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CallPilot

Reporter Guide

Product release 1.07

Standard 1.0

April 2000



How the world shares ideas.

P0905798

CallPilot

Reporter Guide

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Chapter 1

Getting started with Reporter

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Overview

Introduction

The *Reporter Guide* provides information required to

- collect and store Operational Measurements
- generate reports and alerts
- analyze and interpret report data

Assumptions

This guide assumes that the CallPilot server has been correctly installed and is operational. If the application has not been installed, then install it before proceeding. For installation instructions, refer to the hardware installation guide appropriate to your server type.

If the server has been installed but is not operational, refer to the *Installation and Configuration Guide* for information on troubleshooting your system.

Skills you need

Nortel Networks product knowledge

Knowledge of, or experience with, the following Nortel Networks products is helpful:

- Meridian 1
- Meridian Mail

PC experience or knowledge

Knowledge of, or experience with, the following PC products is helpful. For more information on these products, refer to the documentation provided by the manufacturer:

- Microsoft Windows NT, 95, 98

Other experience or knowledge

Other types of experience or knowledge that might be useful include

- network management
- client server systems

About Reporter

Introduction

Reporter is a software program that helps you analyze and manage your CallPilot system. Reporter converts raw statistics (Operational Measurements) from your server into easy-to-read reports. These reports can help you with the following tasks:

- Establish a pattern of normal system behavior.
- Monitor system usage.
- Detect potential system problems.
- Assess your system's overall efficiency.
- Monitor system security.
- Bill users for service usage.
- Plan for future enhancements.
- Track changes made by an administrator.

Three components of Reporter

Reporter is made up of three programs that are installed on the PC client:

- Reporter Download Schedule (installed on the server)
- Nortel Reporter (installed on the PC client)
- Communicator (installed on the PC client)

The Reporter Download Schedule is only accessible if you are connected to the server and have permission to access it.

Reporter Download Schedule

Reporter Download Schedule lets you specify the time at which Operational Measurements are copied from the CallPilot server to your PC client. To ensure that data is downloaded regularly, you can use Reporter Download Schedule to set up a download schedule. If you want to collect data on demand, you can also use this program to perform an unscheduled or "immediate" download.

To use Reporter Download Schedule, you must have valid security access to the CallPilot server. If Reporter Download Schedule appears as an icon in the Nortel CallPilot Administration Client, you have reporting access for the server. If the icon does not appear, you do not have reporting access for the server.

Note: Access to the CallPilot server is defined in the Access Classes program. Ask your system administrator to give you the correct permissions.

Reporter Download Schedule - L.A. site - Dante

Download Schedule

☒ Schedule DM Download from server

Next Download Date: Sat 07 / 04 / 98 Next Download Time: 1: 00 AM

Destination Directory: c:\norapps\Nortel\client\en\data\Site4\Site4.mdb

Estimated download time: 1:40 (hh:mm)

Estimated database size: 453 Kb

Download Now... Start Communicator...

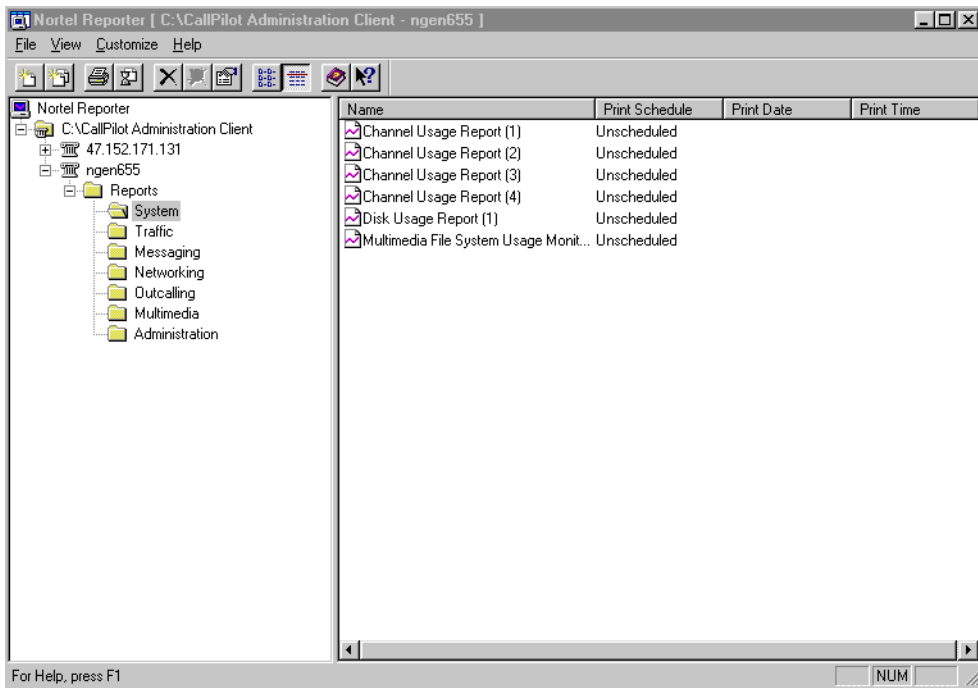
Save Cancel Help

Nortel Reporter

Nortel Reporter organizes the raw operational measurements downloaded from the server into different types of reports. When you download operational measurements from the server to your PC client, you can generate reports and analyze data without tying up your server's resources.

Use Nortel Reporter to

- print reports on a daily, weekly, or monthly basis
- export reports to a variety of file formats
- customize a report's data

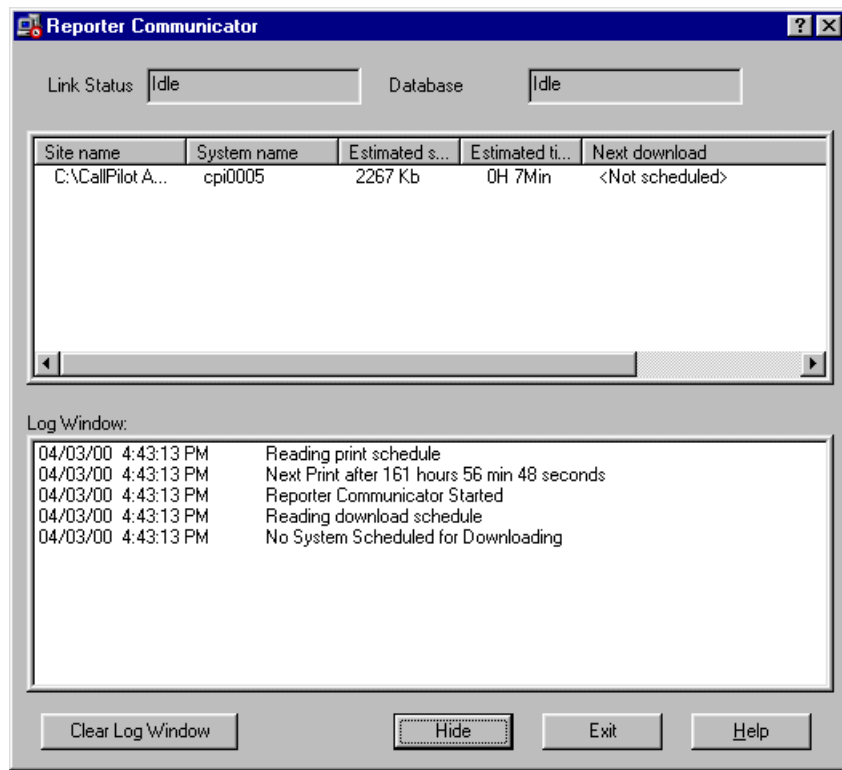


Communicator

Communicator controls the network link between the CallPilot server, your PC client, and the printer. This allows Communicator to coordinate downloads from multiple servers and manage print jobs.

Communicator starts automatically whenever you start your PC client. To save room on your screen, you can minimize and display the Communicator window as an icon on the Windows status bar.

Note: Communicator must run 24 hours a day for successful downloads and print jobs to take place. Do not shut down the PC on which Communicator is running.



How Reporter creates reports

Introduction

Reporter uses the raw data provided by Operational Measurements (OMs) to generate reports. Operational Measurements are statistics that provide valuable information about the way your server is being used. Some OMs, for example, show how frequently system resources are being used. Other OMs trace individual phone calls as they are processed by the system.

How reports are created

There are four stages to creating reports:

1. The server collects OMs.
2. OMs are downloaded to your PC client. Reporter Download Schedule and Communicator work together to control the download process.
3. Nortel Reporter converts downloaded OMs into reports.
4. Reports are printed.

OMs are collected by the server

Before the CallPilot server can collect OMs, you must specify the type of OM data you want to collect, the interval at which it is collected, and the length of time it is stored.

OMs are downloaded to your PC client

Once OMs have been collected by the server, you can copy them to your PC client. Reporter Download Schedule and Communicator work together to control the download process. OMs are downloaded to your PC client using either a LAN (Ethernet) connection or a PPP (modem) connection.

OMs are converted into reports

Once OMs have been downloaded to your client, Nortel Reporter organizes the information into different types of reports. For example, OMs related to messaging activities are converted into messaging reports; OMs related to networking are converted into networking reports.

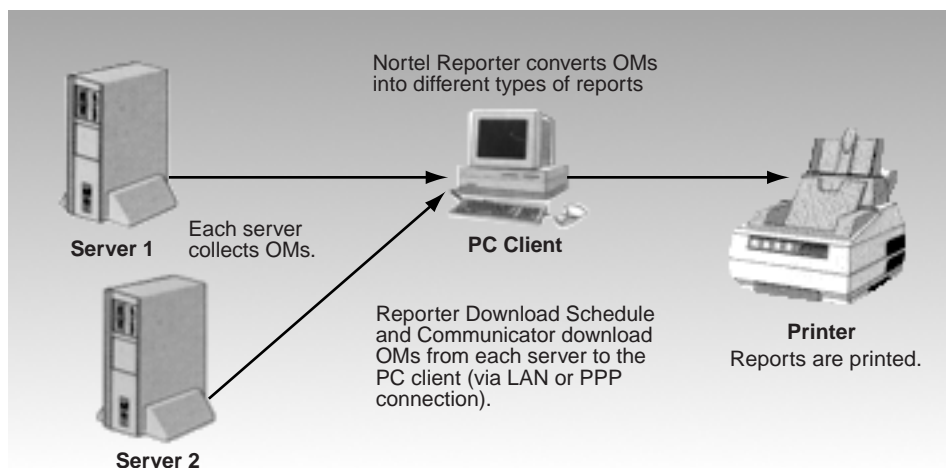
Reports are printed

Reports can be printed on a regular basis according to a preset print schedule, or they can be printed on demand. When you set up a print schedule, you can view the results of your reports over a period of time. This can help you identify patterns and trends related to system usage.

Multiple servers

If there is more than one server in your organization, you can collect data from each server and download it to a single PC client. This helps you centralize the reports created by Nortel Reporter. You can download OMs from up to 50 servers to a single client.

Generating reports for multiple servers



What's new in this guide

Administration report

The Administration Action report is new for this release. This report provides information about the changes performed by administrators. It also gives a brief explanation of the action and the items affected by this action.

For detailed information about this report, see Chapter 6, “Administration reports.”

System status reports

The Service Quality Detail report and the Service Quality Summary report are available for the M1 switch only.

Related information products

Introduction

The following list of CallPilot technical documents are stored on the CD-ROM that you receive with your system. You can search the entire suite of documentation online, or you can print part or all of a guide.

Planning and engineering guides

Use these guides before you install CallPilot to help plan your system, and to plan a migration of data from Meridian Mail to CallPilot.

| Document Title |
|---|
| <i>Planning and Engineering Guide</i> |
| <i>Meridian Mail to CallPilot Migration Utility Guide</i> |

Installation and configuration guides

These guides describe how to install hardware and software for the CallPilot server, client, and desktop messaging. Instructions for configuring the switch are also provided.

| Document Title |
|--|
| <i>200i Installation and Configuration Guide</i> |
| <i>702t Installation and Configuration Guide</i> |
| <i>1001rp Installation and Configuration Guide</i> |
| <i>Desktop Messaging Software Installation and Maintenance Guide</i> |

Administration guides

These guides provide specialized information to help you configure CallPilot, administer and maintain it, and use its features.

Document Title

Getting Started Quick Reference Card

Administrator's Guide

Reporter Guide

Application Builder Guide

Monitoring and Security for the Administrator

Networking guides

These guides describe how to plan, install, set up, and troubleshoot networking services.

Document Title

Network Planning Guide

AMIS Implementation and Administration Guide

Integrated AMIS Implementation and Administration Guide

NMS Implementation and Administration Guide

Enterprise Implementation and Administration Guide

VPIM Implementation and Administration Guide

End user guides

These guides are intended for end users of CallPilot, such as phoneset users and desktop messaging users.

Document Title

Multimedia Messaging User Guide

Speech Activated Messaging User Guide

Desktop Messaging Quick Reference Guide

Using the online Help, guides, and tutorials

CallPilot contains three online sources for information:

- Online Help provides brief answers to the questions “What’s this?” and “How do I...?”
- Online guides provide detailed conceptual information, as well as information on how to perform detailed tasks.
- Online tutorials provide a complete product overview, as well as specific information on how to use Application Builder.

You can access all information using either the Help menu or Help buttons.

Contacting Technical Support

Contact your distributor’s technical support organization to get help with troubleshooting your system.

Contacting Nortel Networks

If you have comments or suggestions for improving CallPilot and its documentation, contact Nortel Networks at the following web site address:

http://www.nortelnetworks.com/callpilot_feedback

Chapter 2

Setting up Operational Measurements for Reporter

In this chapter

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| Section C: Maintaining the client OM database | 51 |

Section A: About Operational Measurements

In this section

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| <u>About collecting OMs</u> | <u>31</u> |
| <u>Collecting OMs</u> | <u>33</u> |

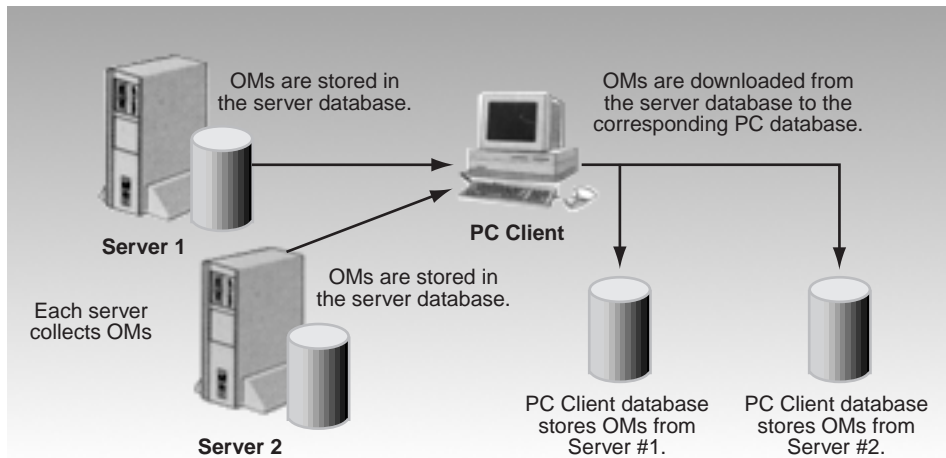
Overview of Operational Measurements

Introduction

Operational Measurements (OMs) are statistics that provide Reporter with valuable information about the way your CallPilot system is being used. Some OMs provide detailed information about phone calls processed by the system. Other OMs provide general information about system resources, such as disk space and channel usage.

How Reporter uses OMs

Before Reporter can use the information provided by OMs, you must set up your server to collect and store OM data. Once OMs have been collected, Reporter can download them to your PC client and turn them into reports.



About collecting OMs

Introduction

To collect OMs from the server, you must specify

- the types of OMs you want to collect
- the interval at which OMs are collected
- the length of time OMs are stored on the server

Types of OMs

The CallPilot server can collect three types of OMs—Billing, Traffic, and Trace:

- Billing OMs provide Reporter with detailed information about each call handled by the CallPilot system.
- Traffic OMs provide Reporter with summarized information about calling activity and system usage.
- Trace OMs provide Reporter with information about the Speech Activated Messaging service.

To use Reporter effectively, you must collect all three types of OM data. This ensures that you can generate all reports.

Collection interval

The server can collect OM data 24 hours a day, or once a day during a specified period. You might want to collect OMs 24 hours a day if your company receives faxes or phone calls from international locations, or if you are concerned about hacker activities during nonbusiness hours.

If you do not want to collect OMs 24 hours a day, you must decide on an appropriate interval for data collection. If your business is open from 9:00 a.m. to 5:00 p.m., for example, you can collect OM data only during those hours.

Storage interval

The server automatically stores OM data for one to seven days. If you want to keep data on the server for a different length of time, you can specify a storage period of one to ten days.

Stored OM data affects the amount of disk space available on your server. If your free disk space is below 20 percent, storing OMs for ten days can reduce server performance. If you notice a slow response from the server, reduce the number of days for which data is stored.

Collecting OMs

Introduction

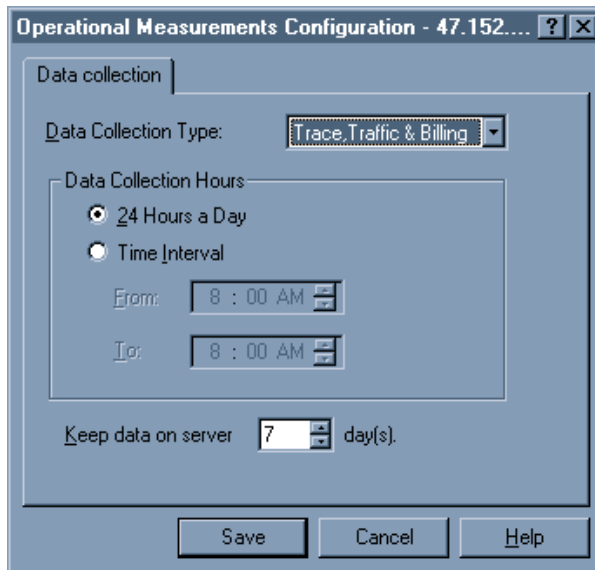
Before the server can start gathering OM data, you must specify the type of data you want to collect, the interval at which it is collected, and the length of time it is stored on the server.

Before you begin

To use Reporter effectively, you must collect all three types of OM data. This ensures you can generate all reports.

If you do not want to generate reports, choose None from the Select type of data list. This prevents OMs from taking up space on the server.

Getting there Exploring - CallPilot Administration Client > CallPilot System > System Administration > System Performance Monitoring > Operational Measurements



To collect OMs

- 1 From the Data Collection Type list, select Trace, Traffic & Billing.
- 2 If you want to collect data 24 hours a day, click 24 hours a day, and then go to step [6](#).
- 3 If you want to collect data for part of the day, click Time Interval.
- 4 In the From box, type the start time for data collection.
- 5 In the To box, type the end time for data collection.
- 6 In the Keep data on server box, type the number of days for which data is stored, or accept the default.

Note: You can store data for one to ten days.

- 7 Click Save to return to the CallPilot Administration Client.

Section B: Downloading OMs

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Overview of downloading OMs

Introduction

Once OMs have been collected by the server, you can download them to your PC client. OMs are downloaded using either a LAN (Ethernet) connection or a PPP (modem) connection.

Scheduled and unscheduled downloads

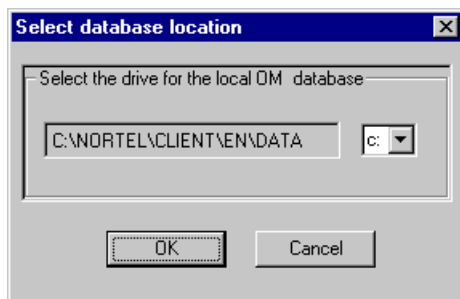
To ensure that OMs are downloaded regularly, you can set up a download schedule for your server. If you want to download OMs on demand, you can also perform unscheduled or “immediate” downloads. For more information on scheduled and unscheduled downloads, see the remainder of this section.

Storing downloaded OMs on your PC client

The first time you set up a download schedule for a server, an empty database is automatically created on your PC hard disk. OMs are stored in this database for a maximum of 180 days before they are overwritten. If you are downloading OMs from multiple servers, one database is created for each server. For more information about the OM database, see [Section C: “Maintaining the client OM database,” on page 51](#).

Specifying a location for the OM database

When you set up a download schedule for the first time, Reporter suggests a default directory for the new database on drive C of your PC client. If you want to change the location of the database, you can select a different drive. Once you have specified a new drive, you cannot change the location.



OM database size

The longer you store OMs, the more space the OM database takes up on your client. You can dedicate an entire drive to the OM database, if required.

Understanding scheduled downloads

Introduction

Before Reporter can generate reports, you must download OMs from the CallPilot server to your PC client. When you set up a download schedule, you ensure that OMs are copied from the server to your client regularly. Scheduled downloads occur once every 24 hours and retrieve the previous day's data from the server.

Scheduling downloads for multiple servers

If your organization has more than one server, you can download OMs from each server to a single client. This helps you centralize the reports created by Reporter. You can download OMs from up to 50 servers to a single client.

When scheduling downloads, make sure that your schedules do not overlap. Overlap in your download schedules results in download failure.

Preventing overlap in download schedules

To prevent overlap in your download schedules, ensure that each server has enough time to complete its download before the next one begins. The estimated download time, provided by the Reporter Download Schedule, can help you determine how long each download will take. For example, if your first download is scheduled for 1:00 a.m. and the estimated download time is two hours, you should not schedule another download until 3:00 a.m.

Guidelines for scheduling downloads

When scheduling downloads, keep the following in mind:

- Schedule OM downloads during nonbusiness hours when network activity is low. Make sure your downloads do not conflict with other activities that take place during nonbusiness hours (for example, backups or audits).
- Do not overlap your download schedules. Overlap in your schedules causes download failure.

- The total time it takes for all servers to download to the same client cannot exceed 24 hours. If the total download time is greater than 24 hours, you must remove one or more of the servers from your download schedule.
- The estimated download size for each server cannot exceed the amount of space available on your PC client. If this occurs, free up space on your drive by removing unnecessary files, or remove one or more servers from the download schedule.
- Do not download OMs from more than 50 servers to a single client.
- Make sure your download schedule does not conflict with your print schedule. If you download OMs while Reporter is trying to print reports, the reports will not contain any data.

Understanding unscheduled downloads

Introduction

If you want to download OMs without setting a download schedule, you can run an unscheduled or “immediate” download. You can run an immediate download to

- collect OMs if a scheduled download has failed
- view the most recent OMs collected by the server
- view OMs collected by a server that does not have a regular download schedule
- check if there is a problem with your system that requires you to have data ahead of schedule

Guidelines for performing an unscheduled download

Do not run an unscheduled download during the following times:

- while another download is in progress
- immediately before another download is scheduled to begin
- during hours of high network activity

If you run an unscheduled download at any of these times, it might cause the download to fail, or it might reduce server performance by using up resources.

Setting up a download schedule

Introduction

Before Reporter can generate reports, OM data must be downloaded from the CallPilot server to your PC client. When you set up a download schedule, you ensure that OMs are copied from the server to your client regularly. For more information, see [“Guidelines for scheduling downloads” on page 38](#).

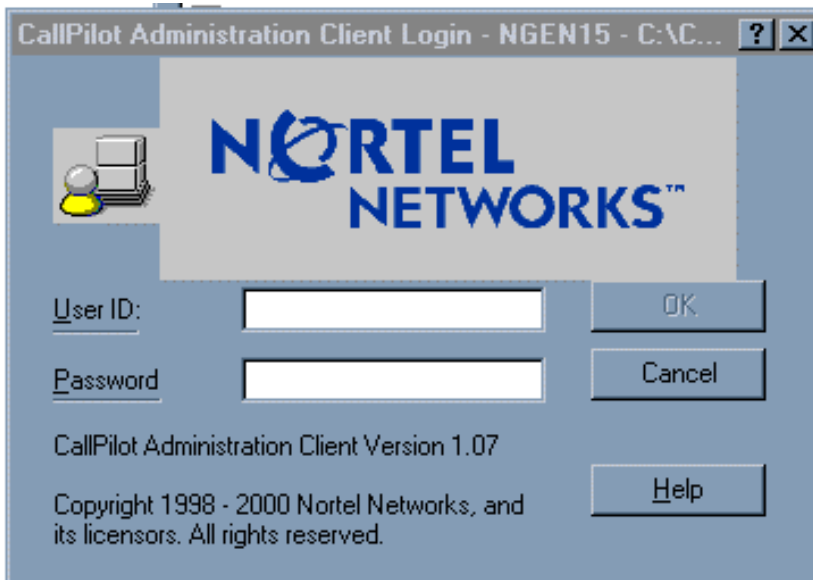
Before you begin

Before you can schedule a download for a server, you must log on to a client and connect to a CallPilot server.

To log on to a server

- 1 From the Windows desktop, click Start >Programs > CallPilot Administration Client.
- 2 Double-click the server to which you want to connect in the right panel.

Result: Your PC client connects to the server. During connection, the Connection Progress box appears, which tells you about the progress of the operation. When connection is complete, the logon dialog box opens.



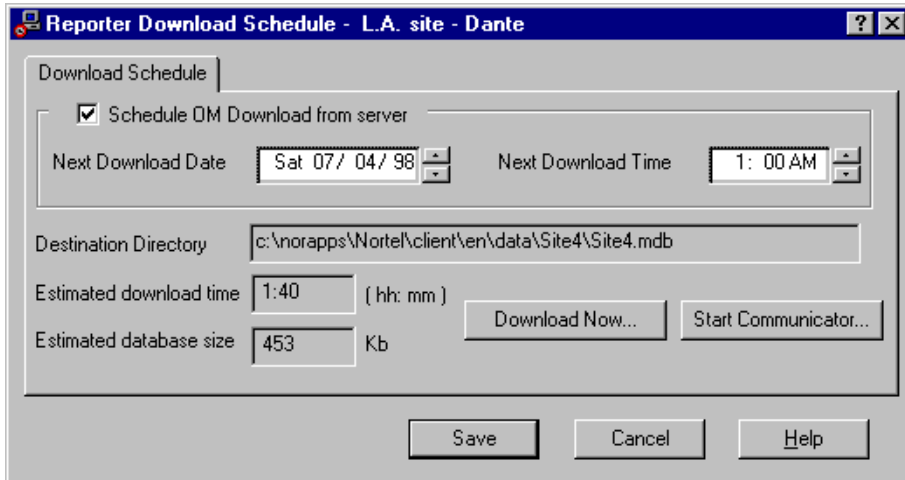
- 3 In the User ID field, type your server user ID.
 - 4 In the Password field, type your current server password.
- Note:** If you do not know your user ID or new password, contact your system administrator.
- 5 Click OK.

Result: The CallPilot Administration Client window appears.

To schedule a download for the currently connected server

- 1 Double-click System Administration > System Performance Monitoring > Reporter Download Schedule.

Result: The Reporter Download Schedule dialog box appears.



Note: The first time you set up a download schedule for your server, an empty database is automatically created on your PC hard disk. Before the database is created, Reporter suggests a default directory where the new database will be located. If you want to change the location of the default directory, you can select a new drive. Once you select a new drive, however, you cannot change the location.

- 2 Make sure the Schedule OM Download from server box is checked.
- 3 From the Next Download Date list, select the date of the next download.

Note: All dates and times in this procedure refer to the server. If your PC client and server are located in different time zones, confirm the correct dates and times before performing the download.

Note: The date of the server's next download is increased by one day after each download.

- 4 From the Next Download Time list, select the time of the download.

Result: Reporter Download Schedule downloads OM data once every 24 hours from the time you specify. For example, if you specify 1:00 a.m., OM data downloads once a day at 1:00 a.m.

- 5 Click Save to return to the CallPilot Administration Client.

Checking a server's next download time

Introduction

Check the download times assigned to each server before performing an immediate download. You must prevent the immediate download from conflicting with a download that is already running.

You should also check the download times assigned to various servers if you are scheduling downloads for multiple servers. This ensures that your scheduled downloads do not conflict with one another.

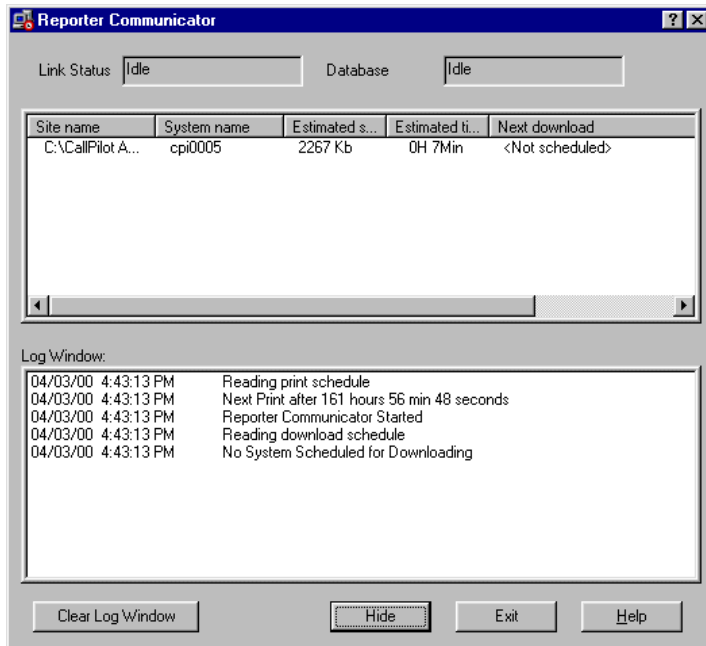
Reporter Communicator

Use the Reporter Communicator program to view download schedules for all servers. Reporter Communicator is a subcomponent of Reporter that controls the network link between the CallPilot server and your PC. Whenever OMs are downloaded from the server to your PC, Reporter Communicator works with Reporter Download Schedule to control the download process.

