEMOS documents for more about ECOS. Field Type: 16-character string.

billdigits

Phone number to which the call is billed. Field type: 15-character string.

billtype Bill structure code or other billing record identifier. If this is "-", the CFIM is NOT thresholded for call volume alert cases. Field type: 10 character.

callid Call identifier. If you see multiple CFIMs with the same callid, you know that it is actually just one call. Field Type: String of 26 alphanumeric characters.

caus The ISCAUS (caus) field indicates the CCS protocol failure that occurred when the call CIM was created at the Reporting Entity. The caus field can range from 0 to 255. Field Type: 3-digit numeric. ISCAUS codes as this is being written are:

0: Unknown cause.	42. Switch equipment congestion:
1: Un-allocated number:	43. User info discarded:
2. No route to transit network:	44.Requested channel unavailable:
3. No route to destination:	45. Preemption:
4. Send special info tone:	47. Resource unavailable:
5. Mis-dialed trunk prefix:	57. Bearer capability unauthorized:
16. Normal clearing:	58. Bearer capability unavailable:
17. User busy:	63: Service or option unavailable:
18. No user responding:	65. Bearer capability not implemented:
21. Call rejected:	66. Channel type note implemented:
22. Number changed:	70. Restricted digit bearer available:
27. Destination out of service:	79. Service option not implemented:
28. Address incomplete:	81. Invalid call reference:
29. Facility rejected:	88. Incompatible destination:
31. Normal unspecified:	95. Invalid messages - unspecified:
34. No circuit available:	97. Messages type non-existent:
38. Network out of order:	99. Parameter non-existent:
41. Temporary failure:	

ccd Country code of the called party. 1, 2 or 3 digits. Field Type: 3-digit numeric. Also see:

- The country table for the list of countries and their codes.

charge Charges associated with this call, if known. Could be end-user, access, or other network usage charges. Field Type: 6-character string. Field type: 6-digit numeric.

cic Carrier id code.The owner of the customer for this CDR. Field Type: 6-character string.

cim The CIM field contains additional data from the original CIM, including some data not been converted into this CFIM record. This alphanumeric-character string may be up to 1024 characters long. Because search expressions search within this string, surround search expressions with asterisks and quotation marks, for example: "*FINAL*".Field Type: 1024-character string.

city_npa The CALLED number's city code or npa, as follows:

- City code — if called number uses international numbering plan.
- NPA — if called number uses North American numbering plan.

See also "cpcity_npa" on page A-16. Field type: 5-digit numeric.

codec Voice encoding used for the (VOIP) call. Field type: 12-character string.

collect Tells if this CFIM was an "in-collect" (generated outside the network and imported in from another service provider), an "out-collect" (generated in the network, but exported to another service provider), or generated in the network for internal use. Field type: Set.

cpcity_npa The CALLING number's city code or npa, as follows:

- City code — if calling number uses international numbering plan.
- NPA — if called number uses North American numbering plan.

See also "city_npa" on page A-16. Field type: 5-digit numeric.

cpcust Calling party customer ID. Field Type: 10-character string.

cpdigits The calling party digits field contains the digits the calling party dialed from. (This field can also hold letters, to accommodate switches that put letters in this field. For example DMS switches use an initial F or Fs, from the CLGNO field of the CIM, to indicate ANI failure.) Field Type: 18-character string.

cplata Calling party's lata, rate area. or billing zone. See also, "lata" on page A-21.

cpnai Calling party nature of address indicator. See SS7 references for meaning of codes. See also "nai" on page A-23. Field type: 3-digit numeric.

csi Carrier selection code.Tells whether call used a pre-selected carrier, or a carrier selected by dialing an access code. Valid values are:

- 01 = (0x00) Selected carrier identification pre-subscribed and NOT input by calling party.
- 02 = (0x02) Selected carrier identification pre-subscribed AND input by calling party.
- 03 - (0x03) Selected carrier identification pre-subscribed, input by calling party undetermined.
- 04 = (0x04) Selected carrier identification not pre-subscribed, input by calling party.

With 4ESS ADL (F6236). You see values in this field only if you have reporting 4ESS switches with ADL. (Also see "lata" on page A-21.) Background: The 4ESS switch's AT&T Digital Link (ADL) feature enables AT&T Long Distance Nodal customers to access local traffic from their PBXs connected to the AT&T Switched Network (ASN). With ADL's Equal Access Pre-subscription capability, customers can pre-subscribe to use toll carriers other than AT&T. To analyze problems involving pre-subscription, three CFIM fields are handy: Csi, Lata, and Cic. For a detailed explanation of these fields, see the same fields in 4ESS documentation.