To determine the current system's next download time

- 1 Double-click the Reporter Communicator icon on the right side of the Windows status bar.

Note: Reporter Communicator starts automatically whenever you start your PC client. To save room on your screen, you can minimize the Reporter Communicator window and display it as an icon on the Windows status bar.



- 2 In the Next download time column, check the server's next download date and time.
- 3 Click Hide to minimize Reporter Communicator.

Performing an unscheduled download

Introduction

Perform an unscheduled download when you want to

- view the most recent OMs collected by the server
- view OMs collected by a server that does not have a regular download schedule
- collect OMs if a scheduled download has failed

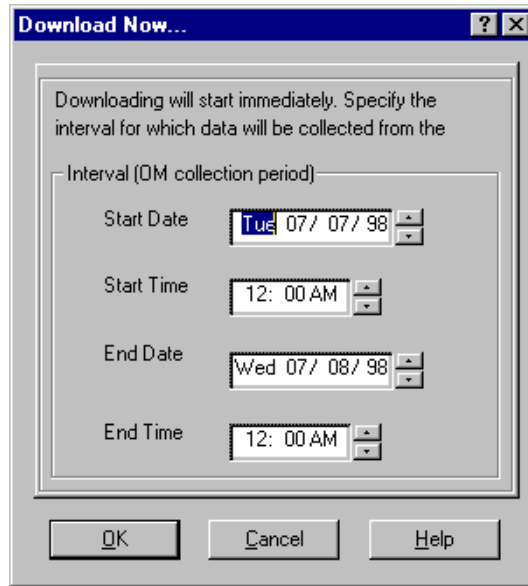
For more information on unscheduled downloads, see [“Understanding unscheduled downloads” on page 40](#).

Getting there Exploring - CallPilot Administration Client > CallPilot System > System Administration > System Performance Monitoring > Reporter Download Schedule

To perform an unscheduled download

- 1 Click Download Now.

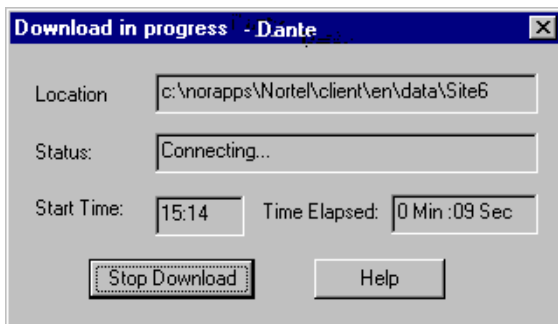
Result: The Download Now...dialog box opens.



- 2 In the Start Date box, type the first day that OM data is included in the download.
Note: All dates and times in this procedure refer to the server. If your server is in a different time zone, confirm the correct dates and times before performing the download.
- 3 In the Start Time box, type the time that the first collected OM data begins to be included in the download.
- 4 In the End Date box, type the last day OM data is included in the download.
- 5 In the End Time box, type the time OM data stops being included in the download.
- 6 Click OK to return to the Reporter Download Schedule.

To cancel a download

In the Download in Progress dialog box, click Stop Download.



Note: When you cancel a download that is already in progress, you interrupt the transfer of OM data from the server to your client. Use an unscheduled download to retrieve these OMs at a later time.

Section C: Maintaining the client OM database

In this section

| | |
|--|---------------------------|
| <u>Overview of the OM database</u> | <u>52</u> |
| <u>Specifying the storage period for OMs in the database</u> | <u>54</u> |
| <u>Repairing the OM database</u> | <u>56</u> |
| <u>Backing up the OM database</u> | <u>58</u> |
| <u>Clearing the OM database</u> | <u>59</u> |

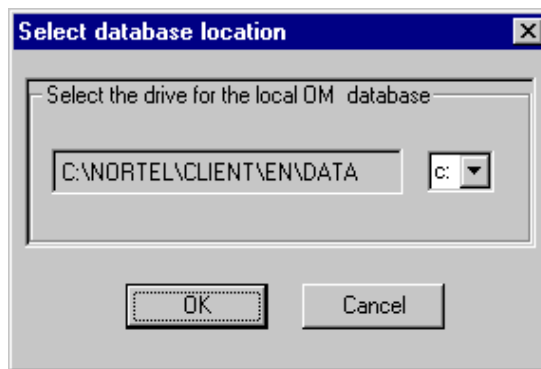
Overview of the OM database

Introduction

The first time you set up a download schedule, an empty database is automatically created on your PC client. This database stores all OM's that are downloaded from the server. If you are downloading OM's from multiple servers, one database is created for each server. Downloaded OM's are stored in their respective databases.

Database location

The OM database is located in a default directory on drive C of your PC client, or on a drive that you specify when setting up your initial download schedule. The default directory is C:\Nortel\client\en\data.



Backing up the database

To prevent valuable data from being lost due to a corrupted database or unrecoverable disk crash, back up the OM database regularly.

Also back up the following Reporter application databases located under Nortel\client\en\data:

- rptsystat.mdb
- rptom.mdb

CallPilot does not provide backup facilities for the PC client. Include the OM database and the Reporter application databases in your existing backup strategy, or use the Backup utility supplied by Windows. For more information on this utility, refer to the Windows online Help or user's guide.

Specifying the storage period for OMs in the database

Introduction

By default, downloaded OMs are stored in the OM database for 35 days. You can specify a storage period of up to 180 days. You can also specify a different storage period for each OM database.

Getting there Start > Programs > Nortel CallPilot Administration > Exploring - CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To specify the storage period

- 1 Double-click the desired CallPilot Administration Client folder.

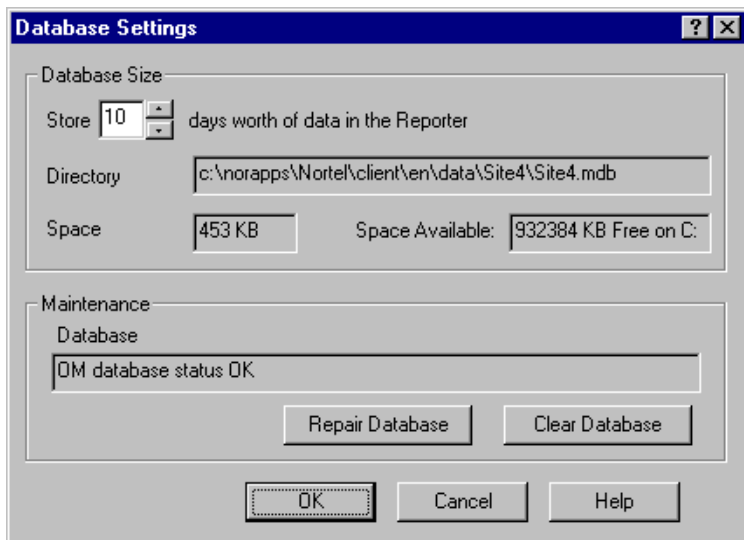
Result: One or more CallPilot server names appear.

- 2 Select the server associated with the OM database.

Note: This is the server that downloads OMs to the database.

- 3 From the Customize menu, select Database Settings.

The Database Settings dialog box opens.



- 4 In the Store... days worth of data in the Reporter box, type the number of days you want to store OM data.
- 5 Click OK to return to the Reporter window.

Repairing the OM database

Introduction

If you suspect that your OM database is corrupted, you can run the Repair utility. The Repair utility attempts to clear the database of corrupted data and restore the previously saved OMs.

Signs of a corrupted OM database

If your database is corrupted, you cannot

- retrieve data from the database
- read data stored in the database
- generate reports

Check the Reporter Communicator log window and the PC event log for additional information.

Getting there Exploring - CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To repair the OM database

- 1 Double-click the desired CallPilot Administration Client folder.

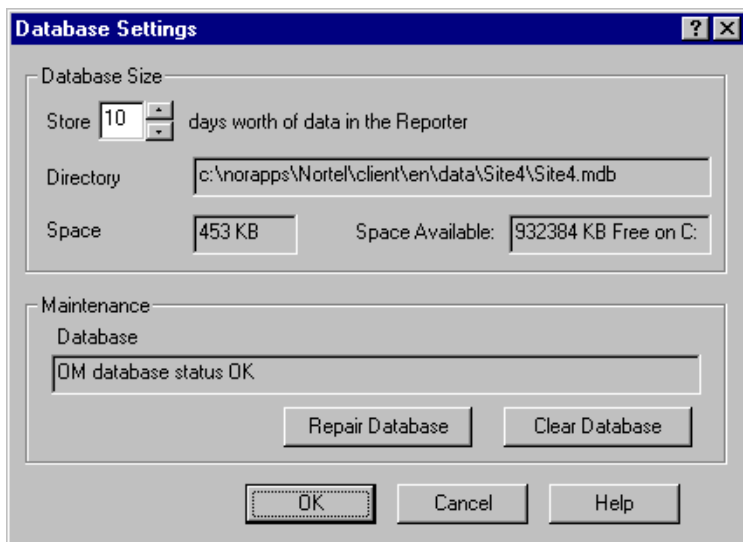
Result: One or more CallPilot servers appear.

- 2 Select the server associated with the corrupted database.

Note: This is the server that downloads OMs to the corrupted database. For example, if the OM database that belongs to server X is corrupted, you must select server X from the tree view.

- 3 From the Customize menu, select Database Settings.

Result: The Database Settings dialog box opens.



- 4 Click Repair Database.
- 5 Click OK to return to the Reporter window.

Backing up the OM database

Introduction

To prevent OM data from being lost due to a system failure, back up your OM database regularly.

Also back up the Reporter application databases. The following Reporter application databases are located under `Nortel\client\en\data`:

- `rptsyscust.mdb`
- `rptsystat.mdb`
- `rptom.mdb`

To back up the OM database

- 1 Click Start on your Windows taskbar.
- 2 Click Programs > Accessories > System Tools, and select Backup.
- 3 Refer to the Windows Help topics for more information on the Backup utility.

Clearing the OM database

Introduction

If you suspect that your OM database is corrupted and the Repair utility cannot fix it, remove all existing OMs from the database. After clearing the database, use a backup tape to reload the most recently backed-up OMs into the empty database.

Note: Customized reports and alerts are not affected by the Clear function.

ATTENTION!

Clear the database only if the Repair utility fails to correct the problem. Once you clear the database, you cannot recover any of the OMs.

Getting there Exploring - CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

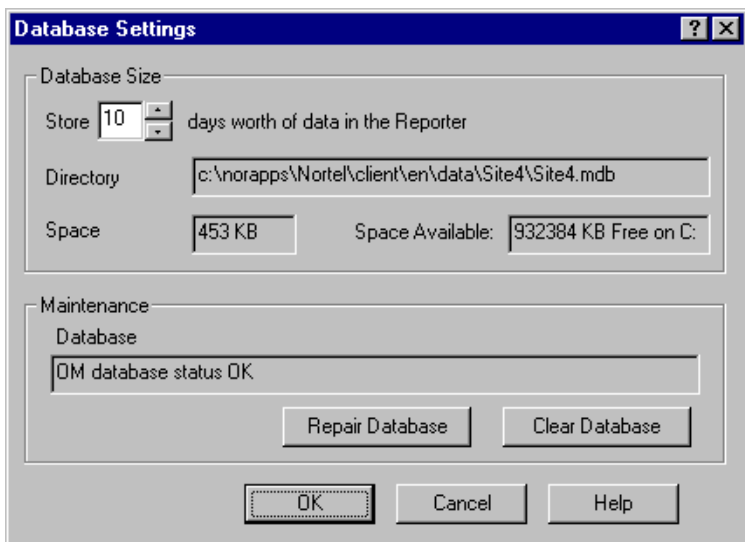
To clear the OM database

- 1 Select the server associated with the corrupted database.

Note: This is the server that downloads OMs to the corrupted database. For example, if the OM database belonging to server X is corrupted, you must select server X from the tree view.

- 2 From the Customize menu, select Database Settings.

Result: The Database Settings dialog box opens.



- 3 Click Clear Database.

Result: A confirmation dialog box appears.

- 4 Click Yes.
- 5 Click OK to close the Database Setting dialog box and return to the Reporter window.

Chapter 3

Using reports

In this chapter

| | |
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| Section A: About reports | 63 |
| Section B: Accessing Nortel Reporter | 77 |
| Section C: Generating reports | 85 |
| Section D: Customizing the data displayed in reports | 101 |
| Section E: Printing and exporting reports | 111 |

Section A: About reports

In this section

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| Overview of reports | 64 |
| Benefits of reports | 67 |
| Guidelines for interpreting reports | 70 |
| Types of reports | 72 |

Overview of reports

Introduction

Reports organize the operational measurements collected by your server into a format that you can study and analyze. When you study reports over a period of time, you can identify trends and patterns related to system usage. With this information, you can improve the overall efficiency of your system, increase system security, and troubleshoot potential problems.

How reports are generated

To generate reports, ensure that OMs are downloaded regularly from each of your CallPilot servers to your PC client. Reports display the OMs in an easy-to-read format.

Example

The Channel Usage Report screens downloaded OMs for information related to DSP channels. The report extracts any relevant information and organizes it according to the number of incoming calls and the number of outgoing calls.

| Channel Usage Report | | | | | | | | |
|---|-------------|----------------|----------------|----------------|-------------|------------------------------|------------------------------|-----|
| Report Type : System Status | | | | | | | | |
| Feb 26, 2000 00:00:00 - Feb 27, 2000 00:00:00 | | | | | | | | |
| New York site | | | | | | | | |
| Date | Time Period | Channel Number | Incoming Calls | Outgoing Calls | Total Calls | Avg Hold Time Incoming Calls | Avg Hold Time Outgoing Calls | CCS |
| 02/26/00 | 00:00-01:00 | 2027 | 1 | 0 | 1 | 102 | 0 | 1 |
| | | 2028 | 1 | 0 | 1 | 30 | 0 | 0 |
| | | 2029 | 1 | 0 | 1 | 18 | 0 | 0 |
| | | 2030 | 1 | 0 | 1 | 275 | 0 | 3 |
| | | 2031 | 2 | 0 | 2 | 8 | 0 | 0 |
| | | 2024 | 3 | 0 | 3 | 49 | 0 | 1 |
| | 01:00-02:00 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | 02:00-03:00 | 2000 | 1 | 0 | 1 | 102 | 0 | 1 |
| | | 2001 | 2 | 0 | 2 | 238 | 0 | 5 |
| | 03:00-04:00 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | 04:00-05:00 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | 05:00-06:00 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06:00-07:00 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | 07:00-08:00 | 2002 | 1 | 0 | 1 | 276 | 0 | 3 |
| | | 2004 | 1 | 0 | 1 | 9 | 0 | 0 |
| | | 2005 | 2 | 0 | 2 | 11 | 0 | 0 |
| | | 2006 | 1 | 0 | 1 | 30 | 0 | 1 |
| | | 2008 | 1 | 0 | 1 | 67 | 0 | 1 |
| | 08:00-09:00 | 2017 | 1 | 0 | 1 | 9 | 0 | 0 |
| | | 2023 | 1 | 0 | 1 | 62 | 0 | 1 |
| | | 2019 | 1 | 0 | 1 | 77 | 0 | 1 |

What can I do with reports?

When you use Nortel Reporter, you can customize, print, and export the information contained in reports.

Customize reports

The information contained in a report can be customized so that only relevant data appears. For example, you can filter the data in a report to show activities that occur in a particular department. For more information, see [Section D: "Customizing the data displayed in reports," on page 101.](#)

Print reports

You can print reports on a regular basis according to a preset print schedule, or you can print them on demand. When you set up a print schedule, you can view the results of your reports over a period of time. This can help you to identify patterns and trends related to system usage. For more information, see [Section E: “Printing and exporting reports,” on page 111](#).

Export reports

You can export information in a report to a variety of file formats. These file formats can be useful if you want to view the report on the World Wide Web, over an organizational intranet, or in a spreadsheet program. For more information, see [Section E: “Printing and exporting reports,” on page 111](#).

Benefits of reports

Introduction

Analyze the information in reports to help you

- establish a pattern of normal behavior
- monitor system usage
- assess your system's overall efficiency
- detect potential system problems
- monitor system security
- bill users for service usage
- monitor administrative changes

Use reports to establish a baseline

Generate reports on a regular basis to establish a pattern of normal behavior or "baseline" for your system. This baseline lets you differentiate between normal system activities and unusual or suspicious activities. Once you have established a baseline, you can use reports to identify potential problems.

Example

Channel Usage Reports from the last three months show that each of your channels processes an average of 50 calls an hour. If one channel suddenly drops to only three or four calls an hour, this might indicate a problem with your system's hardware or configuration.

Use reports to monitor system usage and assess system efficiency

Study your reports to help you assess the overall efficiency of your system and decide whether changes are necessary. Among other things, reports can show

- how long callers wait before their calls are handled
- how many callers abandon their calls
- how often callers access each service or feature

- how many calls are processed by each channel
- how much free disk space is available

Example

The Service Summary Report shows the type of service accessed by callers and the number of times each service was accessed. Analyze this report to give you an overall sense of which services generate the most traffic and which services generate little or no traffic.

Use reports to detect potential system problems

Analyze the information in reports to help you identify potential system problems, such as hardware failures or inadequate resources. Some potential problems that can be detected through reports are discussed in the following examples.

Example 1: Hardware failure

If the Channel Usage Report shows that channel 4 did not handle any calls during an eight-hour period, check that this channel has been configured properly. Also ensure that the component has not malfunctioned.

Example 2: Inadequate resources

If the Service Quality Summary Report indicates that callers are experiencing a lengthy wait time before they access a channel, there might not be enough channels to handle the volume of traffic. Increase the number of channels on the system if the volume of traffic is higher than was originally anticipated.

Example 3: Inefficient usage

If the Fax Deliveries Activity Report shows that callers are not accessing the fax feature, this might indicate that

- callers do not know how to use the service. If so, you must word the service's prompts more clearly.
- callers are not aware that the service exists. Look for ways to promote the service to potential callers.
- technical problems are occurring. Investigate further and have the problems repaired.

Use reports to monitor system security

If you are concerned about the security of your system, reports can help you to detect potential hacker activity.

Example

If the Voice Messaging Activity Report indicates a discrepancy between the number of call answer sessions and the number of generated messages, this might indicate hacker activity. If hackers thru-dial out of your system during a call answer session, sessions are recorded in your report but no messages are recorded.

Use reports to bill service usage

Reports can also help to simplify your billing process. Bill-back reports monitor how often users access services that have a fee associated with them (for example, long distance).

Example

The DTT Usage Report tracks calls made by the DTT service to external numbers. This report records information such as

- the name and department of the user who placed the call
- the date and time of the call
- the number to which the call was placed
- the duration of the call

If some of the calls listed in this report were placed to long-distance numbers, you can determine which user or department to bill.

Use reports to track changes made by administrators

The Administration Action Report tracks changes made by administrators. This information is important because it provides a history of changes, such as when changes were made, where they were made, and who made the changes.

Guidelines for interpreting reports

Introduction

When you interpret reports, consider the following guidelines.

System size

Know your system's disk capacity and the number of channels that have been installed. This helps you to realize when you are reaching resource limitations and to plan for future upgrades.

Establish a baseline

Know what is normal or average behavior for your system. Establish a baseline to help you differentiate between normal system activities and unusual or suspicious activities.

Consider external factors

If your reports show unusual system activities, consider external events. For example, an extremely low volume of traffic for a Monday afternoon can be the result of a national holiday.

How your organization uses the system

Know how your organization operates on a day-to-day basis. The information contained in reports often relates directly to your company's routines and schedules. For example, if a large number of employees are working overtime, your reports might indicate a high percentage of after-hours logons. If you do not know how the organization functions, find someone who can help to interpret your report.

Consult users

Consult the users of the system for further insight into your reports. Find out if the system is working for the users and if they have any problems to report. Some system problems result from improper use of the system (perhaps due to a lack of end-user training).

Consider new features or services

Consider how long a feature or service has been in operation. If users are curious about a new feature, it might generate more traffic than usual. If users are not familiar with the feature, it might generate less traffic.

Types of reports

Introduction

Reports are grouped into categories according to the type of information they display.

System status reports

System status reports show trends and patterns related to system usage. For example, the Service Quality Summary Report shows the number of calls processed by voice, fax, and speech-activated messaging channels. System status reports include

- Service Quality Summary Report
- Service Quality Detail Report
- Channel Usage Report
- Multimedia File System Usage Report
- Disk Usage Report

For detailed information about each report, see Chapter 5, “System status reports.”

Messaging reports

Messaging reports show trends and patterns related to the messaging programs installed on your CallPilot system. For example, the Inactive User Report shows which users are not using their mailboxes. The Top Users of Storage Report shows which users are using excessive amounts of voice storage. Messaging reports include

- Call Answering/User Responsiveness Report
- Desktop Messaging Activity Report
- Inactive User Report
- Mailbox Counts Report
- Mailbox Call Session Summary Report

- Voice Messaging Activity Report
- Fax Messaging Activity Report
- Messaging Usage Report
- Speech Activated Messaging Analysis Report
- Top Users of Storage Report
- Users Exceeding Storage Limit Report

For detailed information about each report, see Chapter 8, “Messaging reports.”

Outcalling reports

Outcalling reports show trends and usage patterns related to outcalling activity. For example, the Fax Print Audit Trail Summary Report shows faxes that have failed to print. The Fax on Demand Audit Trail Detail Report shows faxes that failed to transmit. Outcalling reports include

- Fax Deliveries Activity Report
- Fax on Demand Audit Trail Detail Report
- Fax on Demand Audit Trail Summary Report
- Fax Print Audit Trail Detail Report
- Fax Print Audit Trail Summary Report
- RN Activity Report
- RN Audit Trail Detail Report
- RN Audit Trail Summary Report
- DTT Activity Report
- DTT Audit Trail Detail Report
- DTT Audit Trail Summary Report

For detailed information about each report, see Chapter 10, “Outcalling reports.”

Multimedia application report

The multimedia application report analyzes service activity for voice menus, announcements, and fax on demand. The multimedia application reports include the Building Block Summary Report.

For detailed information about this report, see Chapter 9, “Multimedia report.”

Networking reports

Networking reports show trends and patterns related to networking activity. Networking reports include

- Networking Activity Report
- Open Networking Activity Report

For detailed information about each report, see Chapter 11, “Networking reports.”

Traffic reports

Traffic reports show how much the system is being used. For example, the Productivity Report shows the total number of ingoing and outgoing calls processed by the CallPilot system. The System Traffic Summary Report shows the number of times each service is accessed. Traffic reports include

- Productivity Report
- System Traffic Summary Report

For detailed information about each report, see Chapter 7, “Traffic reports.”

Bill-back reports

Bill-back reports monitor how often users access services that have a fee associated with them (such as long distance). Typically, the information contained in bill-back reports is exported to an external billing program. This allows administrators to charge the appropriate user or department for service usage. Bill-back reports include

- 800 Access Bill-back Report

- DTT Usage Bill-back Report
- Messaging Usage Bill-back Report
- Network Usage Bill-back Report
- RN Usage Bill-back Report
- Fax on Demand Bill-back Report
- Fax Print Bill-back Report

For detailed information about each report, see Chapter 12, “Bill-back reports.”

Administration reports

Administration Action reports provide information about changes performed by administrators. They also give brief explanations of actions and the items affected by these actions.

For detailed information about the Administration Action report, see Chapter 6, “Administration reports.”

Section B: Accessing Nortel Reporter

In this section

| | |
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| Running Nortel Reporter | 78 |
| Changing your password | 79 |
| Resetting the Nortel Reporter password | 82 |

Running Nortel Reporter

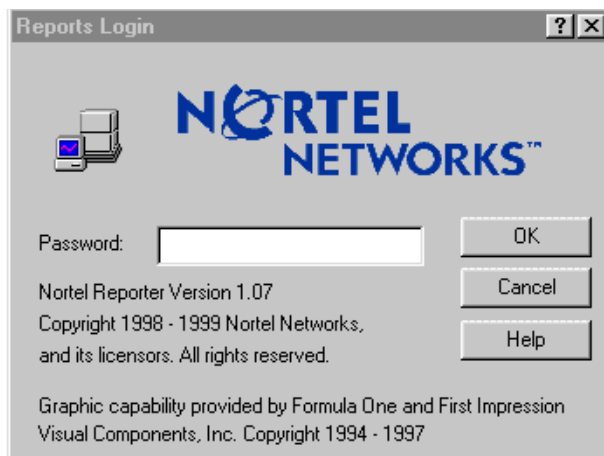
Introduction

Run Nortel Reporter when you want to customize, print, or export reports.

To run Nortel Reporter

- 1 From your Windows Desktop, click Start.
- 2 Select Programs > CallPilot Administration Client > Utilities > Reports.

Result: The Reports Login dialog box appears.



- 3 In the Password box, type your password.

Note: If you are logging on to Reporter for the first time, you must type the default password provided by Nortel Networks: **password**. If you are not logging on for the first time, type your chosen password.

- 4 Click OK to open the Reporter window.

Changing your password

Introduction

Change your Nortel Reporter password to ensure that only authorized users have access to this program.

Change the default password

The first time you access Nortel Reporter, type the default password supplied by Nortel Networks: **password**. The system prompts you to change the default password after logging on to Reporter for the first time.

Change your password regularly

To ensure security, change your password every 30 days.

Choose a secure password

Poorly chosen passwords can leave your organization open to hacking. When choosing your new password, make sure you follow these rules:

- Never use words that are in a dictionary. Combinations of letters and numbers are harder to guess.
- Never use your name or other personal information, such as your birth date or phone number.
- Never use family names or other words that can be associated with you. For example, if you are a bird-watcher, “falcons” is a bad choice for a password.
- Never let anyone borrow your password.
- Never write down your password.
- Never reuse old passwords.
- Use at least six characters in your password.

Getting there Exploring - CallPilot Administration Client > Utilities > Reports

To change the default password (first login)

- 1 In the Password box, type the default password: **password**.
- 2 Click OK.

Result: The Change Initial Reports Password dialog box appears.



- 3 In the Change Initial Reports Password dialog box, click Change Now.
Note: The Change Now button appears only the first time you log on to Reporter.
- 4 In the Change Reports Password dialog box, click in the Old Password box and type the password you used in step 1.
- 5 In the New Password box, type your new password.
Note: Your password must be between 6 and 30 characters long. Only alphanumeric characters are valid. Passwords are case-sensitive.
- 6 In the Confirm new password box, type your new password.
- 7 Click OK.

To change your password regularly

- 1 In the Nortel Reporter window, on the File menu, click Change Password.

Result: The Change Reports Password dialog box appears.

- 2 In the Old Password box, type your current password.
- 3 In the New Password box, type your new password.

Note: Your password must be between 6 and 30 characters long. Passwords are case-sensitive.

- 4 In the Confirm new password box, type your new password.

Resetting the Nortel Reporter password

Introduction

Reset the Nortel Reporter password to its default if you forget your password. Only the system administrator can reset the password.

Before you begin

Before you can reset the Nortel Reporter password, you must log on to a server. The server you log on to must have Reporter Download Scheduler installed on it.

To log on to a server

- 1 From the Windows desktop, click Start > Programs > CallPilot Administration Client.
- 2 Double-click the server to which you want to connect in the right panel.
Result: Your PC client connects to the server. During connection, you see the Connection Progress box, which tells you about the progress of the operation. When connection is complete, the Login dialog box opens.
- 3 In the User ID field, type **sysadmin**.
- 4 In the Password field, type your current server password.
Note: If you do not know your user ID or new password, contact your system administrator.
- 5 Click OK.

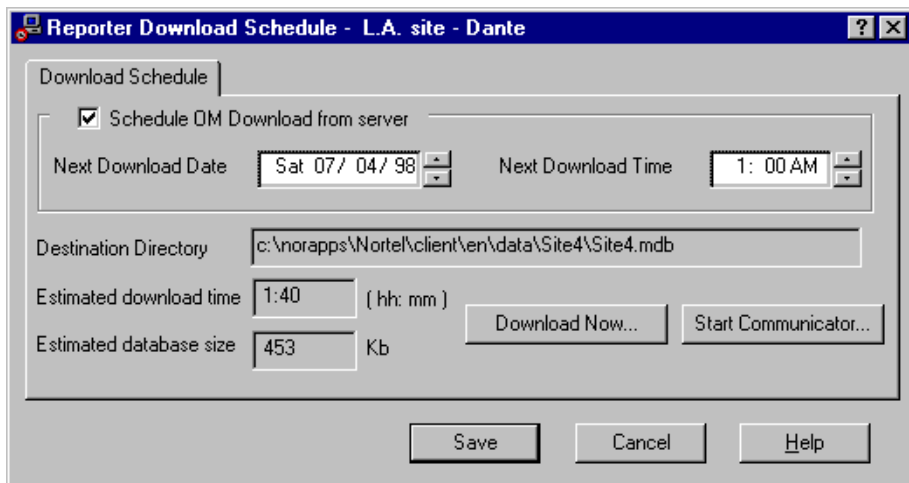
Result: The CallPilot Administration Client window appears.

Getting there CallPilot Administration Client > CallPilot system

To reset the Nortel Reporter password

- 1 From the CallPilot Administration Client window, double-click System Administration > System Performance Monitoring > Reporter Download Schedule.

Result: The Reporter Download Schedule dialog box appears.



- 2 Click the PC icon located in the upper far-left corner to display the menu.
- 3 Select Reset Password.

Result: The Nortel Reporter password is reset to password, which is the default password for Reporter.

- 4 Select Save.

Note: The next time you log on to Reporter, the system prompts you to change the password.

Section C: Generating reports

In this section

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| Overview of generating reports | 86 |
| Adding reports to the Nortel Reporter window | 89 |
| Removing reports from the Nortel Reporter window | 91 |
| Duplicating a report | 93 |
| Running a report | 95 |
| Changing the traffic units for a report | 98 |

Overview of generating reports

Introduction

To generate reports, you must ensure that Operational Measurements (OMs) are downloaded regularly from each of your Nortel Networks servers to your PC client. Once OM data has been downloaded from a particular server, Nortel Reporter can organize the data into reports.

Note: If you have not downloaded OM data from your server, see Section B: “Downloading OMs,” on page 35.

Reports and changes to server time

Changes to the server time affect the accuracy of reports. Any time a report is generated that includes a date on which the server time was changed, the data generated for that time can be inaccurate.

The server time can change for various reasons:

- Daylight Savings Time
- server battery change
- server resynchronized with switch time

If the server time has been advanced by one hour, the generated data of calls made during that time shows time lengths increased by one hour. Totals and averages of call sessions displayed in reports covering the time change are also increased.

Example

Server time is advanced by one hour due to Daylight Savings Time. Calls in progress when the time was changed are increased by one hour.

Actual call length: 5 minutes **Report data shows:** 1 hour 5 minutes

If the server time has been decreased by one hour, the generated data of calls made during that time can show negative time lengths. Totals and averages of call sessions displayed in reports covering the time change are also decreased.

Example

Server time is decreased by one hour due to Daylight Savings Time. Calls in progress when the time was changed are decreased by one hour.

Actual call length: 5 minutes **Report data shows:** -55 minutes

Reports and multiple servers

If you have more than one server in your organization, you must generate different reports for each server. For example, if you suspect that there is a problem with one of the channels on Server X, you can run the Channel Usage Report. If you want to see how Server Y is handling fax deliveries, you can use the Fax Deliveries Activity Report.

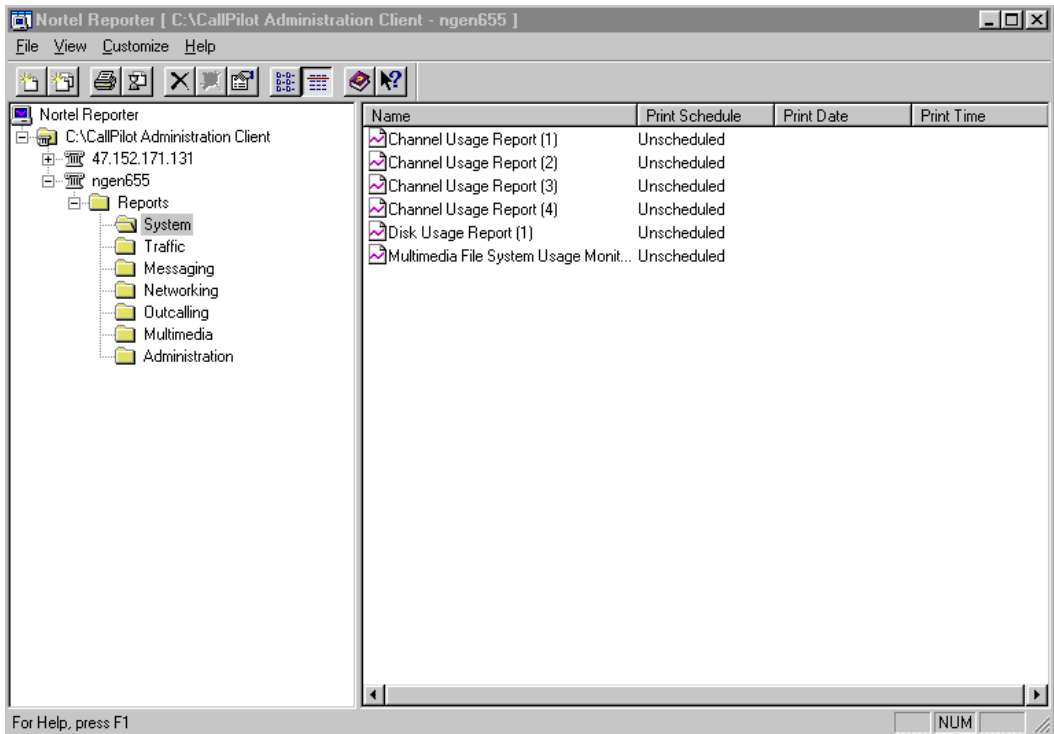
Organizing reports for multiple servers

If your organization has many servers, it can be difficult to keep track of the reports that are generated for each server. The tree view in the Nortel Reporter window organizes reports on a per-server basis.

Use the tree view to navigate to a server and double-click its icon. The Nortel Reporter window displays a list of all the reports that are currently in use for the selected server.

The Nortel Reporter window

The Nortel Reporter window acts as a palette where you can store reports that are currently “in use” for each of your servers. All of the reports listed in this window can be printed, exported, or customized. You can remove reports you no longer require. A permanent copy of each report is kept in the New Report dialog box so that you can add it to the Reporter window when necessary.



Adding reports to the Nortel Reporter window

Introduction

You must add reports to the Nortel Reporter window before you can work with them. To help you get started, the Nortel Reporter window contains ten reports that are used on a regular basis. If you require additional reports, add them to the Reporter window.

Before you begin

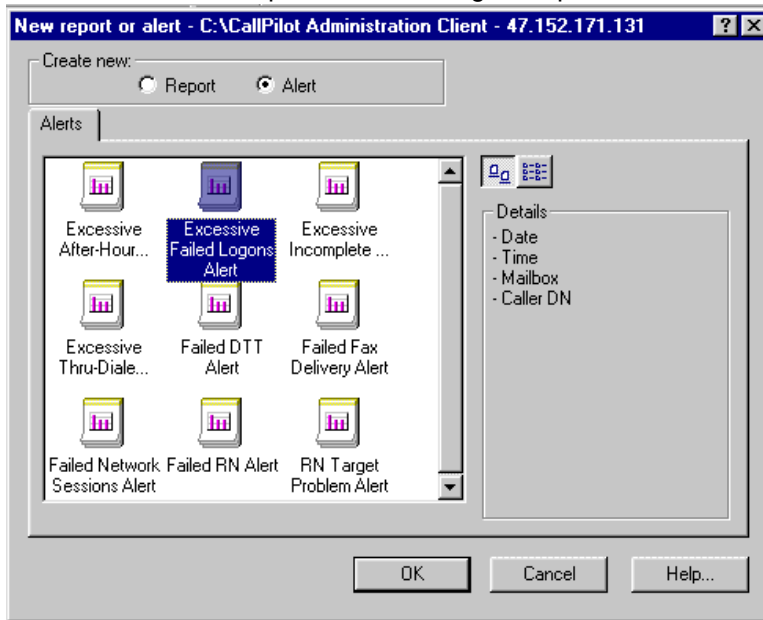
Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > CallPilot Administration Client > CallPilot system > Reporter window

To add reports to the Nortel Reporter window

- 1 On the File menu, click New.

Result: The New report or alert dialog box opens.



- 2 Make sure Report is selected.
- 3 Click the appropriate tab for the type of report you want to add.
- 4 Click the report you want to add to the Nortel Reporter window.
- 5 Click OK.
- 6 In the Report Name box, type a name for the report or accept the default.
- 7 In the Comments box, type any additional information about the report.
- 8 Click OK to return to the Nortel Reporter window.

Result: The selected report is added to the Nortel Reporter window. You can now run, print, or customize the selected report.

Removing reports from the Nortel Reporter window

Introduction

If you seldom use a report, you can remove it from the Reporter window. This ensures that your display does not become cluttered with unused reports.

Example

During the last two months, you have used the Fax Delivery Report to monitor fax transmission errors. However, the fax problem has now been solved and you no longer need this report. To prevent the report from taking up valuable space in the Nortel Reporter window, you remove it.

What happens when you remove a report

When you remove a report, you delete the report's icon from the Nortel Reporter window and cancel the report's print schedule. However, a permanent copy of the original report remains in the New Report dialog box. This means that you can add the report to the Nortel Reporter window in the future.

Note: Duplicated reports are deleted permanently from the Nortel Reporter program.

Before you begin

Use the tree view located on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there Exploring - CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To remove a report

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to remove.
- 5 Click the report you want to remove.
- 6 From the File menu, click Delete.
Result: A confirmation dialog box appears.
- 7 Click Yes to confirm the deletion and to return to the Nortel Reporter window.

See also

For more details, refer to [“The Nortel Reporter window” on page 88](#).

Duplicating a report

Introduction

If you want to create a report quickly and easily, you can duplicate an existing report and customize it to suit your needs. For more information on customizing reports, see [Section D: “Customizing the data displayed in reports,” on page 101](#).

Example

The Inactive Users Report shows which users are not responding to their voice mail. If you want to monitor inactive users on a per-department basis, make several copies of the report. Use the Filtering feature to customize each copy to show only inactive users from one department. For example, the Inactive Users/Accounting Report shows users in the accounting department who are not using their voice mail. The Inactive Users/Human Resources Report shows users in the human resources department who are not using their voice mail.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To create a report from an existing report

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to duplicate.
- 5 Click the report on which you want to base the new report.

- 6 On the File menu, click Duplicate.

Result: A copy of the report is added to the Reporter window. Reporter automatically assigns a number to the copy (for example, Channel Usage Report [2]).

- 7 Click OK to return to the Reporter window.

Running a report

Introduction

If you want to see what a report looks like when it is printed, you can view the report on the screen.

Before viewing a report on-screen, you must specify the number of days of downloaded OM data that you want the report to contain. For example, you can set the report to display three days of downloaded OM data, from Monday at 12:00 a.m. to Wednesday at 12:00 a.m.

Tips

Here are some useful tips for viewing reports:

- To increase or decrease the size of the report, click the size percentage field at the top of the screen.
- To scroll through the pages one at a time, use the left and right arrow buttons.
- To print the report, click the printer icon. For more information on printing reports, see [Section E: “Printing and exporting reports,” on page 111](#).

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

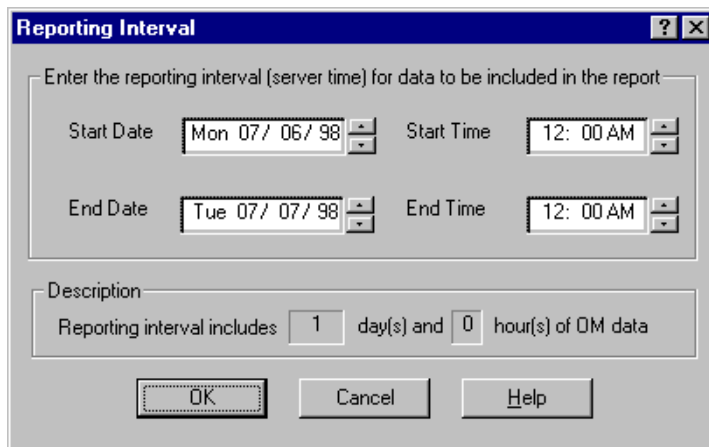
Getting there

Exploring - CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To run a report

- 1 Double-click the CallPilot Administration Client.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to run.
- 5 Click the report that you want to run.
- 6 On the File menu, click Run Report.

Result: The Reporting Interval dialog box opens.



The image shows a Windows-style dialog box titled "Reporting Interval". It has a blue title bar with a question mark icon and a close button. The main area contains a text prompt: "Enter the reporting interval (server time) for data to be included in the report". Below this are four date and time pickers arranged in two rows. The first row has "Start Date" (Mon 07 / 06 / 98) and "Start Time" (12: 00 AM). The second row has "End Date" (Tue 07 / 07 / 98) and "End Time" (12: 00 AM). Below these is a "Description" section with the text "Reporting interval includes" followed by a numeric input field containing "1", the text "day(s) and", another numeric input field containing "0", and the text "hour(s) of OM data". At the bottom are three buttons: "OK", "Cancel", and "Help".

- 7 In the Start Date box, type the first day that OM data is included in the report (for example, Mon 07 / 06 / 98).
- 8 In the Start Time box, type the time that OM data begins to be included in the report (for example, 12: 00 AM).
- 9 In the End Date box, type the last day that OM data is included in the report (for example, Wed 07 / 08 / 98).

- 10 In the End Time box, type the time that OM data stops being included in the report (for example, 12: 00 AM).

- 11 Click OK.

Result: The selected report appears on the screen. In the above examples, it includes three days' worth of OM data from Monday at 12:00 a.m. to Wednesday at 12:00 a.m.

Changing the traffic units for a report

Introduction

Data from the Channel Usage Report and the System Traffic Summary Report can be shown in centa-call seconds (CCS) or Erlangs.

Erlang

An erlang is an international unit of the average traffic intensity (occupancy) of a facility during a period of time, normally a busy hour. The number of erlangs is the ratio of the time during which a facility is occupied (collectively or cumulatively) to the time this facility is available for occupancy.

Note: 1 Erlang = 36 CCS

CCS

CCS (centa call seconds) is the American unit of telephone traffic.

Before you begin

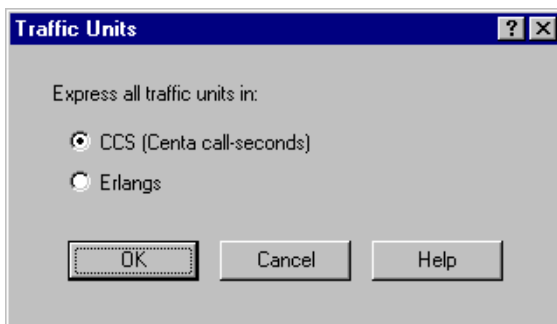
Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To change the traffic units for a report

- 1 Select a server from the Nortel Reporter window.
- 2 On the Customize menu, select Traffic Units.

Result: The Traffic Units dialog box opens.



- 3 To display information in centa call seconds, make sure CCS is selected.
- 4 To display information in Erlangs, make sure Erlangs is selected.
- 5 Click OK to return to the Nortel Reporter window.

Section D: Customizing the data displayed in reports

In this section

| | |
|---|---------------------|
| Overview of customizing reports | 102 |
| Sorting the data in a report | 104 |
| Adding comments to a report | 106 |
| Filtering data in a report | 108 |

Overview of customizing reports

Introduction

When you customize a report, you eliminate excessive data and organize the remaining information into an easy-to-read format. Well-organized reports improve the speed and accuracy with which you interpret data.

Note: You can customize only the data contained in a report. The fields in a report are predefined and cannot be changed.

How reports can be customized

There are three ways to customize a report:

- sorting
- adding comments
- filtering

Sorting

This method organizes the data in a report so that relevant information is grouped together. This makes it easier to analyze and interpret information.

Adding comments

This method lets you specify additional information about the data.

Filtering

This method reduces the volume of data displayed in a report. Before you can filter data, you must define your selection criteria. There are three types of selection criteria—item, operator, and value.

Use the Selection Criteria tab to reduce the volume of data displayed in the selected report.

Item

The item is the main criterion that Reporter uses to filter data. Each report has its own items, which are displayed in the Item list box. For example, the items listed in the Top Users of Storage Report are Name, Mailbox Class, Switch location, and Department.

Operator

The operator is a mathematical function that compares the item with the value. Seven possible operators can be used to define your criteria:

- equal to
- not equal to
- greater than
- less than
- greater than or equal to
- less than or equal to
- like

Value

The value specifies a range for the criterion chosen from the Item list. The information entered in this box depends on the item you select. For example, if you select Name as the item, the value must be a user's name. If you select Department, the value must be the department's name.

Filtering example

The Top Users of Storage Report helps you determine which users are using the most voice storage. To reduce the scope of the data displayed in this report, select Department as the item, is equal to as the operator, and Accounting as the value. Together these selection criteria produce a report that shows only the top users of storage in the accounting department.

Sorting the data in a report

Introduction

Sort the data in a report to ensure that relevant information is grouped together. This makes it easier to analyze and interpret information.

Example

The Inactive User Report shows all users who are not accessing their mailboxes. Use the sorting feature to group users by mailbox instead of name.

Limitations

Some reports cannot be sorted. If the Sorting tab does not appear in the Properties dialog box, you cannot sort the report.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

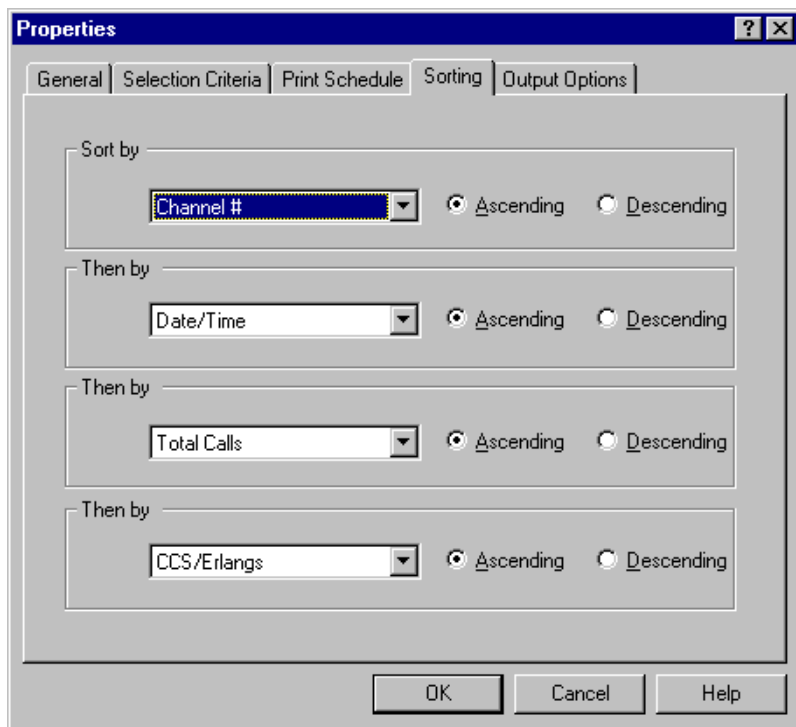
Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To sort the data contained in a report

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to sort.
- 5 Click the report that you want to sort.

- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the Sorting tab.
- 8 From the Sort by list, select the criterion you want to use as a sorting parameter.
Note: By default, data is sorted in ascending order. To reverse the order of the data, make sure Descending is selected.
- 9 To choose additional sorting parameters, repeat step 4.
- 10 Click OK to return to the Reporter window.

Adding comments to a report

Introduction

When you add comments to the data in a report, you ensure that additional information is not forgotten or overlooked.

Limitations

Comments are visible only on the screen. They do not appear when the report is printed.

Before you begin

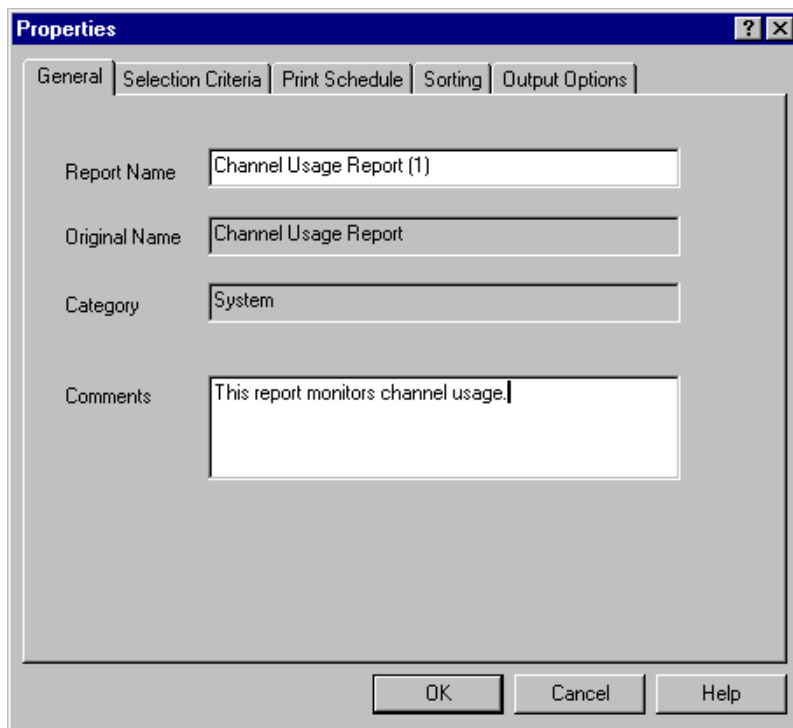
Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To add comments to a report

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to add comments to.
- 5 Click the report to which you want to add comments.
- 6 From the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the General tab.
- 8 In the Comments box, type the additional information about the report.
- 9 Click OK to return to the Reporter window.

Filtering data in a report

Introduction

When you filter data, you limit the scope of the data in a selected report. For example, if you set the selection criteria for the Messaging Usage Bill-back Report to include a particular department, the resulting report contains only data for that department.

Narrowing the filter's scope

If you want to further reduce the volume of information in a report, select All conditions. This ensures that the information in the report meets all of the criteria you have specified.

Widening the filter's scope

If you want to increase the volume of information in a report, select At least one condition. This ensures that the information in the report meets at least one of the criteria you have specified.

Before you begin

Use the tree view located on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

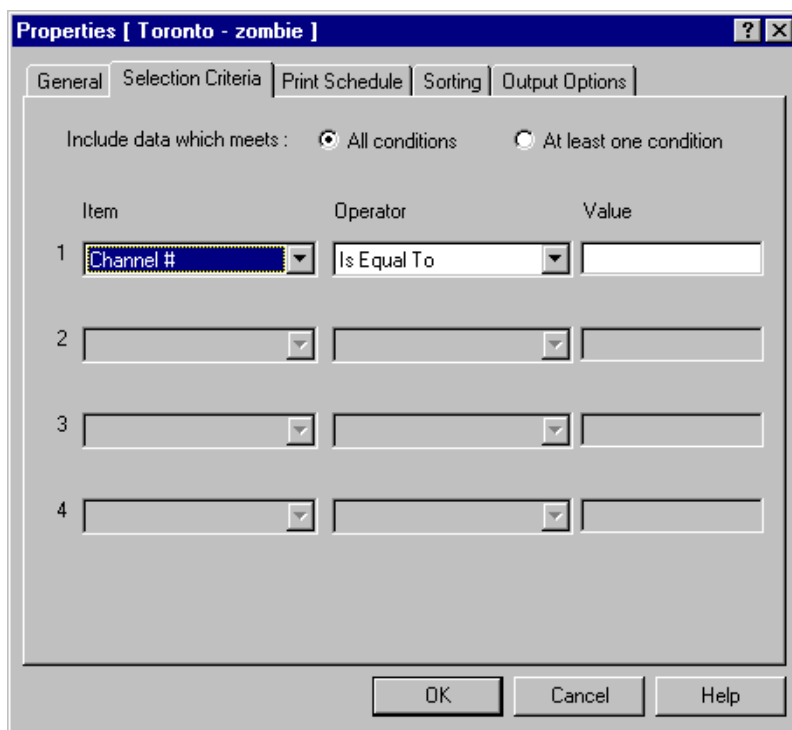
To filter a report's data

- 1 Double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to filter.
- 5 Click the report that you want to filter.
- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the Selection Criteria tab.
- 8 From the Item list, select an appropriate item.

Note: Some reports cannot be filtered. If the Item list does not specify any selection criteria, you cannot filter the report.

- 9 From the Operator list, select an appropriate operator.
- 10 From the Value list, select an appropriate value.
- 11 Click OK to return to the Reporter window.

To narrow the scope of the filter

- 1 Make sure that All Conditions is selected.
- 2 From the Item list, select an appropriate item.
- 3 From the Operator list, select an appropriate operator.
- 4 From the Value list, select an appropriate value.
- 5 Repeat steps 2 to 4 to set up to three additional filters.
- 6 Click OK to return to the Reporter window.

To widen the scope of the filter

- 1 Make sure At least one Condition is selected.
- 2 From the Item list, select an appropriate item.
- 3 From the Operator list, select an appropriate operator.
- 4 From the Value list, select an appropriate value.
- 5 Repeat steps 2 to 4 to set up to three additional filters.
- 6 Click OK to return to the Reporter window.

Section E: Printing and exporting reports

In this section

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| Overview of printing reports | 112 |
| Overview of exporting reports | 114 |
| Setting a report's print schedule | 116 |
| Printing a report on demand | 118 |
| Printing a report as a graph | 120 |
| Printing a list of reports | 123 |
| Scheduling a report to export | 124 |

Overview of printing reports

Introduction

When you print reports over a period of time, you can identify significant patterns and trends related to system usage.

Example

You have scheduled the Inactive User Report to print out once a day for three months. At the end of the first month, you analyze the reports and notice that three users have never logged on to their mailboxes. You might want to ensure that these users are properly trained to use the voice mail system.

Print schedule

You can print reports on a regular basis according to a preset print schedule, or you can print reports on demand. Set up a print schedule so you can view the results of your reports over a period of time. This helps you to identify patterns and trends related to system usage.

Graph format

Most of the reports generated by Reporter are printed in a standard table format. However, you can print some reports as graphs. Graphs let you analyze data quickly, observe trends, and make comparisons about system usage.

Example

The System Traffic Summary Report lets you monitor the total amount of traffic processed by the different services installed on your system. Print this report as a graph to make it easy to identify the system's busiest hours and to determine whether you have sufficient channel capacity to handle the volume of traffic.

Reports that can print as graphs

The following reports can print as graphs:

- Building Block Summary Report

- Networking Activity Report
- Fax Deliveries Summary Report
- Channel Usage Report
- Multimedia File System Usage Report
- Disk Usage Report
- System Traffic Summary Report

Store printed reports

Print out and store reports to identify and compare trends over a period of time. If you discard reports too soon, significant problems can go unnoticed.

Overview of exporting reports

Introduction

When you export a report, you change its current file format to the file format of an external program. Use exporting if you want to view the report on the World Wide Web, over an organizational intranet, or in a spreadsheet program. Export a bill-back report to an external billing program to charge users or departments for service usage.

File formats

The file formats to which reports can be exported include the following:

| File format | File extension | Version |
|----------------------------------|----------------|---------|
| Comma-separated values | .csv | n/a |
| Crystal Reports | .rpt | n/a |
| Data Exchange Format | .dif | n/a |
| Excel | .xls | 2.1 |
| | | 3.0 |
| | | 4.0 |
| | | 5.0 |
| Lotus 1-2-3 | .wk1 | 1.0 |
| | .wk2 | 2.0 |
| | .wk3 | 3.0 |
| Record style (columns of values) | .rec | n/a |
| Rich Text Format | .rtf | n/a |
| Tab-separated text | .ttx | n/a |

| File format | File extension | Version |
|----------------------|----------------|---------|
| Tab-separated values | .tsv | n/a |
| Text | .txt | n/a |
| Word for Windows | .doc | n/a |

Limitations

When you export a report, some or all of the formatting might be lost or modified.

Setting a report's print schedule

Introduction

When you set up a print schedule, you can print reports on a daily, weekly, or monthly basis. You can also schedule reports to print immediately after an OM download. Print reports on a regular basis to help you identify patterns and trends related to system usage.

All reports print to the default printer specified in the Windows Control Panel.

Store printed reports

Store printed reports so that you can identify and compare trends over a period of time. If you discard reports too soon, significant problems can go unnoticed.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

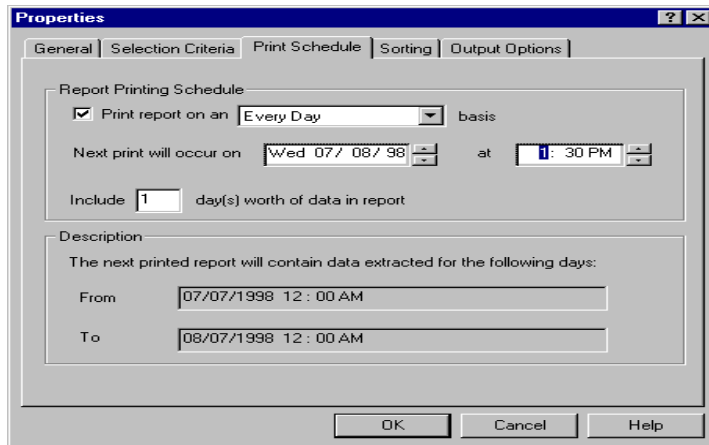
Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To set a report's print schedule

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report for which you want to set the print schedule.
- 5 Click the report for which you want to set a print schedule.

- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the Print Schedule tab.
- 8 Make sure the Print report on an ... basis box is checked.
- 9 From the Print report on an list, select how often you want the report to print (for example, weekly basis).

Result: The Include ... day(s) worth of data in report box shows the number of days of data included in the report. For example, if you set the report to print weekly, seven days of data are automatically included in the report.

- 10 In the Next print will occur on box, type or select the date on which you want the report to print.

Note: Reports set to print monthly print on the first day of the month.

- 11 In the at box, type the time at which you want the report to print.

Note: Make sure the print time is after the scheduled download time. For example, if your server downloads Monday at 1:00 a.m., schedule your report to print after the download has completed.

- 12 If you specified unscheduled printing in step 5, you must specify in the Include ... day(s) worth of data in report box the number of days' worth of data that you want to include in the report.
- 13 Click OK to return to the Reporter window.

Printing a report on demand

Introduction

Print a report on demand when you do not want to wait for the print schedule to execute. You can also print a report on demand if you suspect that there is a problem with your system and you require data ahead of the print schedule.

All reports print to the default printer specified in the Windows Control Panel.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

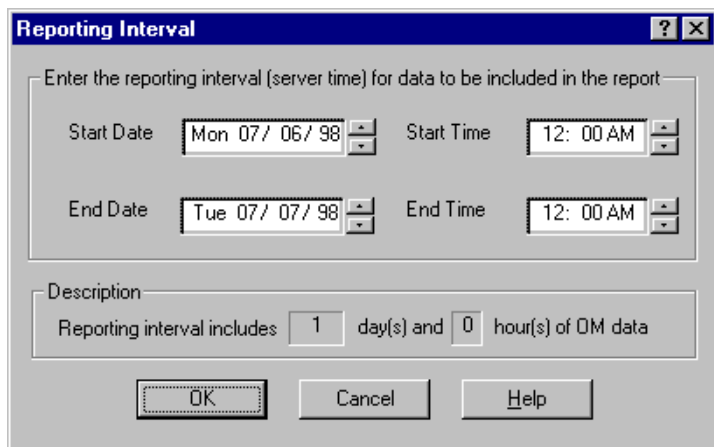
Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To print a report on demand

- 1 Double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to print.
- 5 Click the report you want to print.