Field Type: 3-character string.

ct

The call type (ct) field contains the type of call involved. Values are directly from a CIM, or mapped from a value in the CDR. Field Type: 6-character string.

cust

The customer ID (cust) field identifies the called party customer. Field Type: 10-character string.

d

Direction of call or data, from the viewpoint of the Re. Field Type: Set ("i" - incoming, "o" - outgoing, or "-").

date

The date field represents the date on which the system received the CIM. The format of the date field is YY/MM/DD. If your search expression only specifies a date field (and no time field), the default time range searched is 00:00-23:59. Valid formats: YYMMDD, YY/MM/DD, MM/DD, or MMDD. Leading zeroes can be left out in the slash (/) formats. Field Type: date/time. Examples of valid search expression entries are:

Single entry date=95/03/24
Range date=950325-950328
Relational date<=950325
Multi-value date=95/3/7,95/03/14,3/21,0328

datime

CFIM's date and time. Typically, when the CIM was created. Format is YY/MM/DD HH:MM; or HH:MM with today's date implied. Field Type: date/time. Examples of search expression entries for this field are:

- Single entry: 95/03/24 8:15
- Range: 95/03/24 8:15-95/03/31 10:25
- Range: 95/03/24 8:15-10:25
- Relational: <=95/03/25 8:15
- Multi-value: 95/3/7 8:15,95/3/9 8:15

de The distant entity (de) is the entity that the Reporting Entity was sending tghe call to or receiving the call from when the CIM was created. Field Type: 16-character string.

delay Average voice packet delay for the call in milliseconds. Field type: 4-digit numeric.

dest The type of destination (dest) field is used with the orig, sst, and dnst fields to determine the RTNR (real-time network routing) class of service. Field Type: 3-digit numeric.

detype Detype contains the distant entity type. This field is validated against the type field of the eqtype table. Field Type: 8-character string.

digits The digits field contains the dialed digits. Output can be numeric or D, E, F, # or *. (Since you can use the meta-character * in searches, you cannot search for the single character *.) (D, E, and F may be seen if you have the operator trouble reports [OTR] feature.) Field Type: 30-character string.

dl The data loss (dl) field is set when one or more of the preceding CIMs has been lost between either the switching office and the source, or the source and the system. Valid values are: “y” - yes, “-”. Field Type: Set.

dnst The dialed number service type (dnst) field is uses in conjunction with the orig, sst, and dest fields to determine the RTNR (real-time network routing) class of service.

domi The domain (domi) field contains the 4 ESS domain in which the call was being processed when the CIM was created. Range is 1-255, with values defined in the *4ESS Network Routing Guide*, 190-401-001-AC. Field Type: 3-digit numeric. Note: Your system administrator can set up the CP (the 4ESS CIM source) to send CIMs with different domains to different NTP hosts. See Chapter 6 in *CP Administration and O&M*.

dpc The destination point code (dpc) field is a unique network identifier for a destination (also see opc). Field Type: 1-to-9-digit number. Format is either:

- North American ANSI. Three triplets padded with 0’s as needed. Example, 002125202 means 002-125-202, means 2-125-202. The three parts are:
  - — network indicator
  - — cluster
  - — cluster member
- International ITU. Either:

— Three triplets padded with zeros, as needed. Example: 007002006 means 7-2-6. The first number is 3 bits (so, up to 7), the second up to 8 bits (so, up to 255) and the third up to 3 bits (so, up to 7).

— 1-to-5 digits. Example, 123 means 123.

- One customer only's internal representation. Four parts, where the first and fourth parts can have leading zeros, but the second part (always one character) and third (always 2 characters) are combined in one triplet. Example, 012122032 means, 012-122-032, means 012-1-22-032, means 12-1-22-32.

Note: If the destination switch is 5ESS with multiple point codes, the dpc field identifies a specific point code at the switch. So, if you call a 5ESS switch administrator to report a problem, mention this field, since it can help trace the problem to a specific point code (that is, to a specific remote switching unit).

ds The distant entity home STP (ds) field contains the home STP pair of the distant entity. This value must have been a ne entry in the stparch table. Field Type: 16-character string.

dsdigits Dialed stored digits. Translated number used for call routing (e.g. , for an 800 call). Field Type: String of 30 printable characters.

dsdx The DSD exception code (dsdx) field defines the various exception codes that could be encountered when processing a DSD-TCAP call. Field Type: 3-digit numeric.

durat Billable length of call or session, in seconds. For an illustration, see For an illustration. Field type: 6-digit numeric.

end_date Session setup end date. See end_datime.

end_datime When billing on the phone call (or session) ended. For phone calls, this is call release. This is the local_end field value adjusted to NTP local time. Field type: date-time.

end_setup Time, in seconds, from session setup start (start_datime field), to session setup complete. For calls, session setup complete means "address complete" and start of ringing. Field type: 4-digit numeric.

end_time Session setup end time. See end_datime

error_origin SS7 failure cause location. (This is filled in either directly from a CIM field, or by looking up the FDC in the acode2fdc table.) Values are:

- egr — VOIP Egress Side

- ing — VOIP Ingress side
- intl — International network
- lln — Local local network
- lpn — Local private network
- rln — Remote local network
- rpn — Remote private network
- tn — Transit network
- u — User
- - — Either:
  - — Not used with this Retype.
  - — The fdc does not represent an error, so it should not be mapped to an error_origin.