- 6 On the File menu, click Print Report.

Result: The Reporting Interval dialog box opens.



The image shows a Windows-style dialog box titled "Reporting Interval". It has a blue title bar with a question mark icon and a close button (X). The main area is light gray and contains the following elements:

- A text label: "Enter the reporting interval (server time) for data to be included in the report".
- Two rows of date and time pickers:
 - Row 1: "Start Date" with a date picker showing "Mon 07/ 06/ 98" and "Start Time" with a time picker showing "12: 00 AM".
 - Row 2: "End Date" with a date picker showing "Tue 07/ 07/ 98" and "End Time" with a time picker showing "12: 00 AM".
- A section titled "Description" containing the text: "Reporting interval includes 1 day(s) and 0 hour(s) of OM data".
- At the bottom, there are three buttons: "OK", "Cancel", and "Help".

- 7 In the Start Date box, type the start date for data printed in the report.
- 8 In the Start Time box, type the start time for data printed in the report.
- 9 In the End Date box, type the end date for data printed in the report.
- 10 In the End Time box, type the end time for data printed in the report.
- 11 Click OK.

Printing a report as a graph

Introduction

Most of the reports generated by Reporter are printed as tables. However, you can print some reports as graphs. Graphs let you analyze data quickly, observe trends, and make comparisons about system usage.

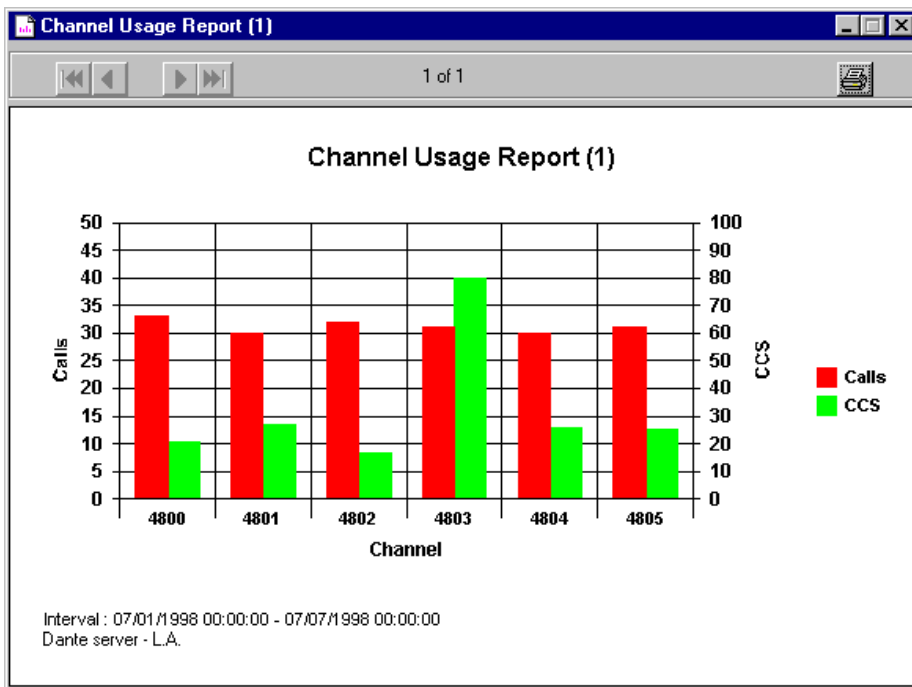
All reports print to the default printer specified in the Windows Control Panel.

Reports that can be printed as graphs

The following reports can be printed as graphs:

- Building Block Summary Report
- Networking Activity Report
- Fax Deliveries Activity Report
- Channel Usage Report
- Multimedia File System Usage Report
- Disk Usage Report
- System Traffic Summary Report

Sample graph



Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

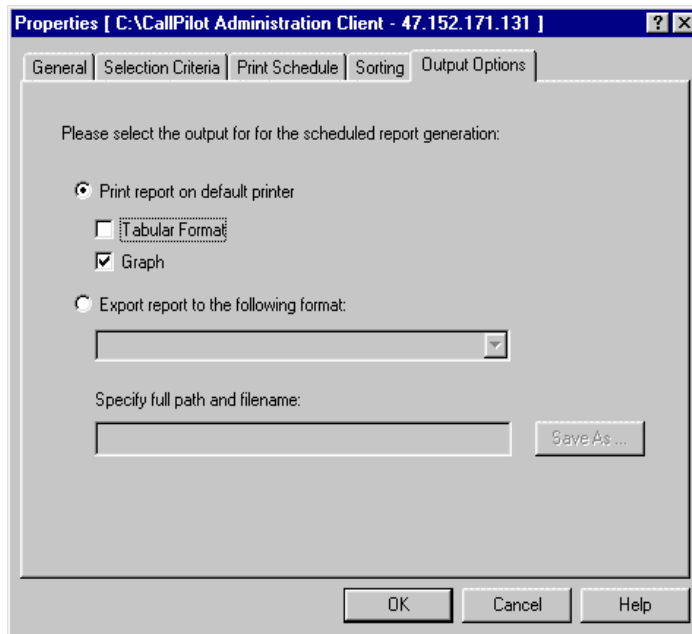
To print a report as a graph

- 1 Double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.
- 3 Double-click the Reports folder.
- 4 Select the folder that contains the report you want to print as a graph.
- 5 Click the report you want to print as a graph.
- 6 On the File menu, click Properties.

Result: The Properties dialog box appears.



- 7 Click the Output Options tab.
- 8 Make sure Print report on default printer is selected.
- 9 Make sure Graph is checked.
- 10 Click OK to return to the Reporter window.

Printing a list of reports

Introduction

If you want to keep a list of reports for future reference, print the contents of the Reporter window. This also helps you to keep track of the print schedules assigned to each report.

All reports print to the default printer specified in the Windows Control Panel.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To print a list of reports

- 1 Double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.

- 3 Click a Reports folder.

Result: The right pane of the Nortel Reporter window shows a list of reports stored in that folder.

- 4 On the File menu, click Print List.

Scheduling a report to export

Introduction

Export a report if you want to view the data in an external program, such as a spreadsheet or a company web site. The export feature is especially useful when you need to transfer data from bill-back reports to an external billing program.

Limitations

You cannot export a report that is on a print schedule. Cancel the report's print schedule, or duplicate the report and export the copy. For more information, see [“Duplicating a report” on page 93](#).

Before you begin

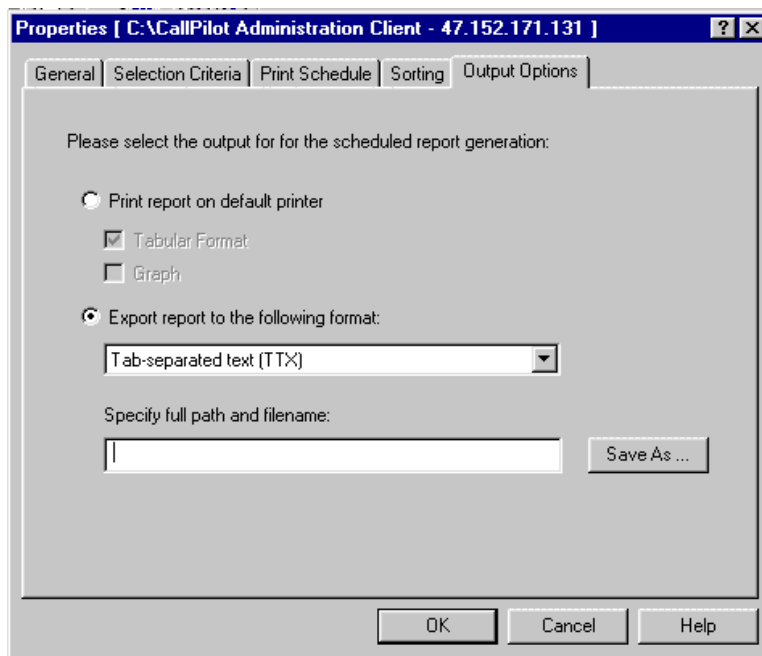
Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing reports for multiple servers” on page 87](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To export a report to an external program

- 1 Click the report that you want to export.
- 2 On the File menu, click Properties.

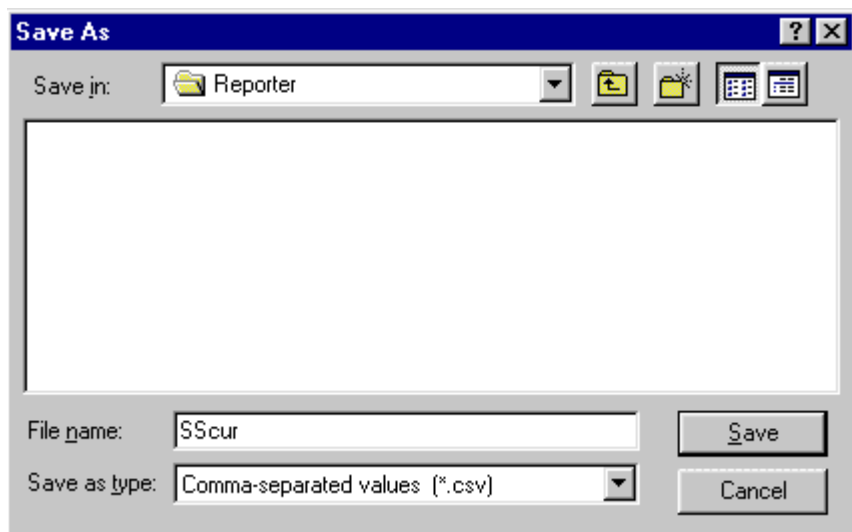
Result: The Properties dialog box opens.



- 3 Click the Output Options tab.
- 4 Make sure Export report to the following format is selected.
- 5 From the Export report to the following format list, select the file format used by the external program.

- 6 Click Save As.

Result: The Save As window opens.



- 7 Select the directory in which you want the exported file to be stored.
- 8 Click OK to return to the Reporter window.

Chapter 4

Using alerts

In this chapter

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Section A: About alerts

In this section

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Overview of alerts

Introduction

Alerts are special reports that warn users of potential problems with the server's hardware, software, or security.

Reports and alerts

Like reports, alerts organize data downloaded from your server into a format that you can study and analyze. Unlike reports, however, alerts are automatically triggered once a predefined threshold is exceeded.

Excessive Incomplete Messaging Accesses Alert (1)

Mar 03, 2000 00:00:00 - Mar 04, 2000 00:00:00

New York site

| Date | Time Period | Total Voice Mail Accesses | Number Of Logon Sessions | Failed Accesses | Percent Failed |
|-----------|-------------|---------------------------|--------------------------|-----------------|----------------|
| 03/03/00 | 20:00-21:00 | 8 | 7 | 1 | 13 |
| 03/03/00 | 19:00-20:00 | 21 | 19 | 2 | 10 |
| 03/03/00 | 18:00-19:00 | 32 | 24 | 8 | 25 |
| 03/03/00 | 17:00-18:00 | 63 | 52 | 9 | 14 |
| 03/03/00 | 16:00-17:00 | 98 | 75 | 20 | 20 |
| 03/03/00 | 15:00-16:00 | 83 | 64 | 13 | 16 |
| 03/03/00 | 12:00-13:00 | 115 | 96 | 15 | 13 |
| 03/03/00 | 11:00-12:00 | 263 | 222 | 38 | 14 |
| 03/03/00 | 10:00-11:00 | 126 | 111 | 14 | 11 |
| 03/03/00 | 09:00-10:00 | 216 | 122 | 91 | 42 |
| 03/03/00 | 08:00-09:00 | 76 | 66 | 9 | 12 |
| 03/03/00 | 07:00-08:00 | 13 | 11 | 2 | 15 |
| 03/03/00 | 02:00-03:00 | 2 | 1 | 1 | 50 |
| Summary : | | 1116 | 870 | 221 | 20 |

Alert thresholds

When you execute an OM download, each alert compares the data copied from the server to a predefined number or “threshold.” Whenever the threshold value is exceeded, the alert is triggered. For example, if the threshold value for the Excessive After-Hours Logons Alert is set to 25, the alert is triggered when 26 or more after-hour logons occur.

Limitations with downloads

Since the Reporter application resides on your PC client, alerts cannot be generated until after an OM download takes place. This means that the alerts you receive are not generated in real time, as they occur. For example, if your Excessive After-Hours Logons Alert threshold is reached at 3:00 p.m. and your OM download is not scheduled until 5:00 a.m., you do not receive an alert until after the download has finished.

Signs that an alert has been triggered

Two warning signals indicate a triggered alert:

- If Communicator is minimized, its icon on the Windows taskbar flashes. If Communicator is not minimized, an entry is made in the log window.
- An exclamation mark (!) appears next to the alert icon in the Nortel Reporter window.

Clear alerts

Clearing an alert removes the warning icons from the Nortel Reporter window and stops the Communicator icon from flashing. If you do not clear the alert, the warning signals remain.

Print alerts

You can print alerts on a regular basis according to a preset print schedule, or you can print reports on demand. Set up a print schedule to view the results of your alerts over a period of time. This can help you to identify patterns and trends related to system usage and security. For more information, see [Section D: “Printing and exporting alerts,” on page 157](#).

Export alerts

You can export the information contained in alerts to a variety of file formats. This is useful if you want to view the information on the World Wide Web, in an organizational intranet, or in a spreadsheet program. For more information, see [Section D: “Printing and exporting alerts,” on page 157](#).

Benefits of alerts

Introduction

Analyze the information in an alert to help ensure that your system is operating correctly and that it is secure.

Use alerts to identify security problems

The following alerts are triggered by possible hacker activity:

Excessive Failed Logons Alert

This alert is triggered by an unusually high number of unsuccessful logon attempts. Incorrect logons can occur if a hacker is running an automated program to “crack” mailbox passwords. For more information, see Chapter 13, “Alerts.”

Excessive After-Hours Logons Alert

This alert is triggered by an unusually high number of after-hours logons. Excessive logons during nonbusiness hours can occur if a hacker has penetrated a mailbox. For more information, see Chapter 13, “Alerts.”

Excessive Thru-Dialer Access Alert

This alert is triggered by an unusually high number of thru-dialer accesses. This can occur if a hacker has penetrated your system and is using a thru-dialer to make toll calls. For more information, see Chapter 13, “Alerts.”

Excessive Incomplete Messaging Access Alert

This alert is triggered by excessive failed logons due to invalid passwords being entered. This can occur if hackers are dialing in to your messaging system and repeatedly entering different mailbox numbers and passwords. For more information, see Chapter 13, “Alerts.”

Use alerts to identify software problems

The following alerts are triggered by potential software problems:

Failed DTT Alert

This alert is triggered when Delivery-to-Telephone messages are not received. This can occur if there is a problem with the DTT service setup. For more information, see Chapter 13, “Alerts.”

Failed RN Alert

This alert is triggered when remote notification attempts are not responded to promptly. A high number of failed RN sessions can indicate a problem with the RN service setup. For more information, see Chapter 13, “Alerts.”

RN Target Problem Alert

This alert is triggered by a high number of outcalling failures to a particular remote notification target phone number. This alert can indicate an invalid RN target, a paging service outage, or an RN setup problem. For more information, see Chapter 13, “Alerts.”

Failed Network Sessions Alert

This alert is triggered by an unusually high number of failed network sessions. This alert can help you determine whether your server is experiencing hardware or setup problems, or insufficient capacity on either the local or the remote site. For more information, see Chapter 13, “Alerts.”

Failed Fax Delivery Alert

This alert is triggered by an unusually high number of faxes that were not delivered to the target DN. Faxes can be delivered to the incorrect target if there is a problem with the application setup. For more information, see Chapter 13, “Alerts.”

Section B: Generating alerts

In this section

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| Overview of generating alerts | 136 |
| Adding alerts to the Nortel Reporter window | 137 |
| Defining nonbusiness hours for an alert | 141 |
| Using alerts | 143 |

Overview of generating alerts

Introduction

To generate alerts, you must ensure that OM data is downloaded regularly from each of your Nortel Networks servers to your PC client. Once OM data has been downloaded from a particular server, alerts are triggered by occurrences that meet or exceed their particular thresholds.

Note: If you have not set up a download schedule for each server, see Section B: “Downloading OM data,” on page 35.

Alerts and multiple servers

If you have more than one server in your organization, you must generate different alerts for each server. For example, if Server X has a history of fax transmission problems, you can run the Failed Fax Delivery Alert. If Server Y is experiencing networking problems, you can run the Networking Failures Alert. To ensure that hackers do not infiltrate your organization, you can run the Excessive After-Hours Logons Alert for both servers.

Organizing alerts for multiple servers

If you have many servers in your organization, it can be difficult to keep track of the alerts that are generated for each server. The tree view in the Nortel Reporter window organizes alerts on a per-server basis. Navigate to a server and double-click its folder. The tree expands to show you a list of all the alerts that are currently in use for the selected server.

The Nortel Reporter window

The Nortel Reporter window acts as a palette where you can store alerts that are currently in use for each of your servers. All of the alerts listed in this window can be printed, exported, or customized. If you no longer require an alert, you can remove it from the Nortel Reporter. A permanent copy of the alert is kept in the New Report dialog box so that you can add it to the Reporter window when necessary.

Adding alerts to the Nortel Reporter window

Introduction

You must add alerts to the Nortel Reporter window before you can work with them. To help you get started, the Nortel Reporter window contains six alerts that are used regularly. If you require additional alerts, you can add them to the Nortel Reporter window as needed.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To add alerts to the Nortel Reporter window

- 1 On the left panel, double-click the CallPilot Administration Client.

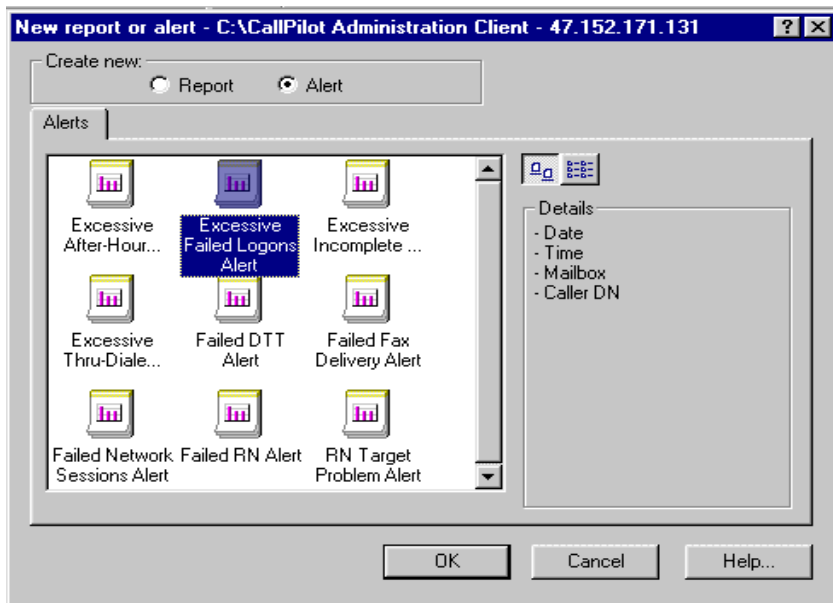
Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.
- 3 Double-click the Alerts folder.
- 4 Select the Alerts Reports tab.

Result: The right panel displays all of the Alerts reports.

- 5 On the File menu, click New.

Result: The New report or alert dialog box opens.



- 6 Make sure Alert is selected.
- 7 Click the alert you want to add to the Nortel Reporter window.

- 8 Click OK.

Result: The Properties dialog box appears.

The image shows a Windows-style dialog box titled "Properties [C:\CallPilot Administration Client - 47.152.171.131]". It has four tabs: "General", "Print Schedule", "Sorting", and "Output Options", with "General" selected. The dialog contains the following fields and controls:

- Report Name:** A text box containing "Excessive Failed Logons Alert (2)".
- Original Name:** A text box containing "Excessive Failed Logons Alert".
- Threshold:** A numeric spin box set to "1".
- Query Hours:** A dropdown menu set to "All Hours".
- Comments:** A large, empty text area.
- Buttons:** "OK", "Cancel", and "Help" buttons at the bottom right.

- 9 In the Report Name box, type a name for the alert, or accept the default.
- 10 In the Threshold box, enter an appropriate threshold.
- 11 In the Comments box, type additional information about the alert.
- 12 Click OK to return to the Nortel Reporter window.

Result: The selected alert is added to the Nortel Reporter window. You can now run, print, or customize the selected alert.

Removing an alert from the Nortel Reporter window

If you seldom use an alert, consider removing it from the Nortel Reporter window.

Example

During the last two months, you have used the Failed Fax Delivery Alert to monitor fax transmission errors. However, the problem has now been solved, and you do not need this alert anymore. To prevent the alert from taking up space in the Nortel Reporter window, you remove it.

What happens when you remove an alert

When you remove an alert, the icon associated with the alert is removed from the Nortel Reporter window. However, a permanent copy of the alert remains on the New Report dialog box.

To remove an alert

- 1 In the Nortel Reporter window, select the alert you want to remove.
- 2 From the File menu, click Delete.
Result: A confirmation dialog box appears.
- 3 Click Yes to confirm the deletion and return to the Nortel Reporter window.

Defining nonbusiness hours for an alert

Introduction

Since hackers often try to infiltrate an organization at times when employees and equipment are less active, you can use after-hours alerts to detect hacker activity. For example, if your company's business hours are 9:00 a.m. to 5:00 p.m., hackers are most likely to attack the system late at night or early in the morning.

Alerts that require after-hours definition

The following alerts notify you of suspicious occurrences outside of regular business hours. To use these alerts, you must first specify the hours of the day that your company considers after-hours, or nonbusiness hours:

- Excessive After-Hours Logons Alert
- Excessive Thru-Dialer Access Alert

Before you begin

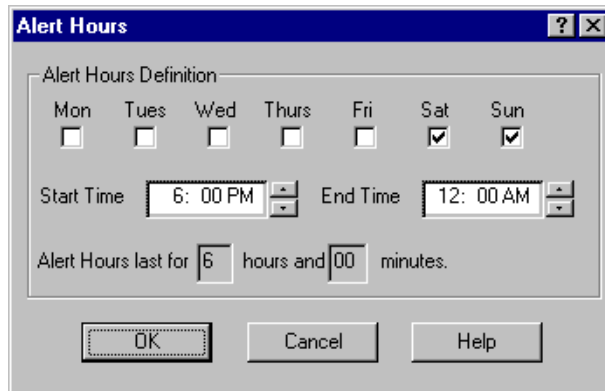
Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To define Alert Hours

- 1 On the Customize menu, click Alert Hours.

Result: The Alert Hours dialog box appears.



- 2 In the Alert Hours dialog box, check each day of the week that is a business day.

Note: By default, Monday to Friday are checked.

- 3 In the Start Time box, type the hour at which nonbusiness hours begin (for example, 6: 00 PM).
- 4 In the End Time box, type the hour at which nonbusiness hours end (for example, 12: 00 AM).
- 5 To specify an entire nonbusiness day (for example, a holiday or weekend), leave the appropriate day unchecked.

Note: Saturday and Sunday are automatically unchecked.

- 6 Click OK to return to the Nortel Reporter window.

Using alerts

Running an alert

If you want to see what an alert report looks like when it is printed, you can display the alert on the screen.

Tips

Here are some tips for viewing alerts:

- To increase or decrease the size of the alert, click the size percentage field at the top of the screen.
- To scroll through the pages one at a time, use the left and right arrow buttons.
- To print the alert, click the printer icon. For more information on printing alerts, see [“Printing and exporting alerts” on page 157](#).

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To run an alert report

- 1 On the left panel, double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.

- 3 Double-click the Alerts folder.

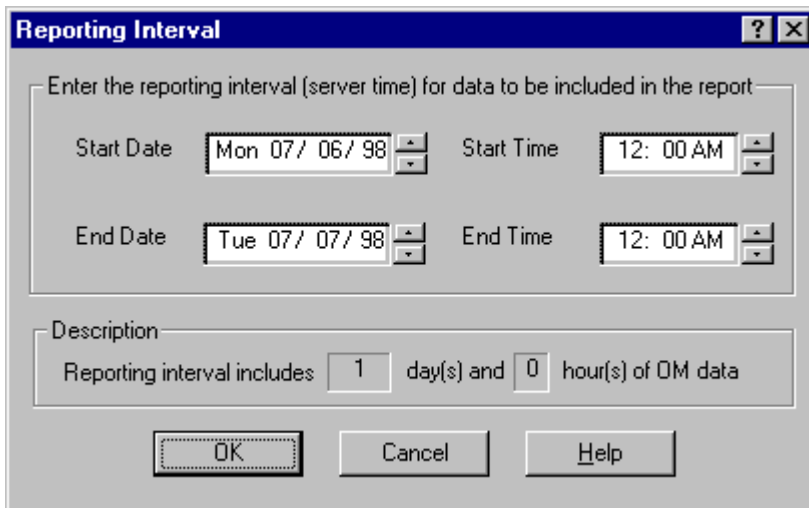
- 4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

- 5 Click the alert that you want to run.

- 6 On the File menu, click Run Report.

Result: The Reporting Interval dialog box opens.



The image shows a Windows-style dialog box titled "Reporting Interval". It has a blue title bar with a question mark icon and a close button. The main area contains a label "Enter the reporting interval (server time) for data to be included in the report". Below this are four date and time pickers: "Start Date" (Mon 07 / 06 / 98), "Start Time" (12: 00 AM), "End Date" (Tue 07 / 07 / 98), and "End Time" (12: 00 AM). Below these is a "Description" section with the text "Reporting interval includes" followed by a numeric input field containing "1", the text "day(s) and", another numeric input field containing "0", and the text "hour(s) of OM data". At the bottom are three buttons: "OK", "Cancel", and "Help".

- 7 In the Start Date box, select the date of the first day's worth of data that you want to include in the alert report (for example, Mon 07 / 06 / 00).
- 8 In the Start Time box, select the time of the first day's worth of data that you want to include in the alert report (for example, 1: 00 PM).
- 9 In the End Date box, select the date of the last day's worth of data that you want to include in the alert report (for example, Wed 07 / 08 / 00).
- 10 In the End Time box, select the time of the last day's worth of data that you want to include in the alert report (for example, 5: 00 PM).

11 Click OK.

Result: The alert report displays on the screen.

Excessive Incomplete Messaging Accesses Alert (1)

01/31/00 12:00:00 AM - 02/01/00 12:00:00 AM

C:\CatIPilot Administration Client

| Date | Time Period | Total Voice Mail Accesses | Number Of Logon Sessions | Failed Accesses | Percent Failed |
|-----------|-------------|---------------------------|--------------------------|-----------------|----------------|
| Summary : | | 0 | 0 | 0 | 0 |

47.152.171.131 02/01/00 01:13:10 PM Page : 1

12 Click the Print icon to print the report.

Duplicating an alert

If you want to create an alert quickly and easily, make a duplicate of an existing alert and customize it to suit your needs.

To create an alert from an existing alert

- 1 Click the alert on which you want to base the new alert.
- 2 On the File menu, click Duplicate.

Result: The new alert appears in the Nortel Reporter window.

Note: Reporter automatically assigns a number to the alert. For example, if you duplicate the Failed RN Sessions Alert, the duplicate alert is named Failed RN Sessions Alert (1).

Clearing an alert

Clear an alert to remove the warning icons from the Nortel Reporter window and to stop the Communicator icon from flashing. Also clear an alert if you have already run it and decided what to do.

To clear an alert

- 1 Select the alert you want to clear.
- 2 From the File menu, click Clear alert.

Section C: Customizing the data in alerts

In this section

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| Setting the threshold for an alert | 150 |
| Sorting the data in an alert | 153 |
| Adding comments to an alert | 155 |

Overview of customizing alerts

Introduction

Customize an alert to eliminate excessive data and organize the remaining information into an easy-to-read format. Well-organized alerts make interpreting data easier.

Note: You can customize only the data contained in an alert. The boxes listed in an alert are predefined and cannot be changed.

How alerts can be customized

There are three ways to customize an alert:

- defining a threshold
- sorting
- adding comments

Defining a threshold

Define a threshold for an alert to specify the number of events that must occur before the alert is triggered. For example, if the threshold value for the Excessive After-Hours Logons Alert is set to 25, the alert is triggered when 26 or more after-hour logons occur.

Sorting

This method lets you organize the data displayed in an alert so that relevant information is grouped together. This makes it easier to analyze and interpret information.

Example

The Excessive After-Hours Logon Alert shows all users with a suspicious amount of after-hours activity. You use the sorting feature to group all these users according to the date and time at which they logged on.

Adding comments

Add comments to an alert to specify additional information about the data.

Setting the threshold for an alert

Introduction

When you execute an OM download, each alert compares the data copied from the server to a predefined number or “threshold.” Whenever the threshold value is exceeded, the alert is triggered. For example, if the threshold value for the Excessive After-Hours Logons Alert is set to 25, the alert is triggered when 26 or more after-hour logons occur.

Note: Because the Reporter application resides on your PC client, alerts cannot be generated until after an OM download takes place. This means that the alerts you receive are not generated in real-time, as they occur. For example, if your Excessive After-Hours Logons Alert threshold is reached at 3:00 p.m. and your OM download is not scheduled until 5:00 a.m., you will not receive an alert until after the download has finished.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > CallPilot Administration Client > CallPilot System > Reporter window

To set the threshold for an alert

- 1 On the left panel, double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.

- 3 Double-click the Alerts folder.