(Field type: Field type. 4-character.

etime Event time is the time when the call failure was terminated and uses the local time of the switching office. The etime format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: 5-character string.

fdc The final disposition code (fdc) categorizes the CFIM, for example, indicating it is a routing failure, a network failure and so on. FDCs be defined in the fdc table. Sometimes FDCs are taken directly from the CIM, for example, the final handling code from 4 ESS CIMs or the MDII type from 5ESS CIMs. Also see the acode2fdc and similar tables for how some CIM codes (such as cause codes) are mapped to FDCs. Field Type: 7-character string.

gatekpr Processor managing gateways between circuit switch networks and an IP cloud. Field type: 16 printable characters.

i_ip Incoming (originating) IP address. Field type: 15-character string.

ibyte Byte count at i_ip (that is, o_ip-to-i_ip byte count). Field type: 9-digit numeric.

icm The DNHR incoming class mark (icm) field is the received traveling class mark which indicates whether the switch is terminating or via, and whether the call arrived on a direct link or 2-link path. Expected values are from 0-99. Field Type: 2-digit numeric.

ict The incoming trunk (ict) field contains the ID of the incoming trunk that was being used when the CIM was created at the Reporting Entity. The ict field can range from 0 to 999999. Field Type: 6-digit numeric.

igtwy Incoming gateway ID (ID is similar to a CLLI). Field type: 16 characters. (This was formerly the origgtwy field.)

irt Incoming route index or ID. The opposite of the Rt field (see "rt" on page A-26). Field Type: 16-character string.

isctn Incoming Service Circuit Trunk Number. Also see "sctn" on page A-26. The field holds three sets of 4 characters. Field Type: 12-character string.

itgid The call's incoming trunk group identifier. Field type: 16 digit alphanumeric.

lata Called party's lata. Either:

- Lata, rate area, or billing zone of the called party. (Also see "cplata" on page A-16.)
- With 4ESS Re's with ADL, F6263. The lata of the originating ADL location. Background: The 4ESS switch's AT&T Digital Link (ADL) feature enables AT&T Long Distance Nodal customers to access local traffic from their PBXs connected to the AT&T Switched Network (ASN). With ADL's Equal Access Pre-subscription capability, customers can pre-subscribe to use toll carriers other than AT&T. To analyze problems involving pre-subscription, three CFIM fields are handy: Csi, Lata, and Cic. For a detailed explanation of these fields, see the same fields in 4ESS documentation. (Also see "csi" on page A-16.)

Field Type: 5-character string.

ldig The ldig field contains the language digit (ldig). Valid values are: "0" - (no operator was used), "2" (an operator was used), or "-". Field Type: Set.

lnp Local-number-portability (LNP) flag.Field Type: Set. Values in the LNP field can be:

- y. An LNP query was made for the call.
- n. No LNP query was made for the call.
- - (dash). Either we do not know if an LNP query was made for the call. or you have not implemented LNP.

Note

LNP is a switching feature that enables telephone customers to keep the same phone number even when they change providers or relocate to a location served by a different end office within a rate area. When someone dials a number routed via LNP, an LNP query is made to translate the dialed number into a location routing number (LRN), which is used to reach the customer.

The dialed number is in the digits field. The LNP translated number is in the lrn field. (The lnp, lrn, and lrne fields are related.) LNP translation is done by the local service provider for local calls, or the inter-exchange carrier for inter-exchange toll calls.

If a CFIM has a "y" in the lnp field, and if the CFIM is from a DMS switch, then you may see one of the following codes in the FDC field:

- LNP300 - digit manipulation cannot be performed on the ported dialed number.
- LNP301 - an Initial Address Message (IAM) is received containing a Location Routing Number (LRN) and a 7 digit called party and the appropriate NPA cannot be determined.
- LNP302 - a switch received a release message with a cause value of 26 (mis-routed call to a ported number).
- LNP303 - a switch detected that it has properly received a call (it has the correct LRN), but the dialed digits are for an un-allocated number.

If a CFIM has a "y" in the lnp field, and if the CFIM's CIM includes the string "FHCODE: 1916", then there was a problem with the LEC feature. Specifically, a ported number GAP should have been outpulsed as the called number, but ISUP determined that it was incorrectly formatted. See "Local Number Portability" on page B-56.

local_end Session setup end time, using local time at the Re. The end_datime field value is the local_end field value adjusted to NTP system time. Field type: date-time.

local_start Session setup start time, using local time at the Re. The start_datime field value is the local_start field value adjusted to NTP system time. Field type: date-time.

lrn Location routing number (LRN). This is the telephone number that the dialed digits (digits field) were translated into, for a call routed via local number portability (LNP). (The lnp, lrn, and lrne fields are related.) Field Type: 10-character string. A "-" in this field means:

- If "n" is in the lnp field, no LNP query was made for the call.
- If "-" is in the lnp field, either data is not available or you have not implemented LNP.

lrne Location routing number network entity. This is the CLLI code of the switch the location routing number is directed to (see the lrn field). This may be the same CLLI code in the de field, the re field, or neither. Only CLLI codes in the LRN2NE system table appear here. (The lnp, lrn, and lrne fields are related.)