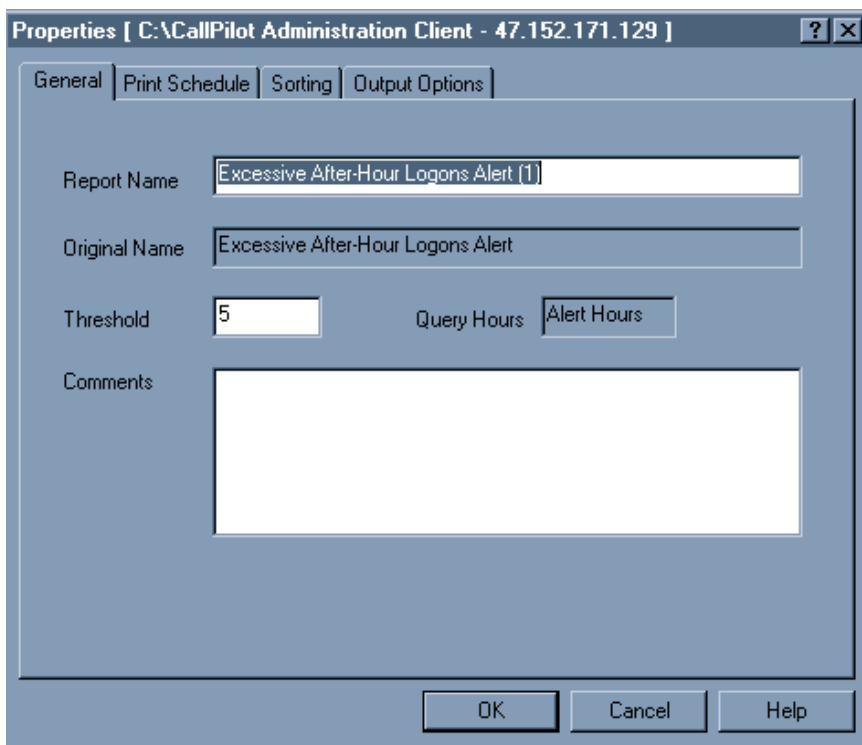
- 4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

- 5 Click the appropriate alert.

- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the General tab.

- 8 In the Threshold box, type the maximum number of occurrences that will trigger the alert.

Example: If the threshold value for the Excessive After-Hours Logons Alert is set to 5, when 6 or more after-hour logons occur, the alert is triggered.

- 9 Click OK.

Sorting the data in an alert

Introduction

Sort the data in an alert to ensure that relevant information is grouped together. This makes it easier to analyze and interpret information.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > CallPilot Administration Client > CallPilot system > Reporter window

To sort the data contained in an alert

- 1 On the left panel, double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

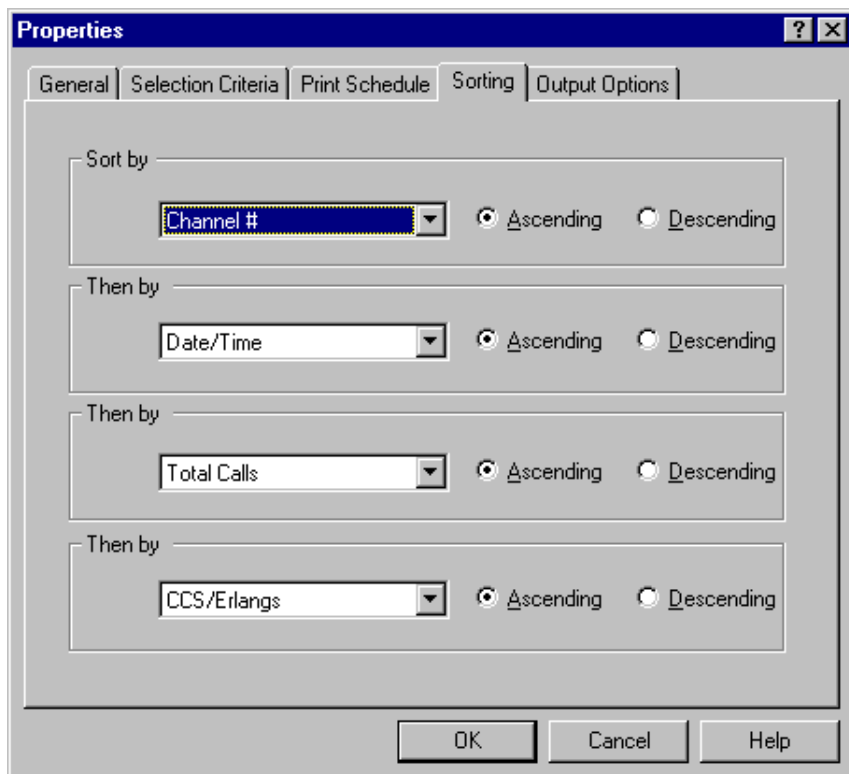
- 2 Select a CallPilot server.
- 3 Double-click the Alerts folder.
- 4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

- 5 Click the alert you want to sort.

- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the Sorting tab.
- 8 From the Sort by list, select the criterion you want to use as a sorting parameter.
Note: Some alerts cannot be sorted. If the Sorting tab does not appear, you cannot sort the alert.
- 9 To reverse the order of the criteria, make sure Descending is selected.
- 10 To choose additional sorting parameters, repeat steps 4 and 5.
- 11 Click OK to return to the Nortel Reporter window.

Adding comments to an alert

Introduction

Add comments to the data in an alert to ensure that additional information is not forgotten or overlooked.

Note: Comments are visible only on the screen. They do not appear when the alert is printed.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To add comments to an alert

- 1 On the left panel, double-click the CallPilot Administration Client.

Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.

- 3 Double-click the Alerts folder.

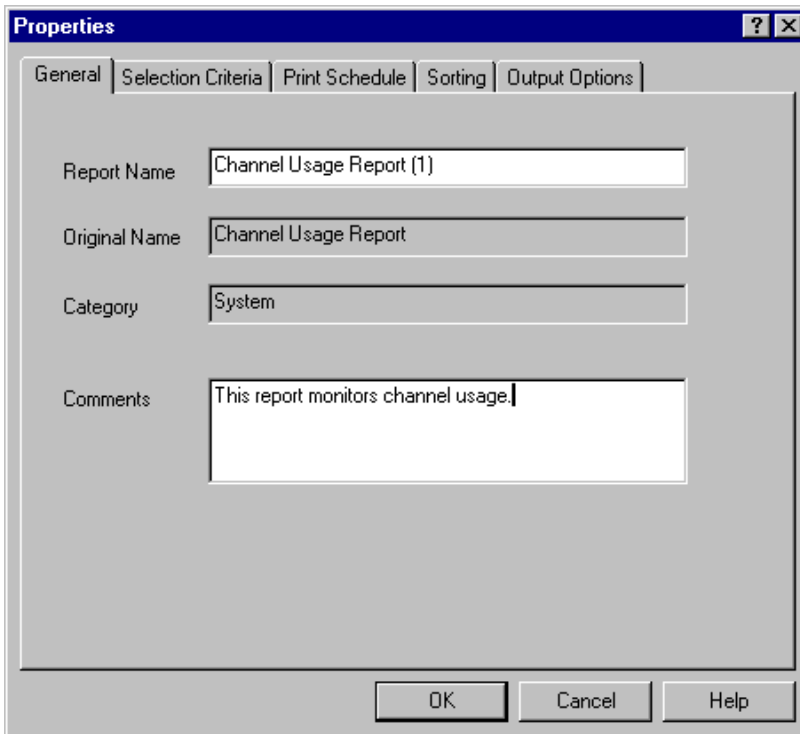
- 4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

- 5 Click the appropriate alert.

- 6 From the File menu, select Properties.

Result: The Properties dialog box opens.



- 7 On the General tab, in the Comments box, type the additional information about the alert.
- 8 Click OK to return to the Nortel Reporter window.

Section D: Printing and exporting alerts

In this section

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|-----------------------------------|---------------------|
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| _Exporting alerts | 162 |

Printing alerts

Introduction

Print alerts to help you identify significant patterns and trends related to system usage.

Print schedule

You can print alerts according to a preset print schedule, or you can print reports on demand. You can also schedule an alert to print as soon as it has been triggered. Set up a print schedule so you can view the results of your alerts over a period of time.

Setting an alert's print schedule

Set up a print schedule to print alerts daily, weekly, or monthly. You can also schedule alerts to print as soon as they are triggered. When you print alerts regularly, you can identify patterns and trends related to system usage.

All alerts print to the default printer specified in the Windows Control Panel.

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To set an alert's print schedule

- 1 On the left panel, double-click the CallPilot Administration Client.

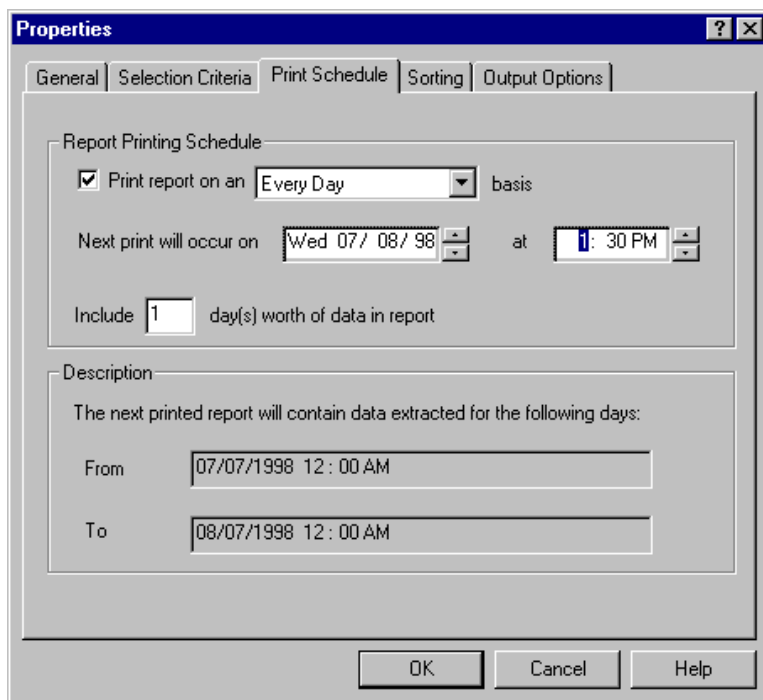
Result: One or more CallPilot servers appear.

- 2 Select a CallPilot server.
- 3 Double-click the Alerts folder.
- 4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

- 5 Click the alert for which you want to set a print schedule.
- 6 On the File menu, click Properties.

Result: The Properties dialog box opens.



- 7 Click the Print Schedule tab.
- 8 Make sure the Print report on an ... basis box is checked.
- 9 If you want to specify how often the alert prints, select a frequency from the Print report list, and then go to step 7.
- 10 If you want the alert to print as soon as it is triggered, select If triggered from the Print report list.
- 11 Select or type the date in the Next print will occur on box to set the date on which you want the alert to print.

- 12 Select the time in the at box to set the time at which you want the alert to print.
- 13 To change the number of days of data included in the alert, enter the number of days' worth of data in the Include ... day(s) worth of data in report box.
- 14 Click OK to return to the Nortel Reporter window.

Printing an alert on demand

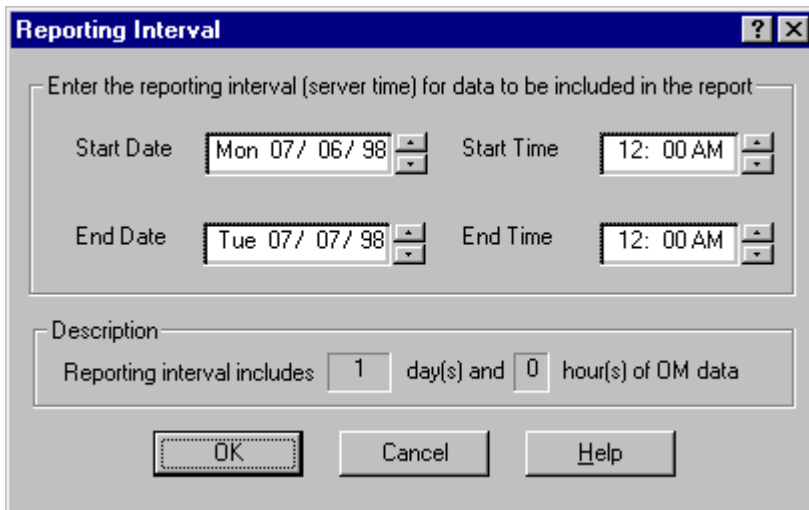
Print an alert on demand when you do not want to wait for the print schedule to execute.

All alerts print to the default printer specified in the Windows Control Panel.

To print an alert on demand

- 1 Click the alert you want to print.
- 2 On the File menu, click Print Report.

Result: The Reporting Interval dialog box opens.



The image shows a Windows-style dialog box titled "Reporting Interval". It has a blue title bar with a question mark icon and a close button. The main area contains a label "Enter the reporting interval (server time) for data to be included in the report". Below this are four input fields: "Start Date" (Mon 07/ 06/ 98), "Start Time" (12: 00 AM), "End Date" (Tue 07/ 07/ 98), and "End Time" (12: 00 AM). Each field has a small up/down arrow button. Below these fields is a "Description" section with a label "Reporting interval includes" followed by a text input field containing "1", the text "day(s) and", another text input field containing "0", and the text "hour(s) of OM data". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

- 3 In the Start Date box, type the start date for data printed in the alert.
- 4 In the Start Time box, type the start time for data printed in the alert.

- 5 In the End Date box, type the end date for data printed in the alert.
- 6 In the End Time box, type the end time for data printed in the alert.
- 7 Click OK to return to the Nortel Reporter window.

Printing a list of alerts

If you want to keep a list of alerts for future reference, print the contents of the Nortel Reporter window.

All alerts print to the default printer specified in the Windows Control Panel.

To print a list of alerts

- 1 Double-click the Alerts folder on the left pane of the Nortel Reporter window.
- 2 Click the Alert Reports folder in the left pane of the Nortel Reporter window.
- 3 On the File menu, click Print List.

Exporting alerts

Overview of exporting alerts to other programs

Export an alert to change its current file format to the file format of an external program. This can be useful if you want to view the alert on the World Wide Web, over an organizational intranet, or in a spreadsheet program. You can then customize the alert information.

Limitation

When you export an alert, some formatting can be lost or modified.

File formats

The file formats to which alerts can be exported include the following:

| File format | File extension | Version |
|----------------------------|----------------|--|
| Character-separated values | (CSV) | n/a |
| Comma-separated values | (CSV) | n/a |
| Crystal Reports | (RPT) | n/a |
| Data Exchange Format | (DIF) | n/a |
| Excel | (XLS) | 2.1 |
| | | 3.0 |
| | | 4.0 |
| | | 5.0 |
| HTML | .htm | Draft Standard Explorer 2.0 Netscape 2.0 |

| File format | File extension | Version |
|----------------------------------|----------------|---------|
| Lotus 1-2-3 | WK1 | 1.0 |
| | WK3 | 2.0 |
| | WK5 | 3.0 |
| ODBC Data Sources | | n/a |
| Paginated Text | .txt | n/a |
| Record Style (columns of values) | .rec | n/a |
| Alert Definition | .txt | n/a |
| Rich Text Format | RTF | n/a |
| Tab-separated text | .ttx | n/a |
| Tab-separated values | .tsv | n/a |
| Text | .txt | n/a |
| Word for Windows | .DOC | n/a |

Before you begin

Use the tree view on the left side of the Nortel Reporter window to select the appropriate server. For more information, see [“Organizing alerts for multiple servers” on page 136](#).

Getting there CallPilot Administration Client > Utilities > Reports > Nortel Reporter window

To schedule an alert to export to an external program

- 1 On the left panel, double-click the CallPilot Administration Client.
Result: One or more CallPilot servers appear.
- 2 Select a CallPilot server.

3 Double-click the Alerts folder.

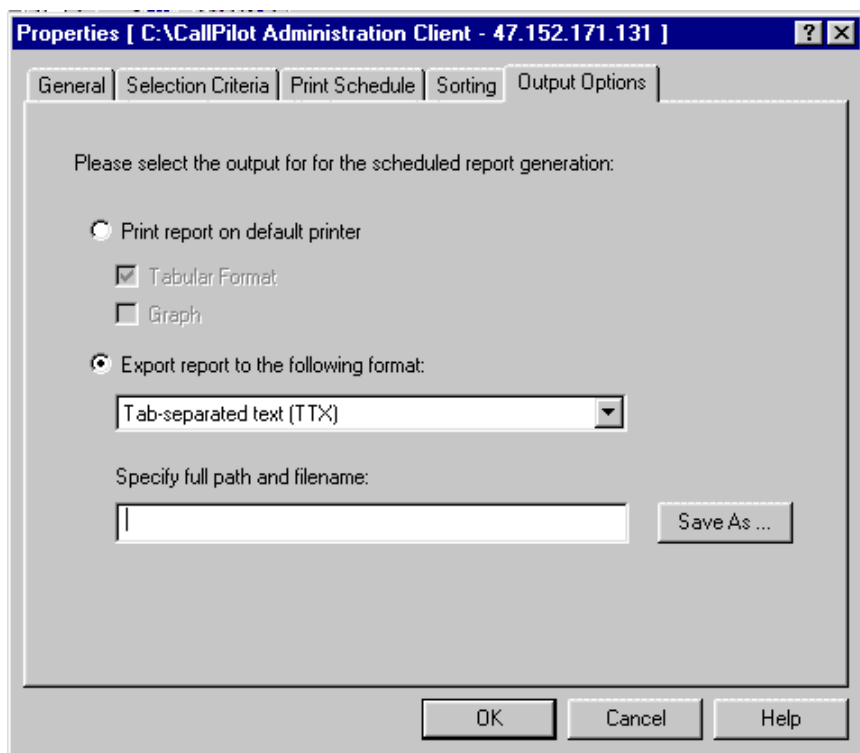
4 Select the Alert Reports folder.

Result: The right panel displays all of the Alert reports.

5 Click the alert you want to export.

6 On the File menu, click Properties.

Result: The Properties dialog box opens.



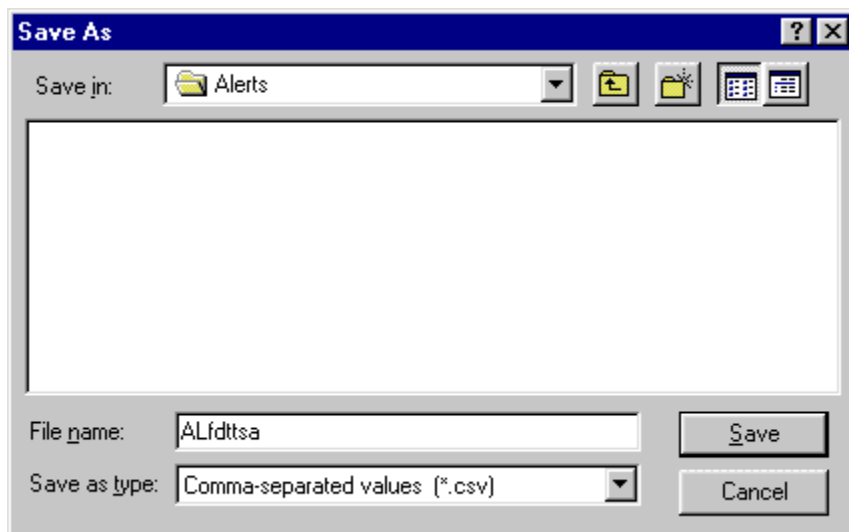
7 Click the Output Options tab.

8 Make sure Export report to the following format is selected.

9 In the Export report to the following format list, type the format in which you want the alert exported.

- 10 Click Save As.

Result: The Save As window opens.



- 11 Select the directory in which you want the exported file to be stored.

Result: If you do not select a directory, the alert is exported to your root directory.

- 12 Click Save to return to the Nortel Reporter window.

Chapter 5

System status reports

In this chapter

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| <u>Service Quality Detail Report</u> | <u>171</u> |
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Service Quality Summary Report

How to use this report

This report summarizes the level of activity for each type of channel installed on your system. Use this report to assess the service level each channel type provides to callers to the system.

The report allows you to determine whether there are adequate channel resources or whether the minimum/maximum channel settings in the SDN table need adjustment to provide the quality service needed for callers to the system.

Use this report to determine

- how many callers are forced to wait before accessing a channel
- how many callers abandon their calls

Additional information

This report requires traffic OM data.

This report is available only to CallPilot systems that are connected to the M1 switch.

Report data

This report provides the following information:

| Column | Description |
|----------------------------------|---|
| Date | The date of the reporting period. |
| Time Period | The time of the reporting period. |
| All Channels Busy (mm:ss) | The length of time in minutes and seconds that all the channels on your system were busy. |
| Voice Waited | The number of callers who waited for a voice channel. |

| Column | Description |
|------------------------|---|
| Voice Abandoned | The number of callers who abandoned their calls while waiting for a voice channel. |
| Fax Waited | The number of callers who waited for a fax channel. |
| Fax Abandoned | The number of callers who abandoned their calls while waiting for a fax channel. |
| SR Waited | The number of callers who waited for a speech recognition channel. |
| SR Abandoned | The number of callers who abandoned their calls while waiting for a speech recognition channel. |

How many callers waited for a channel?

Check the number of callers who waited for a voice, fax, or speech recognition channel.

If the voice, fax, or SR waited field = 0 for all time periods during a business day, then the system is providing perfect service and, therefore, has adequate resources for that type of channel.

If callers are waiting, then the service levels are less than perfect. To raise service levels requires either additional channel resources or reallocation of system resources.

Suggested actions

- Check the SDN Table to see if one of the services has a minimum channel setting that might be unnecessarily tying up channels and preventing callers to other services from getting a channel without waiting. Reduce the minimum channels guaranteed for one service to improve service quality to callers to other services.
- Check the SDN Table to see if one or more of the services have a maximum channel setting that prevents callers to the service from getting a channel

without waiting. Increase the maximum to reduce the chance of callers waiting for a channel to get to the service.

- The number of voice, fax, and SR traffic channels might be out of balance with the busy hour voice, fax, and SR traffic. For example, if fax channels are under-utilized but callers to SR channels have to wait, you might consider reallocating some fax resources to SR. This requires a new keycode and possibly additional channel capacity. Contact your distributor.
- Run the Service Quality Detail Report for more information about how long callers waited before accessing a channel. Refer to [“Service Quality Detail Report” on page 171](#).

How many callers abandoned calls?

Check the number of callers who abandoned a voice, fax, or SR channel. If a large number of callers abandon their calls, they might be frustrated with long wait times.

Suggested actions

- If callers are abandoning their calls because of frustration over long wait times, you can implement one of the following options:
 - Increase the number of channels on the system (contact your distributor).
 - Use the SDN Table to reallocate existing channels. For example, if a large number of callers are waiting to access voice channels, you can configure more channels for voice.
- Run the Channel Usage Report to view the state of each individual channel. Refer to [“Channel Usage Report” on page 174](#).

Service Quality Detail Report

How to use this report

This report provides detailed information about the grade of service provided by each type of channel. These details can help you to improve the efficiency with which callers access your services. Use this report to

- follow up on results from the Service Quality Summary Report
- determine how long callers waited before accessing a voice, fax, or SR channel
- determine how many callers abandoned their calls to a specific type of media

Additional information

This report requires traffic OM data.

This report is available only to CallPilot systems that are connected to the M1 switch.

Report data

This report provides the following information:

| Column | Description |
|---------------------------------|---|
| Date | The date of the reporting period. |
| Time Period | The time of the reporting period. |
| Media Type | The media type of the channels reported. They are voice, fax, or SR. The numeric values are 1 = voice, 2 = fax, 3 = SR. |
| Number of Callers Waited | The number of callers who waited. |

| Column | Description |
|------------------------------------|--|
| Percentage Calls Waited | The percentage of calls that waited. |
| Average Wait Time (mm:ss) | The average time a caller waited. |
| Maximum Wait Time (mm:ss) | The maximum time a caller waited. |
| Number of Callers Abandoned | The number of callers who abandoned their calls while waiting. |

How long did callers wait before accessing a channel?

Check the average wait time for each type of media. If callers wait a long time before they access a resource, they might become frustrated and abandon their calls.

Suggested actions

- Check the SDN Table to see if one of the services have a minimum channel setting that might be unnecessarily tying up channels and preventing callers to other services from getting a channel without waiting. Reduce the minimum channels guaranteed for one service to improve service quality to callers to other services.
- Check the SDN Table to see if one or more of the services have a maximum channel setting preventing callers to the service from getting a channel without waiting. Increase the maximum to reduce the chance of callers waiting for a channel to get to the service.
- The number of voice, fax, and SR traffic channels might be out of balance with the busy hour voice, fax, and SR traffic. For example, if fax channels are under-utilized but callers to SR channels have to wait, consider reallocating some fax resources to SR. This requires a new keycode and possibly additional channel capacity. Contact your distributor.

How many callers abandoned calls to a specific type of media?

Check the media type and the number of abandoned calls. If many callers abandon their calls to a particular media type, you might not have enough channels configured for that media type. For example, if callers abandon calls to fax channels because of lengthy wait times, you can configure additional channels to handle fax.

Suggested actions

- If callers are abandoning their calls to a specific media type because of frustration over long wait times, consider increasing the number of channels that handle the type of media.
- Run the Channel Usage Report to view the state of each channel. This ensures that your channels are operating correctly. Refer to [“Channel Usage Report” on page 174](#).

Channel Usage Report

How to use this report

This report summarizes the traffic handled by each channel on your system. Use this report to identify

- traffic distribution patterns
- problems with specific channels
- short call durations

Additional information

This report requires traffic OM data.

You can print this report as a graph.

Report data

This report provides the following information:

| Column | Description |
|-----------------------|--|
| Date | The date of the reporting interval. |
| Time Period | The time of the reporting interval. |
| Channel Number | The number of the multimedia channel. |
| Incoming Calls | The number of incoming calls on each channel. |
| Outgoing Calls | The number of outgoing calls on each channel. |
| Total Calls | The total number of incoming and outgoing calls on each channel. |

| Column | Description |
|--------------------------------------|---|
| Avg. Hold Time Incoming Calls | The average hold time in seconds of incoming calls on each channel. |
| Avg. Hold Time Outgoing Calls | The average hold time in seconds of outgoing calls on the channel. |
| CCS/Erlang | <p>CCS: The amount of traffic, in centa-call seconds (CCS), that the channel handled per hour, during the period (the numbers are rounded to the nearest integer, with the total being the total of the rounded integers.) A single channel can handle a maximum of 36 CCS.</p> <p>Erlangs: The number of Erlangs are rounded to two decimals, with the total being the total of the rounded numbers. A single channel can handle a maximum of 1 Erlang.</p> <p>Note: Information is shown in either CCS or Erlangs. For more information see, “Changing the traffic units for a report” on page 98.</p> |

Is traffic evenly distributed across your channels?

Compare the number of ingoing and outgoing calls for each channel. The average amount of traffic for each channel should be similar. If a channel shows no incoming or outgoing calls, the channel might be disabled or faulty.

Suggested actions

Use the Multimedia Channels program and the DS0 Channels program to check the channel's state.

- If the channel is disabled, use the Maintenance program to enable the channel.
- If the channel is faulty, use the Maintenance program to run diagnostics on the channel.

Is Average Hold Time unusually short?

Compare the number of incoming calls with the length of each call. Channels with a high number of incoming calls but low CCS times mean that calls are very short. Channels with unusually short Average Hold Time (AHT) might indicate a problem with that channel.

Suggested action

Run the traffic reports to obtain more information about the problem. Refer to Chapter 7, “Traffic reports.”

Multimedia File System Usage Monitor Report

How to use this report

Use this report to determine whether the system has sufficient disk volume storage to handle the current messaging and multimedia applications.

If a multimedia File System Volume becomes full, users with mailboxes on that volume cannot create or receive any new messages. Therefore, it is very important that a volume is not allowed to fill up.

A major alarm is raised when a volume capacity reaches 90%. A critical alarm is raised when a volume capacity reaches 95%.

Additional information

This report requires traffic OM data.

You can print this report as a graph.

Report data

This report provides the following information:

| Column | Description |
|-------------------------------|---|
| Date | The date of the information. |
| Time | The time of the information. |
| Volume ID | The ID of the storage volume. Volumes are sections on the Nortel Networks disk. |
| Voice Capacity (hh:mm) | The amount of voice storage space available in hours and minutes. |

| Column | Description |
|---------------------------------|--|
| Voice Used (hh:mm) | The amount of voice storage space used in hours and minutes. |
| Percentage of Voice Used | The percentage of voice capacity that is currently in use. |
| Text Capacity (kbytes) | The amount of text space currently available, in kbytes. |
| Text Used (kbytes) | The amount of text space currently used, in kbytes. |

Is your capacity over 90 percent?

Suggested actions

- Check the time on the report. Storage usage often fluctuates during the day. For example, storage generally peaks right before the start of the working day when users are not available to receive voice or text messages.
- Storage usage also varies over the course of a week. Read messages are deleted automatically each night. On Friday, storage usage is high but by Monday, storage usage is low as there are no new read messages over the weekend.
- Run the Top Users of Storage Report to identify mailboxes that are storing too many messages (refer to “Top Users of Storage Report” on page 219). You can reduce the message retention time, reduce message length parameters, or move mailboxes with high-usage volumes to low-usage volumes. Only technical support personnel and Distributors can move users from one volume to another.
- Increase the storage capacity of the system. Contact your distributor.
- Check the Alarm Monitor to see if there are any events indicating problems with the MMFS and its nightly audit. There might be a problem that is preventing the space held by deleted messages from being recovered. If these events exist, contact your distributor immediately.