A "-" in this field means the same as a "-" in the lrn field, above. Field Type: 16-character string. See "Local Number Portability" on page B-56.

misc1 - misc6 The **misc1**-**misc6** fields are used to hold unique or uncommon (but useful) information from a CDR. They can be used differently for each type of input record.

nai Called party nature of address indicator. See SS7 references for meaning of codes. See also "cpnai" on page A-16. Field type: 3-digit numeric.

next_cic Previous service provider customer identification code. The service provider on the egress side, who received the call from the carrier generating the CIM. Field type: 6-character.

npt Numbering plan type. Populated on 4ESS CFIMs only. (F6262: NTP uses npt when deriving each 4ESS CFIM's country code ["ccd" on page A-15--field].) Values are:

- nan — North American numbering plan
- apn — action point numbering plan
- int — international numbering plan

Field Type: 3-character string.

ntc The ntc field contains the numeric transport capability (ntc) which is the transport capability (TC) field of the 4ESS CIM. The ntc field can range from 0 to 99. Field Type: 2-digit numeric.

numd The numd field specifies the actual number of digits received in the CIM. The number of digits can be greater than the digits field of the CFIM. The numd field can range from 0 to 99. Field Type: 2-digit numeric.

o_ip Outgoing (terminating) IP address. Field type: 15-character string.

obyte Byte count at o_ip (that is, i_ip-to-o_ip byte count).Field type: 9-digit numeric.

occd Originating country code. Country code of the calling party. See the country table for the list of codes and matching countries. Field Type: 3-digit numeric.

ocm The DNHR outgoing class mark (ocm) field is the traveling class mark to be sent to the next switch and indicates whether the switch is terminating or via, and whether the call will arrive on a direct link or 2-link path. Expected values are from 0-11. Field Type: 2-digit numeric.

oe Originating entity. Where the call originated. See "te" on page A-28. Field type: 16 characters.

ogt

The outgoing trunk (ogt) field contains the ID of the outgoing trunk in use when the CIM was created at the Reporting Entity. (If a 4ESS CIM did not supply an OGT, but did supply a BTFN [base final trunk number], we put the BTFN here.) Field Type: 6-digit numeric.

ogtwy

Outgoing gateway ID (ID is similar to a CLLI). This was formerly the destgtwy field.

Field type: 16 characters.

oli

Originating line information for the call. Standard SS7 values. Field type: 3-digit numeric. Current valid values for this field:

- 000 = No special treatment
- 001 = ONI (Multiparty)
- 002 = ANI Failure
- 006 = Hotel (without room identification)
- 007 = Coinless, Hospital, Inmate, etc.
- 008 = InterLATA Restricted
- 010 = Test Call
- 020 = AIOD - listed DN sent
- 023 = Coin or non-coin (identified line)
- 024 = 800 Call
- 027 = Coin Call
- 068 =InterLATA Restricted - Hotel Line
- 078 = InterLATA Restricted - Coinless Line, etc.

opc

Origination point code. Point code of the preceding switch at any point in the call setup signaling path. See also "dpc" on page A-18. Field type: 1-to-9 digit number.

opid

Operator ID. Identifies an operator involved with the call. See the same field in the OTR table. (Note: See note with opn.) Field Type: 4-digit numeric. Populated only on CFIMs from:

- F6178: OTR (operator trouble reports) from DMS and 5ESS switches.
- F6223: TOPS LNP (TOPS module on a DMS switch), IF the CFIM is about an operator assisted call.

opn

Operator position number. Identifies an operator involved with the call. See the same field in the OTR table. Field Type: 4-digit numeric. Populated only on CFIMs from:

- F6178: OTR (operator trouble reports) from DMS and 5ESS switches.
- F6223: TOPS LNP (TOPS module on a DMS switch), IF the CFIM is about an operator assisted call.

Note: To see which CFIMs populated this field, you might think you would enter !=- in the search matrix. However, this fails. Use >=0 instead.

orig The type of origination (orig) field is used in conjunction with the dest, sst, and dnst fields to determine the RTNR (real-time network routing) class of service. The orig field can range from 0 to 127. Field Type: 3-digit numeric.

otgid Outgoing trunk group. Field type: 16 digit alphanumeric.

p The pegging status (p) field will be "y" if the CFIM is used as input into thresholding and alerting. This field has the value "n" if the CFIM was disabled from thresholding and alerting because the FDC and digits fields in the CFIM matched an FDC and digit pattern in the disabledig table. Disabling of CFIMs based on FDC and digits is F6026. Field type: Set.

pktloss Packet loss percentage X 100. Packet loss per every 10,000 packets. Field type: 4-digit numeric.

prev_cic Previous service provider carrier identification code. The service provider on the ingress side, who passed the call to the carrier generating the CIM. Field type: 6-character.

psn First dialed number in a 2-stage dialed call. Field Type: 21-character string.

r Direction of call or data between the Re and Related, from the viewpoint of the Re. Field Type: Set ("i" - incoming, "o" - outgoing, or "-").

ra Either:

- With AUTOPLEX MSC (F6243), the radio on which the mobile call failed (there are multiple radios in a cell base station; a cell base station can be a De [distant entity] in an AUTOPLEX CFIM).
- With DMS MTX MSC (F6276), the radio frequency channel number for the failed call.

Field Type: 4-digit numeric.

re Reporting entity. The element reporting the CIM. This differs by feature. For what this can be, see each Retype at "CIM-to-CFIM Conversions" on page B-3. Field Type: 16-character string.

related The related entity field (related) contains the CLLI code any known third entity in a CFIM, in addition to the reporting and distant entities. ield Type: 16-character string.

retype Reporting entity type equipment type. Each retype must be found in the type field of the eqtype table.

roam Tells if this CIM is for a roaming or non-roaming call. Valid values are: 'y' (roaming), 'n' (wireless non-roaming call) or "-" (not a wireless call). Field type: Set.

rs The Reporting Entity home STP (rs) field contains the home STP pair of the Reporting Entity. A "?" in this field means the STP is not known. A "-" in this field indicates that no STP was involved in the call which used in-band or non-SS7 signaling. This value must have been a ne entry in the stparch table. Field Type: 16-character string.

rt Outgoing route. This is the opposite of the Irt field ("irt" on page A-21). (For 4ESS switches: This is defined in the de2route table. We do not display a "?" to indicate data is missing from the de2route table. Instead, if there is something OTHER than a "-" in ccd, and there is a "-" in rt, it means no route was defined in the de2route table, either by oversight or on purpose.) Field Type: 16-character string.

s Status of the CIM. Valid values are "f" - fatal, "n" - non- fatal, "b" - both, "-". Field Type: Set.

sctn Service Circuit Trunk Number. Field Type: 12-character string.

sdtt The Segmentation Directory Transition Type field explains the one- or two-character SDTT code found on some 4ESS CIMs. Background: One customer is moving much call routing and servicing from the 4ESS switches to a separate processor, where calls are routed or serviced using the Segmentation Directory (SD). On 4ESS CIMs, a one- or two-digit code labelled SDTT identifies the routing or servicing the SD did for the call. On CFIMs, the sdtt field gives a name in place of the code. See the sdttype table for a list of sdtt ID codes and their explanations. Field Type: 4-character string.

Currently, services under (or scheduled to be under) SDTT include:

- NO — not service transitioned to SD
- PCP — The PCP transitioned to SD
- SDN — Software defined network
- USDS — Universal subscriber data structure
- POTS — Plain old telephone service

- PCPC — Positive call processing cellular
- SDS — Switched digital services
- iPCC — True Voice ANI indicator controlling True Voice ANI individual per Call Control (formerly in the 4ESS switch ANI trigger table)
- CSRO — True Voice ANI indicator controlling Customer Specific Routing Option for switched access direct customers (formerly in the 4ESS switch ANI trigger table)
- DL — 1+Directory Link Blocking indicator for directory assistance calls (formerly in the 4ESS switch ANI trigger table)
- Quite Hear indicator for 1-800-ATT calls (formerly in the 4ESS switch ANI trigger table)
- CPPA — Calling party pays airtime indicator for Easy Reach 500 calls (formerly in the 4ESS switch ANI trigger table)
- ? - Unknown (typically, this means your system administrator needs to put something in the sdttype table).

serno With 5ESS AUTOPLEX MSC (F6243) and DMS MTX MSC (F6276). Serial number of the mobile unit (handset) that placed the failed call. Field Type: 11 character alphanumeric.

servdig The service digits (servdig) field contains the global title key used to identify the customer as derived from the called/calling number of the CIM. Field Type: 10-character string.

sg (This field contains values only if you implement AUTOPLEX (F6243.) The server group field defines the server group on which the mobile failed. This field is applicable only when the reporting entity is an AUTOPLEX MSC (mobile switching center). The sg field can range from 0 to 1. "-" is a valid value that indicates the field is not applicable or no data is available. (See also AUTOPLEX's ant, sg, vrg, and ra fields.) Field Type: 1-digit numeric.

sig The signaling (sig) field indicates the type of signaling involved in the CIM. It is used by the system so as not to peg an STP for CIMs with in-band and other non-SS7 signaling. This field is validated against the type field of the signaling table. Field Type: 6-character string.

sm For 5ESS and 7R/E PLS conversions only. Also see the CFIM field "dl" on page A-18.

source The source field gives the channel's name through which CIMs are collected. This field is validated against the name field of the source table. Field Type: 5-character string.

sst The sst field is the signaling service type value recorded in the CIM. This field is used in conjunction with the dest, sst, and dnst fields to determine the RTNR (real-time network routing) class of service. The orig field can range from 0 to 127. Field Type: 3-digit numeric.

st The service type (st) field describes the type of service involved in the CIM. For the list of service types, see the St table. Field Type: 5-character string.

start_date Session setup start date. See start_datime.

start_datime Session setup starting time. This is the local_end field value adjusted to NTP time. Field type: date-time.

start_time Session setup start time. See start_datime.

svogt (This applies to one customer only.) The svogt (state vector of the outgoing trunk) field is from the SVOGT name-value pair in a 4ESS CIM. For an explanation, see SVOGT in the Lucent Technologies *4ESS Switch Domestic Call-Irregularity Maintenance Reference Handbook (*234-010-315). See also the area field in this table. Field Type: 3-digit numeric.

tc The trouble category (tc) field is used to categorize FDCs. This field is validated against the tc field of the fdc table. Field Type: 6-character string.

te Terminating entity. Where the call terminated. See "oe" on page A-23. Field type: 16 characters.

tgn The trunk group field (tgn) provides the trunk group number that was being used when the call CIM was created at the Reporting Entity. The tgn field can range from 0 to 9999. (Note: For 7R/E switches, this is a "virtual" trunk group used for tracking purpose only. In reality, data is split into packets sent over various routes between the 7R/E Re and 7R/E De.) Field Type: 4-digit numeric.

time The time field is the time when the system received the CIM. The time field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: date/time. Example of valid search expression entries are:

Single entry time=10:30
Range time=13:30-15:30
Relational time<=10:30
Multi-value time=9:00,10:30-12:30

tnsc With 5ESS MINT (F6224). A value in this field (other than "-") means the Re is a 5ESS, it has the 5ESS MINT feature, and the customer the call came from has been assigned a TNSC code. The 5ESS switches' MINT (Multi-vendor Intra-Network Trunks) feature routes calls according to Terminating Network