Disk Usage Report

How to use this report

Use this report to determine whether the system has sufficient disk drive storage. The first disk drive holds:

- the Operating System
- the CallPilot software
- the CallPilot database
- the first Multimedia volume VS1

The size of your Multimedia volume depends on the number of hours that are purchased.

A larger CallPilot system might have additional disk drives containing additional Multimedia volumes (VS102, VS103). The size of these additional volumes depends on the number of hours that are purchased.

Additional information

This report requires traffic OM data.

You can print this report as a graph.

Report data

This report provides the following information:

| Column | Description |
|-------------------------|---|
| Date/Time Period | The date and time period of the report. |
| Disk Drive | The disk drive used. |

| Column | Description |
|-------------------------------|--|
| Disk Capacity (kbytes) | The amount of disk space currently available, in kbytes. |
| Disk Used (kbytes) | The amount of disk space used, in kbytes. |
| Percentage Disk Used | The percentage of disk space used. |

Check available disk space

Compare the disk capacity to the percentage of disk space used.

Suggested actions

If the report indicates that the disk drive is full, call your Distributor.

Note: The CallPilot system continues to operate; however, future upgrades might be affected.

Chapter 6

Administration reports

In this chapter

[Administration Action report](#)

[182](#)

Administration Action report

How to use this report

Use this report to obtain high level information on changes made to the CallPilot system by administrators. This information can be useful if you need to determine

- changes made to CallPilot
- which administrator made those changes
- the client from which those changes were made

Additional information

The actions for this report are grouped under the Create, Delete, and Modify subgroups.

The Administration Action report is the default report for the Administration category. A copy of this report is generated automatically when a new system is created. Existing systems generate this report by running the New Reports utility of the Reporter Application.

Report data

This report provides the following information:

| Column | Description |
|---------------------------|---|
| Date | The date when the action was generated. |
| Time | The time when the action was generated. |
| Administrator Name | The full name of the administrator responsible for executing the changes. |
| Action Type | This can be Create, Modify, or Delete. |

| Column | Description |
|-------------------------------|--|
| Client Network Address | The network IP address for the client. |
| Object | <p>The item or items that are affected from this action. They are as follows:</p> <ul style="list-style-type: none">■ Users■ Mailbox Class■ SDL■ Message Delivery■ Messaging Administration■ Outcalling Administration■ Security Administration■ RPL■ Messaging Network■ Internet Mail■ System Prompt■ Application Builder■ Service DN |
| Description | A high-level description of the changes. |

Limitations

The Administration Action report does not provide specific information about modified items. The collected data only indicates that a modification has occurred.

The Affected Item filtering criteria filters all actions according to a specific item. As the content of this item varies greatly, use another filtering item to create proper filtering criteria.

You cannot print this report as a graph.

Chapter 7

Traffic reports

In this chapter

| | |
|---|---------------------|
| Productivity Report | 186 |
| System Traffic Summary Report | 189 |

Productivity Report

How to use this report

Use this report to obtain information on productivity gains from using the CallPilot system. This information can be useful if you need to demonstrate

- the quantity of service provided by CallPilot
- the cost effectiveness of CallPilot
- an economic justification for CallPilot services

Additional information

This report requires traffic OM data.

Report data

This report provides the following information:

| Field | Description |
|-----------------------------------|---|
| Calls Summary | |
| Number of Incoming Calls | The number of calls that came in to the CallPilot system. |
| Number of Outgoing Calls | The number of outgoing calls originated by the CallPilot system. |
| Total Calls | The total number of incoming and outgoing calls to the CallPilot system. |
| Total Connect Time (Hours) | The total amount of connect time in hours due to all calls to and from the CallPilot system. |
| Equivalent Person Weeks | The number of 40-hour person-weeks required to handle the same service that CallPilot provided during the specified date/time interval. |

| Field | Description |
|--|---|
| Messaging Sessions | |
| Number of Express Voice Messaging Sessions | The total number of express voice messaging sessions. |
| Number of Call Answering Sessions | The total number of call answering sessions. |
| Number of Express Fax Messaging Sessions | The total number of express fax messaging sessions. |
| Number of Fax Call Answering Sessions | The total number of fax call answering sessions. |
| Number of Logon Sessions | The total number of logon sessions. |
| Number of Speech-Activated Messaging Sessions | The total number of speech-activated messaging sessions. |
| Messages Created | |
| Number of EVM/CA Voice Messages | The total number of voice messages created by Express Voice Messaging and Call Answering. |
| Number of EFM/FCA Fax Messages | The total number of fax messages created by Express Fax Messaging and Fax Call Answering. |
| Number of Logon Voice Messages | The total number of voice messages created during any type of session, including DTMF log on, voice/fax log on, or SAM. |
| Number of Logon Fax Messages | The total number of fax messages created during any type of session, including DTMF logon, voice/fax log on, or SAM. |
| Other Activity | |

| Field | Description |
|--------------------------------|---|
| Application Builder | The total number of AppBuilder sessions. |
| Remote Notification | The total number of remote notification attempts. |
| Deliveries to Telephone | The total number of delivery to telephone attempts. |
| Fax Deliveries | The total number of fax delivery attempts. |
| Enterprise Networking | The total number of Enterprise Networking calls. |
| AMIS Networking | The total number of AMIS Networking sessions. This includes Integrated and Open AMIS. |

System Traffic Summary Report

How to use this report

This report summarizes information about traffic patterns in your CallPilot system. Use this report to identify

- busy hours for your system
- services that are not being used
- services that are generating an unusually high amount of traffic
- periods when users have trouble logging on
- users who are not responding to their voice mail

Additional information

This report requires billing OM data.

You can print this report as a graph.

Report data

This report provides the following information:

| Column | Description |
|----------------------------------|--|
| Date/Time Period | The date and time period of the report. |
| Service Name | The name of the service, such as call answering, that was accessed. |
| Total Accesses | The total number of accesses made to the service. |
| Average Hold time (mm:ss) | The average length, in minutes and seconds, of an access to the service during the specified period. |

| Column | Description |
|----------------------------|---|
| CCS/Erlang | The traffic in centa call-seconds (CCS) or Erlangs. The numbers in a CCS calculation are rounded to the nearest integer, with the total being the total of the rounded integers. The numbers in an Erlang calculation are rounded to two decimals, with the total being the total of the rounded numbers. |
| Percentage of Period Total | The percentage of total traffic that this service generates. |

Identify busy hours for your system

Run this report with the interval set for one day, midnight to midnight. A bar graph is generated showing the traffic and accesses for each hour of the day. From this graph, it is possible to observe peak hours for traffic.

Note: If the reporting interval is 24 hours a day or less, the graph displays a bar of data for each hour. Otherwise, the graph shows a bar of data for each day.

Suggested action

- Run the service quality summary report to see if there are callers waiting or abandoning during the busy hour. If they are, then the System Traffic Summary Report tells what services they are trying to reach and can aid in identifying which services should have minimum and maximum channels adjusted in the SDN Table (see [“System Traffic Summary Report” on page 189](#)).

Identify services that are not being used

Check the number of accesses for each service. If a service has a low number of accesses, the service might not be working properly, or users might not be aware that it exists.

Suggested actions

- Ensure that the service has been installed on your CallPilot system.
- Ensure that the service is working correctly.

- Ensure that users are aware of the service and have been properly trained to use it.
- Check the time of the reporting interval. In some organizations, it is normal for certain services to be used less during some periods than others.

Identify services that are generating an unusually high amount of traffic

Check the Total Accesses field. If the number of accesses is higher for this service than for other services listed in the report, you might experience system performance problems.

Suggested actions

- Check that the high volume of traffic was not caused by an unusual event. For example, if you work for an airline company that advertises a one-day discount, expect unusually high usage statistics from a particular feature.
- If the high traffic for a particular service is expected to continue, you can set a minimum number of channels that must be available to a service in the SDN table. You can also expand the system if the overall traffic is higher than originally anticipated.
- If the problem is that a particular service is experiencing sporadic traffic spikes, and it is a less important application than others (like call answering), then consider setting a maximum number of channels for this service in the SDN Table.

Identify periods when users are having trouble logging on

If users are having trouble logging on to CallPilot at certain times, check the level of traffic for that time period.

Suggested action

- Check to see if periods when users cannot log on coincide with peak traffic hours for your system. If so, consider adding resources or reallocating them to better serve callers.
- Check the SDN Table for services with non-zero minimum channels settings and consider lowering the minimums.

Identify users who are not responding to their voice mail

Compare the number of accesses with the logon count provided by the Voice Messaging Activity Report (see “Voice Messaging Activity Report” on page 205). If the logon count is low compared to the number of accesses, users are accumulating several messages before logging on to listen to them. Too many accumulated messages lowers the amount of available disk space to the point where overall system performance can be affected.

Suggested actions

- Encourage users to keep up to date with their voice mail and faxes.
- Reduce the maximum allowable message length or increase storage capacity of the system. Contact your distributor.
- Run the Call Answering/User Responsiveness report to identify users who are not responsive (see “Call Answering/User Responsiveness Report” on page 194).

Chapter 8

Messaging reports

In this chapter

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| <u>Call Answering/User Responsiveness Report</u> | <u>194</u> |
| <u>Inactive User Report</u> | <u>197</u> |
| <u>Mailbox Call Session Summary Report</u> | <u>199</u> |
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| <u>Messaging Usage Report</u> | <u>213</u> |
| <u>Speech-Activated Messaging Report</u> | <u>216</u> |
| <u>Top Users of Storage Report</u> | <u>219</u> |
| <u>Users Exceeding Storage Limit Report</u> | <u>221</u> |

Call Answering/User Responsiveness Report

How to use this report

This report shows information about Call Answering (CA) and Express Voice Messaging (EVM) on a per-user basis. Use this report to identify users who are not

- receiving voice messages
- logging on to their mailbox

Additional information

This report requires billing OM data.

Report data

This report provides the following information.

| Column | Description |
|----------------------------|--|
| Name | The name of the mailbox owner. |
| Mailbox | The mailbox number. |
| Date | The date of the report interval. |
| Total CA+EVM Calls | The total number of CA and Express Voice Messaging (EVM) calls. |
| No Msg CA+EVM Calls | The total number of calls that resulted in no message being left by the caller. A no-message call occurs when a caller is routed to CA for a mailbox and does not leave a message. |

| Column | Description |
|---------------------------------------|--|
| Percentage Of No Message Calls | The percentage of no-message calls to total calls. |
| Logons | The number of successful logons. |

Identify users who are not receiving messages

Compare the total number of no-message calls with the total number of CA and EVM calls. If there is a higher percentage of calls than messages, users are hanging up without leaving a message, or are pressing 0 to speak to an attendant.

Suggested actions

- Ask users to review their greetings. If greetings are unfriendly or instructions are too complex, callers might hang up without leaving a message.
- Listen to the users' greetings.
 - If a greeting indicates an extended absence, expect a high percentage of no-message calls.
 - If users have not recorded a greeting, ask them to record one as soon as possible. If users are not available, record a temporary greeting on their behalf.
- Provide users with additional training on how to compose and maintain greetings.

Identify users who are not logging on to their mailbox

Compare the total number of CA and EVM calls to the number of logons. If there are more messages than logons, users are not retrieving their voice messages.

Suggested actions

- Find out if a user is absent. If so, you can archive the user's messages to tape.

- Check the user's greeting. If the user is absent but has not indicated this in his or her greeting, you can record a temporary absence greeting on his or her behalf.

Inactive User Report

How to use this report

This report shows users who are not maintaining their mailboxes. Use this report to identify users who are not

- logging on to their mailboxes
- reading their messages

Additional information

This report requires billing OM data.

Report data

This report provides the following information.

| Column | Description |
|-------------------------|---|
| Name | The user name associated with the mailbox. The report shows only the users whose last logon session preceded the Last Logon date. |
| Mailbox | The mailbox number of the user. |
| Unread Messages | The number of messages that were left unread at the time of the last logon session. If this field is blank, the user has not logged on during the range of dates in the database. |
| Last Log on date | The date of the last logon. |
| Last Log on Time | The time of the last logon. If this field is blank, the user has not logged on during the range of dates in the database. |

Identify users who are not logging on to their mailboxes

Check the user name and the last logon date. If users are not logging on to their mailboxes regularly, your messaging system is not being used effectively.

Suggested actions

- Check to see if any users are on vacation or extended leave.
- Remind users that stored messages consume disk space.
- When users leave the company, ensure that their mailboxes are removed from distribution lists. Unused mailboxes that are included on distribution lists continue to store messages that are sent to their owners.
- Use the Mailbox Call Session Summary Report to follow up on lack of user responsiveness (see [“Mailbox Call Session Summary Report” on page 199](#)).

Identify users who are not reading their messages

Check the user name and the number of unread messages. If users store messages over a long period of time, a high percentage of disk space is used. This can result in poor system performance.

Suggested actions

- Remind users that stored messages consume disk space.
- Provide additional training for users.
- Use the Mailbox Call Session Summary Report to follow up on lack of user responsiveness (see [“Mailbox Call Session Summary Report” on page 199](#)).

Mailbox Call Session Summary Report

How to use this report

This report provides information about each call session to a particular mailbox during the reporting period. Use this report to

- follow up on lack of user responsiveness
- identify suspicious caller DNs and long sessions that might indicate hacker activity
- investigate user complaints of delayed messages

Additional information

This report requires billing OM data.

Report data

This report lists each call made to a mailbox during the reporting period and provides the following details:

| Column | Description |
|--|--|
| Header: User Name, Mailbox Number | Indicates the user's name and the mailbox number. |
| Date/Time | The date and time of the call. |
| Session Length | The length of the session in hours, minutes, and seconds (hh:mm:ss). |

| Column | Description |
|----------------------------------|---|
| Session Type | <p>The type of session:</p> <p>VM—Voice Messaging</p> <p>MM—Multimedia Messaging</p> <p>EVM—Express Voice Messaging</p> <p>SAM—Speech Activated Messaging</p> <p>CA—Call Answering</p> <p>FCA—Fax Call Answering</p> <p>EFM—Express Fax Messaging</p> <p>This field includes the count of invalid logon attempts.</p> |
| Caller DN | <p>The telephone number (either internal extension or external phone number) that originated the call to the mailbox. This field can contain up to 17 digits.</p> |
| CA/EVM Voice Msg Received | <p>The total number of voice messages left during the CA or EVM session.</p> |
| FCA/EFM Fax Msg Received | <p>The total number of fax messages that arrived during the FCA or EFM session.</p> |
| Msg Read | <p>The total number of voice and fax messages that were read during the logon session.</p> |
| Msg Sent | <p>The number of voice and fax messages that the user sent during the logon session.</p> |
| Msg Unread | <p>The total number of unread voice and fax messages at the end of the session.</p> |

| Column | Description |
|------------------------------|---|
| Session End Indicator | Shows how the session ended: <ul style="list-style-type: none">■ applications error■ hung up■ time-out■ log off■ log on■ transfer■ switched to fax mode■ unknown |
| Transfer DN | If there was a call transfer during the session, this is the DN to which the caller was transferred. |

Identify sources of low user responsiveness

Identify sources of low user responsiveness by looking at the following fields:

- Add the values in the CA+EVM Msg Received and FCA/EFM Fax Msg Received fields. Compare this total to the value in the Msg Read field. If the number of read messages is lower than the total of the messages received, the user is not listening to all of his or her messages.
- Check the Session Type field to find users who do not log on often (few VM, MM, or SAM sessions).
- Check the Msg Unread field for unread messages at the end of a session.

Suggested actions

- If users are not logging on to their mailboxes or listening to messages, see if they need additional training.
- If a user is reporting delayed messages, check to see if unread messages (Msg Unread field) exist at the end of the logon sessions. If they do, the user might think the messages were not delivered until the next logon time. Some users might need training in how to retrieve messages.

Identify suspicious caller DN

If you suspect that a hacker is trying to access or has gained access to a particular mailbox, look at the sessions for that mailbox and identify the caller DNs. One of the DNs calling in to the mailbox could belong to the hacker.

Suggested actions

Enable Hacker Monitor to track suspicious caller DNs (referred to as CLIDs in Hacker Monitor). Whenever a monitored DN calls in to the system and logs on to a mailbox or places a thru-dial call, an alarm is generated in real time to notify you.

Identify long sessions

Check the Session Length field for especially long sessions (particularly CA and logon sessions). These indicate that a hacker has accessed the mailbox and has found a way of thru-dialing from your system to place long distance calls. Once in a mailbox, the hacker can set up a session and leave it open for a long time to sell services.

Suggested actions

- Check the status of the mailbox and its owner. Is the user actively using the mailbox, on vacation or extended leave, or no longer with your company?
- If the mailbox is unused because the user is no longer with your company, delete the mailbox immediately. Unused mailboxes are the targets of hackers and must be removed.
- If the user is temporarily away, you can either change the user's password or disable the mailbox until the user returns.
- If the mailbox is active, inform the user of the situation and ask the user to change the password immediately. Give the user tips on how to create secure passwords.
- Monitor the mailbox regularly.

Identify short sessions ending with a transfer

Look for mailboxes with a number of short logon sessions ending with a transfer. This is strong evidence that someone is using the mailbox just to place calls.

Suggested actions

- Check if the mailbox is used by a current employee.
- Check if the greeting suggests that the employee is not checking his or her mailbox.
- Check the restriction/permission list of the Mailbox Class to which the mailbox belongs.
- Force a password change to block further access.
- Enter the Caller DN of repeat callers into the hacker monitor.

Mailbox Counts Report

How to use this report

This report counts the number of mailboxes by mailbox class, department, and switch location. Use this report to get statistical information about the number of mailboxes in each department or switch location.

Additional information

You do not need to collect OM data to generate this report.

Report data

| Column | Description |
|---|----------------------------------|
| Mailbox Counts (Mailbox Class) Report | |
| Mailbox Class | The name of the mailbox class. |
| Mailbox Count | The total number of mailboxes. |
| Mailbox Counts (Department) Report | |
| Department | The department name. |
| Mailbox count | The total number of mailboxes. |
| Mailbox Counts (Switch Location ID) Report | |
| Switch Location ID | The name of the switch location. |
| Mailbox Count | The total number of mailboxes. |

Voice Messaging Activity Report

How to use this report

This report summarizes the voice messaging activity on your CallPilot system. Use this report to

- identify a high number of calls and long messages
- identify high numbers of abandoned calls
- identify discrepancies between the number of sessions and the number of messages
- gain an understanding of the number and length of each type of messaging session

Additional information

This report requires billing OM data.

Report data

| Column | Description |
|------------------------|--|
| Date | The date of the reporting interval. |
| Time Period | The time of the reporting interval. |
| CA/EVM Sessions | The number of Call Answering (CA) and Express Voice Messaging (EVM) sessions during the specified time period. |
| Logon Sessions | The number of voice messaging logon sessions during the specified time period. |

| Column | Description |
|--|---|
| Speech-Activated Messaging Sessions | The number of Speech-Activated Messaging sessions during the specified time period. |
| Desktop Message Transfer | The number of new voice messages received by clients. |
| Average Session Length (sec.) | The average length in seconds of CA, EVM, and logon sessions for the specified time period. |
| Maximum Session Length (sec.) | The longest length in seconds of CA, EVM, and logon sessions for the specified time period. |
| Call Answering Messages Created | The number of CA messages created during the specified time period. |
| Logon Messages Created | The number of logon messages created during the specified time period. |
| Average Message Length (sec.) | The average length of messages in seconds created during the specified time period. Since message length affects disk storage, use this information to determine whether enough disk space has been allocated for voice messages. |
| Maximum Message Length (sec.) | The longest message created during the specified time period. |

Identify a high number of calls and long messages

Compare the number of calls with the average message length. Too many calls in a short period of time, combined with users leaving long messages, ties up channels and prevents others from accessing the CallPilot system.

Suggested actions

- Reduce the maximum allowable length for messages.
- Consider expanding your system.

Identify a high number of abandoned calls

Compare the number of CA or EVM messages to the total number of CA or EVM sessions. If there are fewer messages than sessions, callers are abandoning their calls.

Suggested actions

- Ask users to review their greetings. If greetings are unfriendly or instructions are too complex, users might hang up without leaving a message.
- Listen to users' greetings.
 - If a greeting indicates an extended absence, expect a high percentage of no-message calls.
 - If users have not recorded a greeting, ask them to record one as soon as possible. If the users are not available, record a temporary greeting on their behalf.
- Provide users with additional training on how to compose and maintain greetings.

Identify discrepancies between the number of sessions and the number of messages

Compare the total number of CA sessions with the total number of CA messages created. The number of sessions should match or be similar to the number of messages created. If there are more sessions than messages, this means that after reaching the CA greeting, users are hanging up without leaving a message, or they are pressing 0 to transfer to an attendant. Callers might hang up without leaving a message if they are not familiar with the service. If hackers thru-dial out of your system during a CA session, you will receive CA sessions but no messages.

Suggested actions

- Users might need some training on using CA and EVM.
- Users should review their greetings. If greetings are unfriendly or instructions are too complex, callers might hang up without leaving a message.

- Run the Call Answering/User Responsiveness Report to determine which mailboxes have a high percentage of no-message calls (see [“Call Answering/User Responsiveness Report” on page 194](#)).
- If you suspect hacker activity, check the restriction/permission list that is assigned to the Call Answering/Express Voice Messaging Thru-Dial feature. You can also examine the Excessive Incomplete Messaging Accesses Alert (see “Excessive Incomplete Messaging Accesses Alert” on page 308).

Desktop Messaging Activity Report

How to use this report

This report summarizes the activity for the Desktop Messaging program on your CallPilot system. Use this report to determine how many

- voice messages are received by clients
- fax messages are received by clients

Additional information

This report requires billing OM data.

Report data

| Column | Description |
|----------------------------|---|
| Date | The date that the activity took place. |
| Time Period | The start and end time between which the activity took place. |
| New Voice Presented | The number of new voice messages received by clients. |
| New Fax Presented | The number of new fax messages received by clients. |

Identify number of fax messages received by clients

Check the New Fax Presented field.

Identify number of voice messages received by clients

Check the New Voice Presented field.

Fax Messaging Activity Report

How to use this report

Use this report to summarize the fax messaging activity on your CallPilot system. This report gathers fax usage statistics for individual mailbox users.

Additional information

This report requires billing OM data.

Report data

| Column | Description |
|--------------------------------------|---|
| Date | The date of the reporting period. |
| Time Period | The time of the reporting period. |
| Fax Call Answering Sessions | The number of times callers were routed to Fax Call Answering on the CallPilot system. |
| Express Fax Messaging Session | The number of times callers dialed the Express Fax service, which allows them to leave a fax message in a specific mailbox. |
| Call Answering Faxes Created | The number of fax messages created after callers were routed to the CallPilot system. |
| Express Faxes Created | The number of fax messages created after callers dialed the Express Fax service. |
| Logon Faxes Created | The number of fax messages created by users logged on to the CallPilot system. |

| Column | Description |
|----------------------------------|--|
| Average Fax Size (pages) | The average number of pages that make up one fax message. |
| Fax Print Sessions | The number of fax messages printed by users logged on to the CallPilot system. |
| Desktop Message Transfers | The number of new fax messages received by clients. |

How much fax traffic does each mailbox user handle?

Check the following fields to obtain information about the volume of fax traffic handled by each user:

- Call Answering Faxes Created
- Auto Attendant Faxes Created
- Average Fax Size (pages)
- Desktop Message Transfers

Suggested action

Assign users who handle a high volume of faxes to a mailbox class with more storage capacity.

Are callers leaving fax messages?

Compare the number in the Fax Call Answering Sessions field with the number in the Call Answering Faxes Created field. Compare the number in the Fax Auto Attendant Sessions field with the number in the Auto Attendant Faxes Created field. If the number of sessions is much greater than the number of faxes created, then callers might not understand how to leave a fax message, or a nonexistent mailbox might be specified for Fax Auto Attendant.

Suggested actions

- Review the prompts used for Fax Call Answering to determine if they can be made more direct and helpful. If so, rerecord the prompts.

- If only one mailbox is specified for Fax Auto Attendant, make sure the mailbox number is correct.

Messaging Usage Report

How to use this report

This report provides a daily summary of how many system resources a mailbox is using. It reports on the amount of channel, storage, and network resources used, as well as the aggregate number of messages sent and received. Use this report to gather statistics for a mailbox's

- resource usage
- messages sent and received

Additional information

- Before running or printing this report, specify a period of at least 24 hours in the Reporting Interval dialog box. This ensures that the information in your report spans a significant length of time.
- This report requires billing OM data.

Report data

| Column | Description |
|-----------------------------------|---|
| Name | The first and last name of the mailbox owner. |
| Mailbox # | The number of the mailbox. |
| Date | The date for which mailbox usage data is provided. |
| Channel Connect Time (sec) | <p>The total amount of time that the mailbox was connected to a channel on the specified date.</p> <p>Note: The channel connect time does not include outcalling time.</p> |

| Column | Description |
|----------------------------------|---|
| Storage (mm:ss) | The average amount of disk space used by the mailbox on the specified day, in minutes and seconds. This includes the amount of space taken up by voice messages, fax messages, and greetings. |
| Storage (kbytes) | The average amount of disk space used by the mailbox on the specified day, in kbytes. |
| Number of SAM Sessions | The number of Speech-Activated Messaging sessions that occurred on the specified date. |
| Desktop Message Transfers | The number of new voice and fax messages received by clients. |
| Messages Received | The total number of messages received by the mailbox on the specified date. |
| Messages Sent | The total number of messages originating from the mailbox on the specified date. |
| Total | The average amount of disk space used per mailbox on the specified date. |
| Grand Total | The average amount of storage space used per mailbox during the reporting interval. |

How much messaging traffic does each mailbox user handle?

Check the following fields to obtain information about the volume of messaging traffic handled by each user:

- Messages Sent
- Messages Received
- Storage (kbytes)
- Number of SAM sessions

Suggested action

Assign users who handle a high volume of messages to a mailbox class with more storage capacity.

Are there long channel connect times?

Check the Channel Connect Time (sec) field for lengthy connections. These might indicate that hackers are using the mailbox to place outcalls.

Suggested actions

- Check the status of the mailbox and its owner. Try to determine if there is a reason for the lengthy connections. Is the user actively using the mailbox, on vacation or extended leave, or no longer with your company?
- If the mailbox is unused because the user is no longer with your organization, delete the mailbox immediately. Unused mailboxes are targets for hackers and must be removed.
- If the user is temporarily away, you can either change the user's password or disable the mailbox until the user returns.
- If the mailbox is active, inform the user of the situation and ask the user to change the password immediately. Give the user tips on how to create secure passwords.
- Monitor the mailbox regularly.

Speech-Activated Messaging Report

How to use this report

This report summarizes information about each Speech-Activated Messaging (SAM) session to a particular mailbox. Use this report to gather SAM usage statistics for individual users who have reported trouble with SAM.

Additional information

This report requires trace OM data.

Report data

| Column | Description |
|--|---|
| Header: User Name, Mailbox number | The last name and first name of the mailbox user, and the number of the mailbox. |
| Date/Time | The date and time of the session. |
| Session Length | The length of the session. |
| Caller DN | The directory number from which the call originated. |
| Total Unsuccessful Logon Attempts | The total number of unsuccessful Speech Recognition (SR), Dual-tone multifrequency (DTMF), and Mixed logon attempts during the attempted SAM session. |
| Unsuccessful SAM Logon Attempts | The number of unsuccessful logon attempts to SAM using SR. |
| Unsuccessful DTMF Logon Attempts | The number of unsuccessful logon attempts to SAM using DTMF. |

| Column | Description |
|--|---|
| Unsuccessful Mixed Logon Attempts | The number of unsuccessful logon attempts to SAM using either SR or DTMF. |
| Logon Result | 0 = success with SR 1 = success with DTMF 2 = success with SR and DTMF 3 = max. invalid 4 = hung up 5 = canceled 6 = timed out 7 = locked out |
| Total Recognitions | The total number of attempted recognitions of user speech (utterances) by the speech recognizer. |
| Accepted Recognitions% | The percentage of attempted recognitions by SR that were successful and did not require a confirmation query of the user. These occurred because the speech recognizer was statistically confident it understood the users utterance. |
| Queried Recognitions% | The percentage of attempted recognitions by SR that were successful but required a confirmation query of the user. These occurred because the speech recognizer thought it understood the user's utterance, but it was statistically unsure and thus queried the user to confirm. |
| Rejected Recognitions% | The percentage of attempted recognitions by SR that failed. These occurred because the speech recognizer did not understand the user's utterance and thus had to ask the user to try again. |
| DTMF Switches | The number of switches from SAM to DTMF (either 0 or 1). |

High percentage of Queried or Rejected recognition attempts

A high percentage of Queried or Rejected recognition attempts indicates that the user was struggling to be recognized during this SAM session. If the user switched to DTMF, then the user “gave up” on using SR for this session.

Suggested actions

This might be a one-off SAM session for a user who normally has success with SR. There might have been temporary factors that affected SR performance, such as a bad connection or noisy background, a user not speaking normally due to fatigue, or other factors. This would be indicated if other SAM sessions for this user do not show problems.

However, some users consistently have problems with SR. Typically, users experience the greatest difficulty with having their mailbox number and password being recognized successfully. Once they are successfully logged on, they can use the SAM commands. Users who fit this profile can try some of the following alternatives:

- If the phone is not in an open office environment, program the mailbox for autologon to eliminate the need to speak the mailbox number and password.
- If users are calling from a wireless telephone, have them program the mailbox number and password into speed-dial.
- Remind users that if they are calling from a DTMF phone, they can use DTMF whenever prompted for a number, including mailbox number, password, or addresses when composing a message.
- If users are using SAM because they occasionally pick up messages from a rotary phone and do not have DTMF, then set up a SAM service that uses Paced Digit Recognition. It is slower but much more reliable at recognizing a mailbox number and passwords.

Top Users of Storage Report

How to use this report

Use this report to display the top 50 users of storage as of the date specified by the report.