Selection Codes (TNSCs). TNSCs enable a long distance provider to send different customers' calls over different routes. For example, a customer's calls can be assigned a TNSC telling a 5ESS to send those calls over specific trunks. If you see a code in the TNSC field, watch for non-hierarchical routing. And note that, with TNSC, if a 5ESS tandem cannot route a call, the tandem can "crankback" the call to the originating 5ESS for reroute. For meanings assigned to your TNSC codes, see 5ESS administrators. The Tnsc field can range from 0 to 999. "-" is a valid value that indicates the field is not applicable or there is no data available. Field Type: 3 digits.

trb The trb (trouble) field contains a trouble identifier, to augment the FDC. Field Type: 7-character string.

vrg Either:

- With AUTOPLEX MSC (F6243) CFIMs, the voice radio group on which the mobile call failed.
- With DMS MTX MSC (F6276) CFIMs, the voice channel number used for the call.

(See also AUTOPLEX's ant, sg, vrg, and ra fields.) Field Type: 3-digit numeric.

weight The number of calls a single CFIM represents. For example, 4 means this CFIM represents 4 calls. (Note: If this is, for example, 4, sampling rate is 1/4.) Field Type: Numeric.

cim Table

Purpose

This table holds raw CIMs collected from converters and sources.

Where used

.Raw CIMS are available:

- By double-clicking any CFIM on Find Cfim or Trapcfim output
- By using the View CIM menu item on Find Cfim or Trapcfim output
- As an added field on Find Cfim or Trapcfim output
- By doing Find CIM—see "Find (Any Table)" on page 6-16.

---

date

The date (date) is the date the record was last modified. The date field format is YY/MM/DD. If your search expression only specifies a date field (and no time field), the default time range searched is 00:00-23:59. Valid formats are YYMMDD, MM/DD, or MMDD. Leading zeros can be left out in the slash(/) formats.)

Examples of valid search expression entries are:

Single entry date	=95/03/24
Range date	=950325-950328
Relational date	<=950325
Multi-value date	=95/3/7,95/03/14,3/21,0328

Field type: date/time.

time

The time (time) is the time the record was last modified. The time field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system.

Examples of valid entry types are:

Single entry time=10:30
Range time=13:30-15:30
Relational time<=10:30
Multi-value time=9:00,10:30-12:30

Field type: date/time

datime

The date/time (datime) field contains the combination of the date and time. The datime field format is YY/MM/DD HH:MM.

Datime is useful for searching a span of time beginning on one date and time and ending on another date and time. Valid formats are YY/MM/DD HH:MM or MM/DD HH:MM. You must include the time portion of the field, the date portion is optional. Examples of valid search expression entries for this field are:

Single entry datime=95/03/24 8:15
Range datime=95/03/24 8:15-95/03/31 10:25
Range datime=95/03/24 8:15-10:25
Relational datime<=95/03/25 8:15
Multi-value datime=95/3/7 8:15,95/3/9 8:15

Field Type: date/time.

cim

The CIM field contains additional data from the original CIM, including some that has not been saved/converted into this CFIM record. This alphanumeric-character string can be up to 1024 characters long.

Surround your search expression with the "*" meta-character so that the expression you are looking for can be matched to anywhere it may app[ear in the CIM. Surround the entire expression with double quotes.

Example: cim="*FIRST FAILURE*"

Field type: string of 1024 printable characters.

fdccount Table

Purpose

Each record in the fdccount table is the hourly peg count for a combination of network entity and FDC, by entity type re or de. Records are made at the end of each hour. No records are written for counts of zero.

Where used

To see records in this table, see "Find (Any Table)" on page 6-16. Records in this table appear in no other output.

Note

If you Find (see "Find (Any Table)" on page 6-16), and you enter no datime or yymmddhh, output defaults to default Find Time—typically, the last 10 minutes—which returns NOTHING, since this table is an hourly summary. So, either enter a datime or yymmddhh, or override default Find Time (see "How to change Find Time for one Find or Analyze" on page 4-21).

---

count The hourly peg count for this unique ne/FDC/ type combination. The count field can range from 1 to 99999. Field Type: 5-digit numeric.

date The date on which this record was generated. The format of the date field is YY/MM/DD. Field Type: date/time.

datime Combines the date and time (datime) field values together. The format of the datime field is YY/MM/DD HH:MM. Field Type: date/time.

fdc See "fdc" on page A-20.

ne Supplies the ID of the network element (ne). A "?" in this field indicates an unknown entity. This field must be a valid network entity. Field Type: String of 16 printable characters.

time Indicates the time that the record was generated. The format of the time field is HH:MM where HH and MM are a two decimal digits based on a 24 hour time system. Field Type: date/time.

type Defines the type of the network entity which the peg count relates to. Valid values are: re and de. Field Type: Set.

---

linkalert Table

Purpose

Each record in the fdccount table is the link status of all links that were either down or degraded in the past 5 minutes.