Additional information

- This report requires traffic OM data.
- You must run the system to be reported on for at least one full day (24 hours) before the data in this report is valid.

Report data

| Column | Description |
|---------------------------------|---|
| Name | The name associated with the mailbox. |
| Mailbox | The number of the mailbox. |
| Storage Used (mm:ss) | The total storage used by the mailbox, including greetings, in minutes and seconds, taken at the date noted beneath the report title. |
| Storage Used (fax pages) | The total amount of disk storage used by the user, in fax pages. |
| Storage Used (Kbytes) | The total amount of disk storage used by the user, in kbytes. |
| Mailbox Class | The mailbox class for the mailbox. |
| Switch Location | The name of the switch location. |

Which users are using the most storage?

Check the mailbox number and the total amount of disk storage taken up by each user. Storage of messages for long periods of time or storing too many messages can reduce system performance.

Suggested actions

- Remind users that stored messages take up valuable space.
- Ask users to delete old messages.
- If you suspect that users are exceeding their storage limit, run the Users Exceeding Storage Limit Report.

Users Exceeding Storage Limit Report

How to use this report

Use this report to identify users who are exceeding the storage limit established by their mailbox class.

Additional information

This report requires traffic OM data.

Report data

| Box | Description |
|------------------------------|--|
| Name | The user name associated with the mailbox. |
| Mailbox | The number of the mailbox. |
| Storage Used (mm:ss) | The total storage used by the user's mailbox, including greetings, in minutes and seconds, taken at the date noted beneath the report title. |
| Storage Limit (mm:ss) | The maximum storage allowed by the mailbox class. |
| Percent Above Limit | The storage exceeding the mailbox class, as a percentage. |
| Mailbox Class | The mailbox class of the mailbox. |
| Switch Location ID | The switch location of the mailbox. |

Which users are exceeding their storage limit?

Check the following fields for information about users who are taking up more than their allotted percentage of disk space:

- Percent Above Limit
- Storage Used (mm:ss)
- Storage Limit (mm:ss)
- Mailbox Class

If too many users exceed their storage limit, system resources are tied up, reducing overall system performance.

Suggested actions

- Contact the appropriate users and ask them to delete old messages.
- Reduce the message retention period set in Mailbox Classes.
- Prevent mailboxes from accepting messages when they are full.
- Ask technical support to move users who need large amounts of storage to volumes on the hard disk that have more available storage space.

Note: Administrators do not have this permission.

- Run the Call Answering/User Responsiveness Report to see if users are checking their messages (see [“Call Answering/User Responsiveness Report” on page 194](#)). If users are not checking their messages, find out if they are on extended leave. If a user is absent and his or her mailbox is exceeding capacity, you can archive his or her messages to tape.

Chapter 9

Multimedia report

In this chapter

[Building Block Summary Report](#)

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Building Block Summary Report

How to use this report

Use this report to determine if you need to redesign any applications created with Application Builder. This report collects information about how certain building blocks are accessed by callers during a defined time period. This helps you to determine if callers are using the blocks efficiently.

Graph format

For this report, you must generate graphs on a block-by-block basis. You cannot generate one graph for the entire report. Make sure the following criteria are selected on the Selection Criteria property page:

| Item | Operator | Value |
|--------------|-------------|--|
| Block Name | Is Equal To | Type the name of the appropriate block. |
| ServiceAppID | Is Equal To | Type the appropriate ServiceAppID. |
| Block Type | Is Equal To | Choose the appropriate block type: 1=Announcement 2=Thru-Dial 3=Call Transfer 4=Fax Select 5=menu |

Additional information

This report requires billing OM data.

Report data

| Column | Description |
|---|--|
| ServiceAppID | The unique number used to identify the AppBuilder application in which the block resides. If the application is in the Service DN Table, then the application is called a service. |
| Block Name | The name given to the block when it was placed in the application. |
| Block Type | <p>The type of block. This report records information for five types of blocks:</p> <ul style="list-style-type: none">■ Announcement■ Call Transfer■ Fax Select■ Menu■ Thru-Dial |
| Date and Time Period | The date and time the report data was collected for the block. |
| Number of Times Each Key Has Been Used | The total number of times that callers pressed keys on the phoneset to interact with the block. |
| Number of Accesses | The number of times this block was reached/accessed. |
| Number of Abandonments | The number of calls that were abandoned while in this block. |
| Average Access Time | The average amount of time callers interacted with the block. |
| # of Faxes Selected | The number of faxes selected by callers in an application that contains Fax Select blocks. |

Types of blocks

Before you can effectively use the information in this report, you must understand the difference between the types of blocks. The report information applies differently to each block.

In general, AppBuilder applications use two categories of blocks—building and system. This report is concerned with building blocks, which are combined to create voice and fax applications. System blocks are used in voice and fax applications that provide links to existing applications on the system.

In particular, this report is concerned with five types of building blocks—Announcement, Call Transfer, Fax Select, Menu, and Thru-Dial.

Announcement

The Announcement block provides the primary way to play voice in an application.

Call Transfer

The Call Transfer block transfers callers to the default attendant or an extension of their choice.

Fax Select

The Fax Select block contains a fax document that a caller can select for same-call or callback delivery.

Menu

The Menu block gives callers options and their corresponding keys on the phoneset.

Thru-Dial

The Thru-Dial block provides an automated attendant service that transfers callers to the extension of their choice.

How many times did callers press keys?

By looking at the # of Accesses field, you can determine how many times callers pressed keys for each block. A large number of key presses for a block can indicate unnecessary or misplaced information, or hacker activity.

Unnecessary or misplaced information

If the # of Accesses field contains a large number for an Announcement block, then callers are pressing keys on the phoneset to interrupt and bypass the announcement.

A large number implies one of the following situations: the announcement is unnecessary, it needs to be repositioned elsewhere in the application, or it needs to be configured so that callers cannot interrupt it.

Hacker activity

Check the # of Accesses field for the Thru-Dial block. If the field contains a large number for this block, someone might be using the application to try to place calls to long distance numbers. To discourage hacker activity, you can password-protect the Thru-Dial block. As well, you can ensure that its restriction/permission list does not allow long distance calls.

How long did callers use a block?

Look at the Average Access Time field for any block. If the average time is long, callers could be experiencing difficulty interacting with that particular block.

Consider how a block and its related voice items can hinder a caller's interaction. For example, if callers take a long time at the Thru-Dial block, then they probably do not understand how to enter the number that they want dialed. If callers take a long time at the Menu or Fax Select blocks, they do not understand the choices associated with these blocks or how to indicate a choice.

Chapter 10

Outcalling reports

In this chapter

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| <u>DTT Audit Trail Summary Report</u> | <u>234</u> |
| <u>DTT Audit Trail Detail Report</u> | <u>236</u> |
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DTT Activity Report

How to use this report

This report monitors use of the Delivery to Telephone (DTT) service. Use this report to determine

- how much the service is being used
- if messages are being delivered
- whether the DTT service is able to acquire channels when needed
- whether the DTT retry settings are adequate

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|-------------------------|---|
| Date/Time Period | The date and interval of the specified reporting period. |
| New Requests | The total number of new requests for message delivery that were made to the DTT service during the reporting period. A request is made whenever a user tries to compose and send a message to a telephone number that does not have a mailbox defined in your system. |

| Column | Description |
|----------------------------------|--|
| Retry Failures | The number of times the DTT service tried to resend messages that could not be delivered because the retry limit was reached or exceeded. DTT tries to resend a message when a call attempt results in a busy, no answer, or answer (but no Dual-tone multifrequency confirmation) condition up to the number of times defined as the retry limit. If the user entered an address restricted by the switch, the attempt is counted as a retry failure. |
| Other Failures | The number of DTT call attempts where the call could not be completed. A failure can indicate that a message became stale or that the user entered an address restricted by the RPL assigned to DTT. |
| Average Wait Time (mm:ss) | The average amount of time that the DTT service had to wait during the reporting period to acquire a channel to make the outcall. |
| Maximum Wait Time (mm:ss) | The longest amount of time that the DTT service had to wait during the reporting period to acquire a channel to make the outcall. |
| Blocked Attempts | The number of DTT attempts that were blocked due to the unavailability of channels. |

Is the service being used?

Check the number of new requests. A low number can indicate minimal use of the DTT service. This can be caused by lack of awareness of the service among users, or lack of knowledge of how to use the service.

A low number of requests can also indicate a very restrictive RPL. Since the address is checked when the message is composed, a request is not made if the number is restricted.

Suggested actions

- Find out if users know about the feature and how to use it.
- If necessary, provide users with additional training.
- Requests are denied if the telephone number is restricted. Check the restriction/permission list assigned to DTT/DTF in your mailbox classes and check NCOS, TGAR, and CLS settings on the switch to make sure that delivery to the required external phone numbers is allowed.
- If the restricted numbers are appropriate, inform users of the restricted numbers to which they are not allowed to address messages.

Are messages being delivered?

Compare the number of successes to the number of new attempts. If the number of successes is lower than the number of attempts (or there is a high number of failures), messages are not being delivered.

Suggested actions

- Check the DTT setup in Outcalling Administration.
 - Make sure the economy delivery time overlaps with the allowed delivery times.
 - Make sure the stale time setting is not causing messages to become too old too soon.
- Check the average wait time, maximum wait time, and blocked attempts to see if the DTT service is having problems acquiring channels.
- Check the retry failures to see if the DTT retry limits are causing delivery failures.
- Check if the RPL assigned to DTT was changed. If the logon session allows a user to compose a message to an address but the RPL is later changed, the request fails and is logged under Other Failures.

Are allocated channel resources adequate?

High values in the following fields can indicate that the current channel allocations for the DTT service are insufficient for the amount of traffic DTT is generating:

- Average Wait Time
- Maximum Wait Time
- Blocked Attempts

Suggested actions

Increase the minimum or maximum number of channels, or both, allocated to the DTT service. Do this in the SDN Table by modifying the outbound SDN assigned to DTT. If you do not have enough channels to handle the traffic, you might have to purchase additional channels or change the allocations for other services.

Are retry limits appropriate?

If the number of retry failures is high, the retry limits for DTT might be too low.

Suggested action

Increase the DTT retry limits that are defined in Outcalling Administration.

DTT Audit Trail Summary Report

How to use this report

Use this report to determine which call attempts are responsible for the high retry counts and failures detected by the DTT Activity Report.

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|--|
| Name | The name of the mailbox owner. |
| Mailbox | The mailbox number from which the call originated. |
| Date | The date the call was made. |
| Time | The time the call was made. |
| Duration (hh:mm:ss) | The duration of the call in hours, minutes, and seconds. |
| Target Phone Number | The telephone number that was called. |

| Column | Description |
|----------------------|--|
| Call Status | <p>The result of the call in a numeric return code:</p> <p>4 = Operation successful</p> <p>14 = Could not reach destination: The phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of message delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of message delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> |
| Retry Counter | <p>The total number of retry attempts that were made at the time of the call attempt. This field increments by one each time.</p> |

DTT Audit Trail Detail Report

How to use this report

Use this report to monitor DTT usage.

Additional information

This report requires traffic OM data.

Report data

| Box | Description |
|----------------------------|--|
| Name | The name of the mailbox owner. |
| Msg ID | The identification number of the message. |
| Target Phone Number | The telephone number that was called. |
| Date | The date the call was made. |
| Time | The time the call was made. |
| Duration (hh:mm:ss) | The length of the call in hours, minutes, and seconds. |
| Call Retries | The total number of retry attempts that were made. This field increments by one each time. |

| Box | Description |
|---------------------|--|
| Process Type | <p>One of the following audit trail entry types displays:</p> <p>1 = Server process. This could be a submission of a new request, the rescheduling of a request, or the removal of a request.</p> <p>2 = Agent made a call.</p> <p>3 = Agent attempted to make a call but failed. This could be due to restriction/permission settings, problems with the switch (for example, no dial tone) or configuration.</p> |
| Call Status | <p>The result of the call in a numeric return code:</p> <p>4 = Operation successful</p> <p>14 = Could not reach destination: The phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of multimedia msg delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of multimedia msg delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> |
| Action | <p>The action performed on the request. The possibilities include</p> <p>1 = Reschedule</p> <p>2 = Remove</p> <p>3 = Add</p> |

| Box | Description |
|-----------------------|---|
| Reason | Why an action occurred in a numeric code 1 = Answer limit exceeded 2 = Busy limit exceeded 3 = No answer limit exceeded 4 = End of period 5 = User logon 6 = RN disabled 7 = New message arrival 8 = Delivery OK 9 = Delivery failed 10 = Message deleted 11 = Message read 12 = Invalid DN |
| Channel Number | The DN of the channel used to place the call. |

Fax Deliveries Activity Report

How to use this report

This report monitors Delivery to Fax (DTF) and fax printing activity over a specified time period. This means you get reports on fax deliveries to non-mailbox numbers (Delivery to Fax) as well as fax callback numbers entered by callers who have accessed services created with Application Builder that contain Fax Send blocks. In this last instance, the DTF service is also used to deliver the faxes to callers. Use this report to determine

- how much these services are being used
- if messages are being delivered
- whether the DTF service is able to acquire channels when needed
- whether the DTF retry settings are adequate

Additional information

- This report requires traffic OM data.
- You can print this report as a graph.

Report data

| Column | Description |
|-------------------------|--|
| Date/Time Period | The date and time interval of the specified reporting period. |
| New Requests | The total number of new requests for fax delivery that were made during the reporting interval. A request is counted whenever a user tries to forward a fax to a mailbox, or a telephone number that is not a mailbox, or when a caller into an Application Builder service requests that a fax be delivered to a callback number. |

| Column | Description |
|----------------------------------|--|
| New Attempts | The total number of attempts made to process the new requests for DTF and fax printing services during the specified time period. |
| Retries | The number of times that the DTF service retried delivering faxes that could not be delivered. DTF retries fax delivery when the destination fax device is busy or there is no answer, or when there is a transmission failure. |
| Successes | The total number of successful fax deliveries during the specified time period. |
| Retry Failures | The number of times that faxes could not be delivered because the retry limit was reached or exceeded. The system retries delivery attempts if the destination fax machine is busy or does not answer, if the connection cannot be made, or if there is a transmission error. If the target fax number is restricted by the switch, the attempt is counted as a retry failure. |
| Other Failures | The number of times faxes could not be delivered for reasons other than retry failures. A failure logged in this field can indicate that a fax became stale or that the target fax number is restricted in the RPL. |
| Average Wait Time (mm:ss) | The average amount of time the system waited to acquire a channel to deliver faxes. |
| Maximum Wait Time (mm:ss) | The longest amount of time the system had to wait to acquire a channel to deliver a fax. |
| Blocked Attempts | The number of fax delivery attempts that were blocked because channels were not available. |

Are the services being used?

Check the number of new requests. If the number is low, callers might not be aware that the service exists, or they might not understand how to use the feature. Also, there could be a hardware or software problem.

A low number of requests can indicate a very restrictive RPL. Since the address is checked when the message is composed, a request is not made if the number is restricted.

Suggested actions

- Make sure the prompts recorded for the Application Builder service are worded clearly.
- Look for ways to promote the applications to users and callers (in the case of Application Builder services).
- Requests are denied if the fax number is restricted. Check the restriction/permission list assigned to DTT/DTF in your mailbox classes and check NCOS, TGAR, and CLS settings on the switch to make sure that delivery to the required external fax numbers is allowed.
- If the restricted numbers are appropriate, inform users of the restricted numbers to which they are not allowed to send faxes.
- If the Application Builder service has been restored from backup, make sure the service has been opened, checked, and saved. Otherwise, callers hear an error prompt.
- Investigate technical problems and correct the situation.

Are messages being delivered?

If the number of successes is lower than the number of new attempts (or there is a high number of failures), faxes are not being delivered.

Suggested actions

- Check the DTF setup in Outcalling Administration.
 - Make sure the economy delivery time overlaps with the allowed delivery times.
 - Make sure the stale time setting is not causing faxes to become too old too soon.

- Check the average wait time, maximum wait time, and blocked attempts to see if the DTF service is having problems acquiring channels.
- Check if the RPL assigned to DTT/DTF was changed. If the logon session allows a user to send a fax to a particular fax number but the RPL is later changed, the request fails and is logged under Other Failures.
- Check the retry failures to see if the DTF retry limits are causing delivery failures or if there are indications of problems with the destination device.

Are allocated channel resources adequate?

High values in the following fields may indicate that the current channel allocations for the DTF service are insufficient for handling the amount of traffic DTF is generating:

- Average Wait Time
- Maximum Wait Time
- Blocked Attempts

Suggested actions

- Increase the minimum or maximum number of channels allocated to the DTF service. Do this in the SDN Table by modifying the outbound SDN assigned to DTF (and Multicast DTF, which is used to send broadcast fax messages).
- If you do not have enough channels to handle the traffic, you might have to purchase additional channels or change the allocations for other services.

Are retry limits appropriate?

Check the number of fax retries. Large numbers of retries indicate there were problems making a connection to the destination fax machine (busy, no answer, no carrier, transmission error).

Suggested actions

- To determine specific instances of high retries, run the Fax Audit Trail Summary Report for the corresponding time interval to see if the causes are due to no carrier or transmission errors (see [“Fax Print Audit Trail”](#)).

[Summary Report” on page 251](#)). If this is the case, contact the organization to which you are sending faxes and ask them to examine their equipment.

- Consider increasing some of the retry limits that are configured in Outcalling Administration.

Fax On Demand Audit Trail Summary Report

How to use this report

This report provides summary information about Delivery to Fax calls placed by Application Builder services with fax callback capability. Use this report to investigate potential fax delivery problems that certain services are experiencing. For example, the Fax Deliveries Activity Report alerts you to the fact that a significant number of fax deliveries were unsuccessful due to retry failures. You can generate the Fax on Demand Audit Trail or the Fax Deliveries Activity Report to get details such as the called DN and the reason for the retry failure (no carrier versus transmission problems, for example).

Use this report to troubleshoot

- problems with an Application Builder service
- problems with a particular fax device
- the cause of lengthy fax delivery sessions

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|--|
| Date/Time | The date and time of the fax delivery. |
| Duration (hh:mm:ss) | The length of the call in hours, minutes, and seconds. |
| Target Phone Number | The destination DN (fax phone number) of the call. |

| Column | Description |
|----------------------------|--|
| Call Status | <p>The result of the call, in a numeric return code:</p> <p>4 = Operation successful</p> <p>6 = Protocol error</p> <p>14 = Could not reach destination: the phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of message delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of message delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> <p>23 = Local system error</p> |
| Successful Delivery | <p>Whether the fax was successfully delivered (Yes or No).</p> |
| Service DN | <p>The Service Directory Number (SDN) of the Application Builder service from which a caller requested fax delivery to a callback number.</p> |
| App Name | <p>The name of the service (application) from which a caller requested fax delivery to a callback number.</p> <p>Note: The App Name only shows the current information associated with the Service DN. This information might not match the App Name at the time the call is made due to changes in the Service DN application or the application's session profile.</p> |

| Column | Description |
|-------------------|--|
| Billing DN | <p>The billing directory number of the application that originated the call.</p> <p>Note: The Billing DN only shows the current information associated with the Service DN. This information might not match the Billing DN at the time the call is made due to changes in the Service DN application or the application's session profile.</p> |

Is there a problem with an Application Builder service?

If callers are requesting faxes from a particular service and faxes are regularly not delivered, there could be a problem with the service setup.

Check the Successful Delivery field for calls that were not successful. Then check the SDN and App Name fields to see whether faxes requested from particular services are not being delivered.

Suggested action

Check the session profile of the Application Builder service (accessible from the SDN Table). If the page transmission error handling is set to Quit, then faxes are not delivered if there is an error. Set this option to Continue to allow the service to retry transmission.

Is there a problem with a particular fax device?

Faxes sent to a particular fax device might not be delivered if there is a problem with the receiving fax device. The fax machine could be out of paper or turned off, for example.

Check the Successful Delivery field for calls that were not successful. Then check the Target Phone Number field to see if failed deliveries are associated with the same DN(s).

Suggested actions

- Contact the owner of the called DN to identify whether there is a problem with the destination device.
- Run the Fax On Demand Audit Trail Detail Report.

Are there any lengthy sessions?

Check the Duration field for fax delivery sessions that are especially long. A long session might indicate that hackers have gained access to an Application Builder service with fax callback capability and are using it to send faxes to pay-per-call numbers.

Suggested actions

- Take the Application Builder application out of service until the problem is fixed.
- Reduce the session time limit in the service's SDN configuration.
- Follow up to see if the called DN is a pay-per-call number. If so, report your findings to the system administrator.
- If the service allows toll calls, consider assigning a more restrictive restriction/permission list to the service.
- Consider using password blocks to require callers to enter passwords before entering callback numbers that incur long distance charges.

Fax On Demand Audit Trail Detail Report

How to use this report

This report traces the fax delivery process from the outcall request to the final outcome. Use it to help you determine why a specific fax delivery attempt has failed. The results and the reason for the failure are provided.

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|--|
| Target Phone Number | The target DN of the fax delivery attempt. |
| Msg ID | The unique number the system assigned to each Delivery to Fax request. This allows all requests to be tracked. |
| Date | The date of the fax delivery attempt. |
| Time | The time of the fax delivery attempt. |
| Duration (hh:mm:ss) | The length of the call in hours, minutes, and seconds. |
| Service DN | The Service DN of the service from which the callback fax call originated. |
| Call Retries | The total number of retries for this request that have been made since the first attempt to deliver the fax. After each attempt, the counter increments by one. (The first attempt is considered retry 0.) |

| Column | Description |
|---------------------|--|
| Process Type | <p>The type of audit trail entry:</p> <p>1 = Server process. This could be a submission of a new request, the rescheduling of a request, or the removal of a request.</p> <p>2 = Agent made a call.</p> <p>3 = Agent attempted to make a call but failed. This could be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration.</p> |
| Call Status | <p>The result of the call, in a numeric return code:</p> <p>4 = Operation successful</p> <p>6 = Protocol error</p> <p>14 = Could not reach destination: the phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of message delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of message delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> <p>23 = Local system error</p> |
| Action | <p>The action performed on the request. The possibilities include</p> <p>1 = Reschedule</p> <p>2 = Remove</p> <p>3 = Add</p> |

| Column | Description |
|-----------------------|---|
| Reason | Why an action occurred: 1 = Answer limit exceeded 2 = Busy limit exceeded 3 = No answer limit exceeded 4 = End of period 5 = User logon 6 = Disabled 7 = New message arrival 8 = Delivery OK 9 = Delivery Failed 10 = Message Deleted 11 = Message Read 12 = Invalid DN |
| Channel Number | The DN of the channel used to place the call. |

Fax Print Audit Trail Summary Report

How to use this report

This report tells you whether problems are with particular fax machines or are associated with particular mailboxes. Use it to determine which fax printing attempts are causing high retry counts and failures. This report is used with the Fax Print Audit Trail Detail Report.

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|--|
| Date | The date of the fax printing attempt. |
| Time | The time of the fax printing attempt. |
| Duration (hh:mm:ss) | The length of the call in hours, minutes, and seconds. |
| Target Phone Number | The DN of the fax device to which the fax was sent for printing. |

| Column | Description |
|----------------------------|--|
| Call Status | The call in a numeric return code: 4 = Operation successful 6 = Protocol error 14 = Could not reach destination: the phone number dialed is busy 15 = Destination did not answer the call 17 = Long silence detected 18 = Voice parts of message delivered; fax parts exist but were not delivered 19 = Fax parts of message delivered; voice parts exist but were not delivered 22 = Invalid destination number or Bad/Invalid Address 23 = Local system error |
| Successful Delivery | Whether the fax was successfully printed (Yes or No). |
| Name | The first and last name of the user who printed the fax. |
| Mailbox | The number of the mailbox from which the print request originated. |

Is there a problem with a particular fax machine?

Check the Target Phone Number field to see if printing problems are occurring with the same fax DN.

Suggested actions

- Test the fax machine associated with the DN to see if there are problems.
- To explore the cause of the problems in greater detail, run the Fax Print Audit Trail Detail Report (see [“Fax Print Audit Trail Detail Report” on page 253](#)).

Fax Print Audit Trail Detail Report

How to use this report

This report traces the fax delivery process from the print request to the final outcome. Use it to help you determine why a specific fax print delivery attempt failed. The results and the reason for the failure are provided. This report is available only if Multimedia Messaging is enabled on your system.

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|--|
| Target Phone Number | The number of the fax machine to which the fax was sent for printing. |
| Msg ID | The identification number assigned to the fax for tracking purposes. |
| Date/Time | The date and time of the printing attempt. |
| Duration (hh:mm:ss) | The length of the call in hours, minutes, and seconds. |
| Mailbox | The number of the mailbox that requested fax printing. |
| Call Retries | The total number of retries for this request that have been made since the first attempt. After each attempt, the counter increments by one. |

| Column | Description |
|---------------------|---|
| Process Type | <p>The type of audit trail entry:</p> <p>1 = Server process. This could be a submission of a new request, the rescheduling of a request, or the removal of a request.</p> <p>2 = Agent made a call.</p> <p>3 = Agent attempted to make a call but failed. This could be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration.</p> |
| Call Status | <p>The result of the call in a numeric return code:</p> <p>4 = Operation successful</p> <p>6 = Protocol error</p> <p>14 = Could not reach destination: the phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of message delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of message delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> <p>23 = Local system error</p> |
| Action | <p>The action performed on the request. The possibilities include</p> <p>1 = Reschedule</p> <p>2 = Remove</p> <p>3 = Add</p> |

| Column | Description |
|-----------------------|---|
| Reason | Why an action occurred: 1 = Answer limit exceeded 2 = Busy limit exceeded 3 = No answer limit exceeded 4 = End of period 5 = User logon 6 = Disabled 7 = New message arrival 8 = Delivery OK 9 = Delivery Failed 10 = Message Deleted 11 = Message Read 12 = Invalid DN |
| Channel Number | The DN of the channel used to place the call. |

Are there recurring fax printing failures?

Repeated failures to print faxes could indicate problems with the channel hardware. Look at the Channel Number field to determine which channel was acquired to print the fax. If the same DN keeps recurring along with printing failures, this can indicate channel problems.

RN Activity Report

How to use this report

This report can help you to determining Remote Notification (RN) busy times. Use it to obtain information about Remote Notification activity during a specified time period.

Use this report to troubleshoot

- low usage of the remote notification feature
- problems with restriction/permission lists applied to remote notification
- inadequate channel allocations for the service

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|--------------|---|
| Date | The date of the specified period. |
| Time Period | The time of the specified period. |
| New Requests | The number of new RN requests during the specified time period. |

| Column | Description |
|----------------------------------|---|
| Retry Failures | <p>The number of RN attempts that failed because the user did not log on to listen to new messages before the retry limit was exceeded. This can indicate one of the following situations:</p> <ul style="list-style-type: none"> ■ The notification could not be delivered because the retry limit was exceeded and RN for that message stopped. ■ The notification was delivered, but the user did not log on to listen to the new message. ■ The target DN is restricted on the switch. |
| Other Failures | <p>The number of RN attempts that failed due to reasons other than retry failures. A failure can occur if</p> <ul style="list-style-type: none"> ■ The RPL assigned to DTF was changed after an RN request was accepted. ■ A notification request occurs outside the allowed time period. |
| Average Wait Time (mm:ss) | The average amount of time, in minutes and seconds, it took the RN service to acquire channels to place notification calls during the specified time period. |
| Maximum Wait Time (mm:ss) | The longest amount of time, in minutes and seconds, it took for the RN service to acquire a channel to make a call. |
| Blocked Attempts | The total number of times that an RN attempt was blocked because a channel could not be acquired. |

Is the service being used?

A low number in the New Requests field can indicate low use of the RN service. This might be due to a lack of awareness of the service among users or a lack of knowledge of how to use the service.

A low number of new requests can also indicate that the RN server is out of service or not working.

Suggested actions

- Find out if users know about the feature and how to use it. You might need to provide users with additional training.
- Check the status of the RN server.

Are there excessive RN failures?

If the number of failed requests or other failures is high, notifications are not getting to users, and there could be a technical or setup problem.

Failures can indicate that the RPL assigned to RN changed after users set up their target DNs.

Suggested actions

- A high number of failures can indicate that RN to pagers is not working because of the pager setup. Check the pager configuration in your mailbox classes.
- Contact your pager company. They might not have enough lines to handle the volume of pager requests.
- Check the average wait time, maximum wait time, and blocked attempts to see if the RN service is having problems acquiring channels.
- If the RPL assigned to RN was changed, inform users of the numbers that are now restricted so that they can update their target DNs.
- Run the RN Audit Trail Summary Report to isolate specific instances of failure (see [“RN Audit Trail Summary Report” on page 260](#)).

Are allocated channel resources adequate?

High values in the following fields can indicate that the current channel allocations for the RN service are insufficient for the amount of traffic RN is generating:

- Average Wait Time
- Maximum Wait Time

- Blocked Attempts

Suggested actions

Increase the minimum or maximum number of channels or both, allocated to the RN service. Do this in the SDN Table by modifying the outbound SDN assigned to RN. If you do not have enough channels to handle the traffic, consider purchasing additional channels or changing allocations for other services.

RN Audit Trail Summary Report

How to use this report

Use this report to determine which Remote Notification (RN) attempts are responsible for the high number of failures detected by the RN Activity Report.