Where used

To see records in this table, see "Find (Any Table)" on page 6-16. Records in this table appear in no other output.

cims Number of CIMs in a 5-minute interval for a reporting entity (Re). This is the previous 5-minute interval, unless the Re is actually a Source, in which case the interval is the current 5-minute interval. Range is 0 to 999999. Field Type: 6-digit numeric.

date Date on which the link alert record was generated and stamped by the system clock. The date format is YY/MM/DD. Field Type: date/time

datime Date and time. The datime format is YY/MM/DD HH:MM. Field Type: date/time

re ID of the entity reported on. The reporting entity ID can also be a source that gets the CIMs from reporting entities and forwards them to NTP). Field Type: 16-character string

reason Reason of the link status. Field Type: Set. Valid values are:

Code	Meaning
carrier	The carrier from the entity to the source (see source field, next page) is dropped
closed	The NTP port to the CIM source is closed
degraded	The CIM source is degraded
down	The CIM source is down
lf1	The link failure “down” threshold has been exceeded
lf2	The link failure “degraded” threshold has been exceeded
logging	The source (see source field, below) reports that it is not logging a particular entity
no lsm	No link status message received from the CP
no record	No record for a specific entity, either because no entity record existed in the link status message or no link status message was received

Code	Meaning
reframed	Framing is out of sequence in the link between the CIM source and NTP
rhst	The link to the remote host is down
startup	Due to recent startup (or interval increase), the messages received are below the "down" or "degraded" thresholds
status bit	The link status message reports the switch to CP link is down
timed out	Haven't received a message from the CIM source in the interval specified
um1	The unreadable messages "down" threshold has been exceeded
um2	The unreadable messages "degraded" threshold has been exceeded
no io proc	The io process needs to be restarted (via the indkdial or outdkdial tables)
zm	The zero messages interval has been exceeded

source This field names the source that collects the CIMs and forwards them to NTP for the RE that reported the alert. This field is validated against the name field of the source table. Field Type: 5-character string. status.

This field indicates the status of the link reported on. Field Type: Set. Values are:

degraded
down
unknown

time This is when the link alert record was generated and stamped by the system clock. The time field format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: date/time.

type This field contains the alerted-on entity type. Field Type: Set.

mcalert Table

Purpose

This table lists mass call events, which show up on the MCAscreen.

Where used

A record in this table maps to a row on "Mass Call Alerts Page" on page 5-16. Although you can use "Find (Any Table)" on page 6-16 to look at records in this table, there is no point in doing so, since anything in this table is displayed on the Mass Call Alerts page.

digit	Called digits. Digits in the call register of the switch that generated the CFIM. If only seven digits are shown, you may need to search CFIMs for those digits and then read found CFIMs for the NPA. For the operator trouble reports (OTR) feature, this is the called number dialed by the customer or operator. It is numeric or D, E, or F. This field does NOT appear on Ascreen Output or Trapalert Output. On Find Cfim Output, this is the Digits (not Cpdigits) field.
lrn	Location routing number. If the call was ported, this is the 10-digit location routing number. If not ported, this is dash. On Find Cfim Output, this is Lrn field, explained in "lrn" on page A-22. For details about LRN and LNP, see "Local Number Portability" on page B-56.
highre	High reporting entity. CLLI of the reporting entity that reported the most failed calls.
hnpa	NPA of the highre, according to the swarch table.
mcnt	Minute count. Number of CFIMs in which Digits-and-Lrn was found in the last minute. When Mcnt falls below mass call threshold (see "Set Mass Call Alerts thresholds" on page 5-19), the mass call alert disappears.
tcnt	Total count. The sum of Mcnt for all the consecutive minutes in the Tmin column.
tmin	Total minutes. Number of consecutive minutes this mass call alert has existed.

otr Table

Purpose

This table lists CFIMs converted from operator trouble reports (OTRs). These CFIMs are already in the cfim table, but they are retained longer in the OTR table.

With F6178, this table retains OTR CFIMs from DMS and 5ESS switches.

With F6223, this table retain TOPS LNP CFIMs (your system administrator must put their FDCs in the otr2fdc table). The TOPS FDCs you may want would be those that populate CFIMs' Opn and Opid fields.

Where used

To see records in this table, see "Find (Any Table)" on page 6-16.

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cic The exchange carrier being used when the CIM was created at the Reporting Entity. Field Type: 4-character string.

cpdigits Digits of the calling party. Field Type: 18-character string.

d Direction of call or data between the Re and De, from the viewpoint of the Re. Field Type: Set ("i" - incoming, "o" - outgoing, or "-").

date The date on which the system received the CIM. The format of the date field is YY/MM/DD.

If your search expression only specifies a date field (and no time field), the default time range searched is 00:00- 23:59. Valid formats: YYMMDD, YY/MM/DD, MM/DD, or MMDD. Leading zeroes can be left out in the slash (/) formats. Field Type: date/time. Examples of valid search expression entries are:

Single entry date	=95/03/24
Range date	=950325-950328
Relational date	<=950325
Multi-value date	=95/3/7,95/03/14,3/21,0328

datime Combines the date and time field values (datime) together. The format of the datime field is YY/MM/DD HH:MM. Datime is useful for searching a span of time beginning on one date and time and ending on another date and time. Valid formats are YY/MM/DD HH:MM or MM/DD HH:MM. You must include the time portion of the field. The date portion is optional. Field Type: date/time. Examples of valid search expression entries are:

Single entry datime=95/03/24 8:15
Range datime=95/03/24 8:15-95/03/31 10:25
Range datime=95/03/24 8:15-10:25
Relational datime<=95/03/25 8:15
Multi-value datime=95/3/7 8:15,95/3/9 8:15

de Specified the distant entity (de) that the Reporting Entity was attempting to communicate with when the CIM was created. A "?" means unknown entity. Field Type: 16-character string.

digits Contains the digits in the call register of the switch when the CIM was created. For operator trouble reports (OTR), this field contains the called number dialed by the customer or operator. The characters can be numeric or one of the following letters: D, E, or F. Field Type: 30-character string.

etime (event time) The time when the call failure was alerted by the switching office and reflects the local time of the switching office. The etime format is HH:MM where HH and MM are two decimal digits based on a 24 hour time system. Field Type: 5-character string.

fdc See "fdc" on page A-20.

opid Operator ID. Identifies an operator involved with the call. See the same field in the CFIM table. Field Type: 4-digit numeric.

opn Operator position number. Identifies an operator involved with the call. See the same field in the CFIM table. Field Type: 4-digit numeric.

optgn Matches the misc5 field on the CFIM table. For:

- An OSPS OTR, optgn is the Trunk group number used to contact the operator.
- A SNAK OTR, optgn is the 3-port conference pack.

opvt Operator voice trunk information. Matches the misc1 field in the CFIM table. Field Type: 25-character string.

re (reporting entity) The entity that forwarded the CIM or the switching office determined to be the origination of the call. A "?" in this field indicates an unknown entity (typically, this means your system administrator needs to put some switch in a routing table). This value must have a CLLI in the SWARCH table. Field Type: 16-character string.

related (related entity) Contains the CLLI code of the related entity or reporting entity. Field Type: 16-character string.

s (status) Indicates the status of the CIM. Valid values are: "f" - fatal, "n" - non-fatal, "b" - both, "-". Field Type: Set.

sig (signaling) Indicates the type of CIM. It is used by the system so as not to peg an STP for CIMs with in-band and other non-SS7 signaling. This field is validated against the type field of the signaling table. Field Type: 6-character string.

st (service type) Describes the type of service involved in the CIM. This field is validated against the type field of the st table. Field Type: String of 5 mixed case printable characters.

trb (trouble) Contains the failure name for a DMS message (such as TRK138) or the trouble code for an OTR. Field Type: 7-character string.

lnp See "lnp" on page A-21. (OTR LNP is F6132.)

lrn See "lrn" on page A-22. (OTR LNP is F6132.)

lrne See "lrne" on page A-22. (OTR LNP is F6132.)

time The time field is the time when the system received the CIM. Field Type: date/time. The time field format is HH:MM, where HH and MM are two decimal digits based on a 24-hour time system.

Example of valid search expression entries are:

Single entry time=10:30
Range time=13:30-15:30
Relational time<=10:30
Multi-value time=9:00,10:30-12:30

trapalert (v_trapalert) Table

Purpose

Each row on Trapalert Output represents an alert case that is to be created.

If you implement flexible thresholding, F6268, then look at the v_trapalert table to see both basic and flexible thresholding records. The trapalert table shows basic thresholding records only. (See "Compare basic and flexible" on page 2-10.)

We note which fields are "v_trapalert table only" or "trapalert table only".

Where used

Trapalert fields are in each row of Trapalert Output.

Note

- **No system table**. Trapalert records disappear at the beginning of the next 5-minute interval. So, Trapalert is the only output in this appendix that is NOT a system table available from "Find (Any Table)" on page 6-16.
- **Alert table**. Between Trapalert and Acase (see "acase (v_acase) Table" on page A-5) tables, there is another level—the Alert table, which summarizes alerts in each interval of an alert case.

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al

This field indicates the alert level assigned to the fdc in the fdc table. Valid values are: "cr" - critical, "ma" - major, "mi" - minor. Field Type: Set.

at

Type of period for which the alert was generated.

Valid values for basic thresholding are:

- 5 - 5-minute
- h - hourly
- d - daily

Valid values for flexible thresholding are:

- 5m - 5-minute
- 1h - hourly
- 1d - daily

Field Type: Set.

count This field contains the CFIM count for the fdc, network entity, and entity type at the time the threshold was crossed: by definition one more than the threshold. The count field can range from 0 to 65535. Field Type: 5-digit numeric.

de (v_trapalert table only.) Distant entity. See "de" on page A-18.

fdc See "fdc" on page A-20.

ne (trapalert table only.) This field contains the ID of the network entity for which the threshold was crossed. The entity must be defined in one of the architecture tables.This field must be a valid network entity. Field Type: String of 16 printable characters.

re (v_trapalert table only.) Reporting entity. See "re" on page A-25.

tc The tc field contains the trouble category assigned to the fdc in the fdc table. Field Type: String of 6 printable characters. For a list of suggested values, see "tc" on page A-28.

time This field will be obtained from the system clock. It is the time at which the threshold was crossed. The format of the time field is HH:MM where HH and MM are a two decimal digits based on a 24 hour time system.

type Type of network element alerted on.

Valid values for basic thresholding are:

- de - distant entity.
- re - Reporting Entity.

Valid values for flexible thresholding are abbreviated names of FQs. Currently:

- cc - country code alerting.
- rt - country route alerting.

Field Type: Set.

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