Use this report to troubleshoot

- which call attempts are responsible for high recounts and failures
- whether there are problems with users' RN setup

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|----------------------------|---|
| Name | The name of the user to which the RN was made. |
| Mailbox | The mailbox number from which the RN attempt originated. |
| Date | The date of the call. |
| Time | The time of the call. |
| Duration | The duration of the call in minutes and seconds. |
| Target Phone Number | The telephone or pager number that the mailbox called. This is the target DN that is defined in the user's RN setup. |

| Column | Description |
|----------------------|---|
| Call Status | <p>The result of the call, in a numeric return code:</p> <p>4 = Operation successful</p> <p>14 = Could not reach destination: the phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> |
| Retry Counter | <p>The total number of retries for this RN request that have been made since the first attempt. After each attempt, the counter increments by one. RN attempts are retried if, for the first attempt, the target DN is busy, not answered, or answered without the user logging on to listen to new messages.</p> |

Which calls failed?

Determine which call attempts are responsible for the high retry counts and failures.

Suggested action

Run the RN Audit Trail Detail Report to see the details of each request submitted by the RN service (see [“RN Audit Trail Detail Report” on page 263](#)).

Are there problems with users' RN setup?

If calls that originate from certain mailboxes keep failing, there could be problems with the way users have set up their RN service.

Suggested actions

- Check the Mailbox field to see if there are repeated RN failures from the same mailbox. The user might have selected the wrong device type in his or her RN setup or entered the wrong PIN (if notification is to a pager). Check

the user's RN setup in User Manager, or ask the user to verify the device type and PIN in his or her RN setup.

- Check the Target Phone Number field to see if there are repeated RN failures to certain phone numbers. If so, the target DN defined by the user might be invalid. From User Manager, check the user's RN setup. Phone the target DN to see what happens. If you confirm that the number is not valid, contact the user and ask him or her to change or delete the target DN.
- Check the user's RN setup from User Manager to determine if the time period is defined for too narrow a time.

RN Audit Trail Detail Report

How to use this report

This report is typically run after the RN Audit Trail Summary Report. Use it to see the details of each request submitted to the Remote Notification (RN) service.

Use this report to troubleshoot

- unusual traffic patterns
- users not receiving RNs

Additional information

This report requires traffic OM data.

Report data

This report provides the following information:

| Column | Description |
|----------------------------|--|
| Name | The mailbox owner's name. |
| Msg ID | The identification number assigned to the message for tracking purposes. |
| Target Phone Number | The telephone number that the mailbox called. |
| Date | The date of the call. |
| Time | The time of the call. |
| Duration | The duration of the call in minutes and seconds. |

| Column | Description |
|---------------------|--|
| Call Retries | The total number of retries for this RN request that have been made since the first attempt. After each attempt, the counter increments by one. RN attempts are retried if, for the first attempt, the target DN is busy, not answered, or answered but the user does not log on to listen to new messages. |
| Process Type | One of the following audit trail entry types is displayed: 1 = Server process. This could be a submission of a new request, the rescheduling of a request, or the removal of a request. 2 = Agent made a call. 3 = Agent attempted to make a call but failed. This could be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration. |
| Call Status | The result of the call, in a numeric return code: 4 = Operation successful 14 = Could not reach destination: the phone number dialed is busy 15 = Destination did not answer the call 17 = Long silence detected 22 = Invalid destination number or Bad/Invalid Address |
| Action | The action performed on the request. The possibilities include 1 = Reschedule 2 = Remove 3 = Add |

| Column | Description |
|-----------------------|--|
| Reason | Why an action occurred: 1 = Answer limit exceeded 2 = Busy limit exceeded 3 = No answer limit exceeded 4 = End of period 5 = User logon 6 = RN disabled 7 = New message arrival 8 = Delivery OK 9 = Delivery Failed 10 = Message Deleted 11 = Message Read 12 = Invalid DN |
| Channel Number | The DN of the channel used to place the call. |

Are there unusual traffic patterns?

To check whether unusual traffic patterns are occurring, run the Channel Usage Report (see “Channel Usage Report” on page 174). You can also check the DSP hardware and switch terminal number status.

Are there failed RNs?

If users complain about not receiving RNs, complete the following actions to identify the potential cause:

- Call the target phone number yourself. If the number is not valid, contact the user and ask him or her to change or delete the target DN.
- Set up an RN to your phone, and listen to the call.

Chapter 11

Networking reports

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Networking Activity Report

How to use this report

This report monitors the messaging network activity between the local site and remote sites within your messaging network. Use it to

- determine whether AMIS and Enterprise networking have access to sufficient channel resources for the networking traffic load
- determine the network message traffic levels to each remote site (server)
- identify high numbers of failed networking sessions
- identify high numbers of NDN messages
- identify high numbers of undelivered messages
- identify times when remote sites are not available

Additional information

- This report requires traffic OM data.
- You can print this report as a graph.

Report data

| Column | Description |
|-------------|---|
| Date | The date of the specified reporting period. |
| Time Period | The time of the specified reporting period. |

| Column | Description |
|--------------------------------|--|
| Protocol | Possible values: <ul style="list-style-type: none">■ Enterprise■ AMIS■ VPIM■ unknown |
| Messaging Server | The CallPilot server being monitored. |
| Messages Sent | The total number of messages sent to the specified remote site from the local site. |
| Messages Received | The total number of messages received from the specified remote site. |
| Connect Time (mm:ss) | The total connect time between the local and the remote site, in minutes and seconds. |
| Total Sessions | The total number of completed sessions with the specified remote site. |
| Failed Network Sessions | The total number of outbound network session attempts with the specified remote site, because a channel was not available at the local site. |
| Blocked Attempts | The total number of blocked sessions attempts with the specified remote site, because a channel was not available at the local site. |
| Site Unavailable | The number of times a session to the remote site failed because the network call was dropped or the network protocol failed. |
| NDN Messages Delivered | The total number of NDN messages sent to remote users whose messages could not be delivered to mailboxes on the local system. |

| Column | Description |
|-----------------------------|---|
| Undelivered Messages | The total number of messages that were not delivered. An undelivered message occurs when a successful networking session to the remote site cannot be established before the message stale timer expires. |

Does the network have sufficient capacity?

Check the Blocked Attempts field. A large number of blocked attempts can indicate that a channel was not available.

Suggested actions

- Check the SDN table to see if a maximum channel limit has been placed on AMIS or Enterprise networking services. If so, increase the maximum.
- Install additional channels.
- Run this report with an interval that extends from midnight to midnight over a typical business day. The graph shows the total network connect time for each hour of the day.
- Compare the connect times for the busiest hour to the maximum possible connect time (60 minutes for each channel times the maximum channels allowed for AMIS or Enterprise in the SDN Table).
- The ratio of the connect time to maximum possible connect time is an approximate estimate of the probability that an inbound or outbound network attempt will be blocked.
- If the ratio exceeds 40 percent, consider increasing the maximum channels for AMIS or Enterprise in the SDN table. If it is already set to the maximum, then consider adding more voice channel capacity to the local site.

Identify high numbers of failed sessions

Check the Failed Network Sessions field. A large number of failed sessions can indicate insufficient channel capacity at the remote site for handling the incoming networking calls.

Suggested actions

- Increase the maximum channels for AMIS or Enterprise in the SDN table. If it is already set to the maximum, then consider adding more voice channel capacity to the local site.
- Install more channels.

Identify high numbers of NDN messages

Check the NDN Messages Delivered field. A large number indicates that messages sent by local users are not being received by remote users. This could indicate incorrect configuration problems at the remote site.

Suggested actions

- Check your configuration.
- Alert the remote site's administrator.

Identify high numbers of undelivered messages

Check the Undelivered Messages field. A message is undelivered when a successful networking session to a remote site cannot be established before the message stale time expires. A large number of undelivered messages can indicate networking problems at the remote site.

Suggested actions

- Adjust the stale time configuration.
- Alert the remote site's administrator. If multiple sites are experiencing the same problem, the local site's networking is the likely source of the problem.

Identify times when remote sites are not available

Check the Site Unavailable field. A large number of unavailable site occurrences indicates that a network call was dropped or the protocol failed.

Open Networking Activity Report

How to use this report

This report shows the messaging networking activity of the local site to open remote sites. Use it to determine how efficiently your system is working. The information contained in the report indicates if your system is properly configured for the system traffic or if it requires modifications.

An open remote site is not included in your network database and is not considered part of the integrated messaging network. AMIS Networking and VPIM Networking are the networking solutions that can exchange messages with open sites.

Note: Networking activity to integrated sites that are part of your messaging network is shown in the Networking Activity Report.

Use this report to check the number of

- blocked session attempts
- non-delivery notifications (NDN) and undelivered messages
- failed networking sessions

Additional information

- This report requires traffic OM data.
- You can print this report as a graph.

Report data

| Column | Description |
|-------------|-----------------------------------|
| Date Period | The date of the specified period. |
| Time | The time of the specified period. |

| Column | Description |
|---------------------------------|---|
| Protocol | AMIS or VPIM Networking. |
| Messages Sent | The total number of messages received through open networking. |
| Messages Received | The total number of messages received through open networking. |
| Connect Time (hh:mm:ss) | The total connect time used by open networking sessions in hours, minutes, and seconds. |
| Completed Sessions | The total number of completed open networking sessions. |
| Failed Sessions | The total number of failed open networking sessions. |
| Blocked Session Attempts | The total number of blocked session attempts with the specified remote site. |
| Site Unavailable | The number of times an outgoing session was attempted with an available port, but the session could not be established because the remote site was not responding. |
| NDN Messages Delivered | The number of NDN messages returned to the local site. |
| Undelivered Messages | The total number of messages that were not delivered. An undelivered message occurs when a successful networking session to the remote site cannot be established before the message stale timer expires. |

Identify high numbers of blocked sessions

Check the number of blocked session attempts. A large number can indicate that additional channels should be allowed for AMIS Networking.

Suggested action

Consider increasing the maximum channels for AMIS in the SDN table.

Identify high numbers of NDNs

Check the number of NDNs and undelivered messages. If the number of NDNs delivered or the number of undelivered messages is high, there could be a problem with your networking setup or with the switch/telephone network. Since Open AMIS requires the user to enter the DN to dial at the destination messaging system, the user might be addressing messages incorrectly.

Suggested action

Refer to the appropriate networking implementation and administration guide for details on the proper setup of the networking features in your system.

Identify high numbers of failed networking sessions

Check the number of failed networking sessions. A high number can indicate problems between sites.

Suggested action

Contact your system administrator and the administrator of the site you are trying to reach.

Chapter 12

Bill-back reports

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800 Access Bill-back Report

How to use this report

Use this report to monitor 800 service usage. Each call over an 800 facility to a specific mailbox is captured by name, mailbox, and department to allow for easy billing.

Additional information

- This report requires billing OM data.
- This report can be exported to a file that can be used with an external bill-back program.
- If you set Department or Mailbox as the primary sorting criterion for this report, the Length Subtotal field appears in the printed report.

Report data

| Column | Description |
|---------------|--|
| Date | The date of the 800 call. |
| Time | The time of the 800 call. |
| Length (sec.) | The length of time of the call in seconds. |
| Called DN | The VSDN that the call was terminated on. |

| Column | Description |
|------------------------|--|
| Session Type | The type of session that the call originated from: VM—Voice Messaging MM—Multimedia Messaging EVM—Express Voice Messaging SAM—Speech Activated Messaging CA—Call Answering FCA—Fax Call Answering EFM—Express Fax Messaging |
| Last Name | The last name of the mailbox owner. |
| First Name | The first name of the mailbox owner. |
| Mailbox | The mailbox number. |
| Department | The department of the mailbox owner. |
| Mailbox Class | The Class of Service (COS) of the mailbox. |
| Switch Location | The name of the switch location. |

DTT Usage Bill-back Report

How to use this report

Use this report to bill back the cost associated with telephone activity to the appropriate user or department.

Additional information

- This report requires billing OM data.
- This report can be exported to a file format that can be used with an external bill-back program.
- If Department or Mailbox is specified as the primary sorting criterion for this report, the Call Hold Time Subtotal field appears in the printed report.

Report data

| Column | Description |
|----------------------------------|--|
| Name | The name of the user. |
| Mailbox | The mailbox number of the user. |
| Department | The department of the user. |
| Date | The date of the telephone call. |
| Time | The time of the telephone call. |
| Call Hold Time (hh:mm:ss) | The length of time that the user was on hold. |
| Target DN | The directory number that is being called. |
| Retry Counter | The number of retries made to complete the call. |

| Column | Description |
|------------------------|---|
| COS | The Class of Service to which the user belongs. |
| Switch Location | The name of the switch location. |

Messaging Usage Bill-back Report

How to use this report

Use this report to bill back the cost associated with telephone activity to a user based on the messaging activity of his or her mailbox. This report shows the total connect time and the new message time used by the specified mailbox.

Additional information

- This report requires billing OM data.
- This report is normally exported to a file format that can be used with an external bill-back program.
- If Department is specified as the primary sorting criterion for this report, the Session Length Subtotal field appears in the printed report.

Report data

| Column | Description |
|------------------------------|--|
| Name | The name of the mailbox owner. |
| Mailbox | The mailbox to which the messaging activity is billed. |
| Department | The department to which the mailbox belongs. |
| Session Length (sec.) | The total length of time in seconds that the mailbox was used in Logon, Call Answering, or Visit Messenger sessions. If your system has submailboxes, a summary of connect time appears in the report. |
| Mailbox Class | The mailbox class to which the mailbox is currently assigned. |
| Switch Location | The name of the switch location. |

| Column | Description |
|-------------------------------|--|
| Total Storage (kbytes) | The total amount of disk space used by the mailbox, in kbytes. |
| Date | The session start date. |

Network Usage Bill-back Report

How to use this report

Use this report to record the networking activity of users that resulted in long distance charges. This report is normally generated as an ASCII file that can be used with an external bill-back program.

Use these results to bill back Reporter networking usage. The bill-back price structure can be based on time of day, duration, delivery location (remote site ID), priority, and billing class. Networking messages and non-delivery notifications (NDN) are not reflected in this total.

Additional information

This report requires traffic OM data.

Report data

| Column | Description |
|-----------------------|--|
| Date | The date of the networking session. |
| Time | The time of the networking session. |
| Last Name | The last name of the mailbox owner. |
| First Name | The first name of the mailbox owner. |
| Department | The department associated with the mailbox. |
| Mailbox | The mailbox to which the networking activity is billed. |
| Remote Site ID | The ID of the remote site to which the message was sent. |

| Column | Description |
|---------------------|---|
| Duration (hh:mm:ss) | The length of the logon session in hours, minutes, and seconds. |
| Messaging Server | The CallPilot server being monitored. |
| Mailbox Class | The mailbox class to which the mailbox is currently assigned. |
| Switch Location | The name of the switch location. |

RN Usage Bill-back Report

How to use this report

Use this report to bill the cost of outcalling activity by mailbox. Each record in this report is a Remote Notification (RN) or Delivery to Telephone (DTT) call made by the specified mailbox.

Additional information

- This report requires billing OM data.
- If Department or Mailbox is specified as the primary sorting criterion for this report, the Call Hold Time Subtotal field appears in the printed report.

Report data

This report provides the following information:

| Column | Description |
|---------------------------|--|
| Name | The name of the mailbox owner. |
| Mailbox | The mailbox to which the report is billed. |
| Department | The department number of the active mailbox. |
| Date | The date that the call was answered. |
| Time | The time that the call was answered. |
| Call Hold Time (hh:mm:ss) | The length of the call. |
| Target DN | The phone number that was the destination of the call. |
| Retry Counter | The number of retries made to complete the call. |

| Column | Description |
|------------------------|---|
| Mailbox Class | The mailbox class to which the mailbox is currently assigned. |
| Switch Location | The name of the switch location. |

Fax on Demand Bill-back Report

How to use this report

Use this report to charge the cost of Fax on Demand usage to the appropriate user or department.

Additional information

- This report requires billing OM data.
- If Service DN (SDN) is specified as the primary sort criterion for this report, the Call Hold Time Subtotal field appears in the printed report.

Report data

| Column | Description |
|----------------------------------|---|
| Service DN | The application directory number. |
| Billing DN | The directory number to which the bill is sent. |
| Date | The date of the fax. |
| Time | The time of the fax. |
| Call Hold Time (hh:mm:ss) | The length of time of the fax in hours, minutes, and seconds. |
| Target DN | The DN (phone number of the fax machine) that was the intended destination of the fax call. |
| Retry Counter | The number of retries at the time of the attempt. This field is incremented by one each time a call fails to deliver the fax items requested. |

| Column | Description |
|--------------------|---|
| Call Status | <p>This field displays the result of the call, in a numeric return code:</p> <ul style="list-style-type: none">1 = Could not reach destination: line busy2 = Destination did not answer the call3 = Unknown status4 = Operation successful5 = Protocol error (time-out, invalid data received, remote system aborts session)6 = Call was answered by a human; also detected no fax carrier7 = Voice parts of message delivered; fax parts exist but were not delivered8 = Fax parts of message delivered; voice parts exist but were not delivered9 = Invalid destination number; also site unreachable10 = System error; unable to initiate outcalling session11 = The destination DN is restricted12 = The outcall was answered and the target device was notified13 = All DNs in the user's RN setup are invalid19 = Fax parts of message delivered; voice parts exist but were not delivered |

Fax Print Bill-back Report

How to use this report

Use this report to bill mailbox users for the long distance charges incurred by printing faxes to fax machines.

Additional information

- This report requires billing OM data.
- If Department or Mailbox is specified as the primary sorting criterion for this report, the Call Hold Time Subtotal field appears in the printed report.

Report data

This report provides the following statistical information:

| Column | Description |
|-----------------------|--|
| Name | The name of the user. |
| Mailbox | The number of the mailbox. |
| Date | The date on which the faxback call was answered. |
| Time | The time at which the faxback call was answered. |
| Department | The number of the department to which the user belongs. |
| Call Hold Time | The length of the faxback call in hours, minutes, and seconds. |
| Target DN | The phone number of the fax machine that was the intended destination of the fax call. |

| Column | Description |
|----------------------|---|
| Retry Counter | The number of retries at the time of the attempt. This field is incremented by one each time a call fails to deliver the fax items requested. |
| Call Status | <p>The result of the call in a numeric return code:</p> <p>4 = Operation successful</p> <p>6 = Protocol error</p> <p>14 = Could not reach destination: the phone number dialed is busy</p> <p>15 = Destination did not answer the call</p> <p>17 = Long silence detected</p> <p>18 = Voice parts of message delivered; fax parts exist but were not delivered</p> <p>19 = Fax parts of message delivered; voice parts exist but were not delivered</p> <p>22 = Invalid destination number or Bad/Invalid Address</p> <p>23 = Local system error</p> |

Chapter 13

Alerts

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Failed DTT Alert

How to use this alert

The Delivery to Telephone (DTT) service allows users to send messages to telephone numbers that do not have mailboxes.

Set a threshold for this alert if you want to be notified of failed message deliveries. This alert is triggered if the percentage of failed DTT attempts exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

- This alert requires traffic OM data.

Alert data

| Column | Description |
|----------------------------------|--|
| Date | The date of the failures. |
| Time Period | The time of the failures. |
| New Arrivals | The number of new requests that were made to the DTT service during the time period. |
| Cancelled by Retry Limits | The number of DTT attempts canceled due to exceeded busy, no answer, or answered (no Dual-tone Multi-frequency confirmation) retry limits or because the message became too old. |

| Column | Description |
|---------------------------|--|
| Cancelled by Other | The number of DTT attempts that were canceled for other reasons. For example, DTT attempts could have been canceled if no channels were available. |
| Total Failed | The total number of DTT outcalls that failed due to retry or other causes. This number, taken as a percentage of the total DTT outcalls, triggers the alert if the predefined threshold is exceeded. |
| Cancelled by Other | The number of DTT outcalls that were canceled for other reasons. For example, DTT attempts could have been canceled if no channels were available. |

Investigate possible causes of failure

A high number of failed DTT sessions can indicate a problem with the DTT service setup.

Suggested actions

To identify why DTT attempts are failing, run the following reports to get more detailed information about DTT call sessions:

- “DTT Activity Report” on page 230
- “DTT Audit Trail Summary Report” on page 234
- “DTT Audit Trail Detail Report” on page 236

See Chapter 10, “Outcalling reports.”

Failed RN Alert

How to use this alert

The Remote Notification (RN) service notifies users of new messages in their mailboxes. The RN service calls the user at a remote phone or pager, as defined by the user. This service is enabled on a per mailbox class basis.

Set a threshold for this alert if you want to be notified of failed notifications. This alert is triggered if the percentage of failed RN attempts exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

This alert requires traffic OM data.

Alert data

| Column | Description |
|----------------------------------|--|
| Date | The date of the alert. |
| Time Period | The time period covered by the alert. |
| New Arrivals | The number of new requests that were made to the RN service during the time period. |
| Cancelled by Retry Limits | The number of RN attempts canceled due to exceeded busy, no answer, or answered (no DTMF confirmation) retry limits or because the message became too old. |

| Column | Description |
|---------------------------|--|
| Cancelled by Other | The number of RN attempts that were canceled for other reasons. For example, RN attempts might have been canceled if no channels were available. |
| Total Failed | The total number of RN outcalls that failed due to retry or other causes. This number, taken as a percentage of the total RN outcalls, triggers the alert if the predefined threshold is exceeded. |

Investigate possible causes of failure

A high number of failed RN sessions can indicate a problem with the RN service setup.

Suggested actions

To identify why RN attempts are failing, run the following reports to get more detailed information about RN call sessions:

- “RN Activity Report” on page 256
- “RN Audit Trail Summary Report” on page 260
- “RN Audit Trail Detail Report” on page 263

See Chapter 10, “Outcalling reports.”

RN Target Problem Alert

How to use this alert

Remote notifications (RNs) are sent to target telephone or pager numbers (DNs) that are defined in users' schedules. This alert notifies you of target DN's that the RN service cannot successfully reach. This can happen if, for example, a user has defined an invalid number.

Set a threshold for this alert if you want to be notified of problems with defined target DN's. This alert is triggered when the number of failures to a particular target phone number exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see "Setting the threshold for an alert" on page 150.

Additional information

This alert requires traffic OM data.

Alert data

| Column | Description |
|-----------|--|
| Target DN | The DN was not reached successfully. |
| Date | The date of the notification failure. |
| Time | The time of the notification failure. |
| Name | The owner of the mailbox from which the RN attempt originated. |

Investigate possible causes of failures

Too many failed outcalls to an RN target can indicate an invalid target, a paging service outage, an RN setup problem, or user unresponsiveness.

Suggested actions

- If the failures are associated with one mailbox, contact the user and ask him or her to verify the target DN. Either you or the user must modify the current DN that is defined in the user's schedule.
- If the failures to an RN target are associated with many mailboxes, this can indicate an outage at the paging service, a problem between CallPilot and the paging service, or user unresponsiveness. To test whether the paging service is at fault, call the service manually to see if it issues a page.
- If the pager service appears to be working correctly, then run the RN Audit Trail Detail Report to isolate the cause of the failures (see "RN Audit Trail Detail Report" on page 263).

Failed Networking Sessions Alert

How to use this alert

This alert is useful for determining whether your CallPilot system is experiencing hardware or setup problems, or has insufficient capacity on either the local or the remote site.

Set a threshold for this alert if you want to be notified of network messaging failures. This alert is triggered when the percentage of message failures equals or exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

This alert requires traffic OM data.

Alert data

| Column | Description |
|--------------------|---|
| Remote Site ID | The identification of the remote site where one or more networking calls failed. |
| Date | The date of the networking failure(s). |
| Time Period | The time of the networking failure(s). |
| Messages Attempted | The total number of networking messages attempted to a particular site for the given period since the last download of information. |

| Column | Description |
|-----------------------------------|---|
| Messages Failed | The total number of failed messages because the site could not establish a network session to a particular site in the time period specified. |
| Percentage of Period Total | The percentage of total traffic that this service generates. |
| Percent Failed | The percentage of failed calls to the number of total attempted calls to a particular site. |

Investigate possible causes of failures

Too many failed network sessions indicates a networking hardware problem, a setup problem, or a lack of modem capacity on the remote site.

Suggested actions

- Run the Networking Activity Report to obtain more information about the problem (see “Networking Activity Report” on page 268).
- If failures are associated with one remote site, contact the site’s administrator. There can be a problem with the site’s networking setup or hardware.

Failed Fax Delivery Alert

How to use this alert

An attempt to deliver a fax is considered a failure if the complete fax item is not delivered to the target DN.

Set a threshold for this alert if you want to be notified of unsuccessful fax deliveries. This alert is triggered when the percentage of failures to a particular target fax number (DN) exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional Information

This alert requires traffic OM data.

Alert data

| Column | Description |
|---------------------------|--|
| Date | The date of the fax delivery problem. |
| Time | The time of the fax delivery problem. |
| Service DN/Mailbox | If the fax originated from a mailbox this indicates the mailbox number. If the fax originated from an Application Builder service, this indicates the SDN of the service. |

| Column | Description |
|-----------|---|
| Target DN | <p>If the fax originated from a mailbox, this indicates the target fax number to which the user sent the fax.</p> <p>If the fax originated from an Application Builder service, this indicates the fax callback number entered by the caller.</p> |

Investigate possible causes of failures

Failed fax deliveries can be due to user error, such as incorrect keying of the fax number. Too many failed fax delivery sessions can also indicate a setup problem with fax services such as Delivery to Fax.

Suggested actions

- Call the target DN to ensure that a fax modem is used to answer the call (fax modems issue a carrier tone that is audible). Other error possibilities are a busy signal or that the fax carrier is not available because the fax machine is out of paper, not turned on, or out of order.
- If most of the failures are associated with one channel, there can be a hardware problem. Run diagnostics on the channel to determine whether this is the case. If so, contact technical support.
- If the problem does not seem to be related to the target DN or the channel, run the following reports to help isolate the cause of failures:
 - “Fax Deliveries Activity Report” on page 239
 - “Fax On Demand Audit Trail Summary Report” on page 244
 - “Fax On Demand Audit Trail Detail Report” on page 248
 - “Fax Print Audit Trail Summary Report” on page 251
 - “Fax Print Audit Trail Detail Report” on page 253

See Chapter 10, “Outcalling reports.”

Excessive After-Hours Logons Alert

How to use this alert

Hackers try to gain access to mailboxes and other system resources during nonbusiness hours, when their activity is less noticeable.

Set a threshold for this alert if you want to be notified of a high number of logons that occur after hours. This alert is triggered if the number of after-hours logons exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

- This alert requires Traffic OM data.
- Before you can use this alert, you must specify the hours during the day that your company considers after-hours, or nonbusiness hours. After-hours are defined using the Nortel Reporter program. For more information, see “Defining nonbusiness hours for an alert” on page 141.

Alert data

| Column | Description |
|-----------------|---|
| Mailbox | The mailbox associated with the after-hours logon. |
| Date | The date of the after-hours logon. |
| Time | The time of the after-hours logon. |
| Duration | The length of the logon session in hours, minutes, and seconds. |
| CallerDN | The telephone number from which the logon originated. This field can contain four digits (mailbox), five or six digits (trunk group and member number), the last seven digits of a telephone number, or asterisks (*) if the data coming from the switch is null. |

Identify potential hacker activity

Check whether logons are being made to a particular mailbox or a number of mailboxes. If the number of logons is very high or the duration of the logon sessions is long, hackers might have gained access to some mailboxes on your system. These can be unused mailboxes hackers are using for themselves or to gain access to thru-dial capabilities. Hackers can, for example, set up a single session over the evening to sell long-distance services.

Suggested actions

- Enable Hacker Monitor to monitor either the suspicious caller DN (referred to as a CLID in Hacker Monitor) or the mailbox. Whenever there is a thru-dial or logon from the CLID or mailbox, an alarm is generated to notify you.
- Check the status of the mailbox and its owner. Is the user actively using the mailbox, or is the user on vacation, or extended leave, or no longer with your company?

- If the mailbox is unused because the user is no longer with your organization, delete the mailbox immediately. Hackers target unused mailboxes.
- If the user is temporarily away, you can either change the user's password or disable the mailbox until the user returns.
- If the mailbox is active, ask the user if he or she is logging on frequently during off-hours. If the user is not the one logging on, inform him or her of the situation and request an immediate password change. Give the user tips on how to create secure passwords.
- Monitor the mailbox regularly.

Excessive Thru-Dialer Access Alert

How to use this alert

Hackers break into messaging systems to access thru-dial resources. They can then place long distance calls from your system at your expense.

Set a threshold for this alert if you want to be notified of a high number of thru-dials being placed from your system. This alert is triggered if the number of thru-dials exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

This alert requires billing OM data.

Alert data

| Column | Description |
|--------------------------|---|
| Date | The date of the alert. |
| Time Period | The time period of the alert. |
| Number of Incoming Calls | The number of incoming calls that placed thru-dials during the time period. |

What is the source of thru-dials?

If hackers are using your system for its thru-dial capabilities, you must identify how they are accessing thru-dial. Thru-dials can be made in a number of ways, and this alert provides only a single total that does not consider how the thru-dials are made. The following features allow users and callers to make thru-dials:

- Mailbox Thru-Dialing
- Call Answering/Express Messaging Thru-Dialing
- Application Builder services that contain Thru-Dial blocks

Are thru-dials originating from mailboxes?

Do the following to determine whether thru-dials are originating from mailboxes:

- Enable Hacker Monitor to monitor all mailboxes for thru-dials. This gives you a list of mailboxes with which to work.
- Enable Hacker Monitor to monitor those mailboxes that you suspect hackers are using for thru-dial services.
- If you suspect a hacker is using a mailbox to thru-dial, check the status of the mailbox. Is the user actively using the mailbox, or is the user on vacation, extended leave, or no longer with your company?
 - If the mailbox is unused because the user is no longer with your organization, delete the mailbox immediately. Unused mailboxes are targets of hackers and must be removed.
 - If the user is temporarily away, you can either change the user's password or disable the mailbox until the user returns.
 - If the mailbox is active, ask the user to change the password immediately. Give the user tips on how to create secure passwords.
 - Monitor the mailbox regularly.
- Check the restriction/permission list (RPL) that is assigned to the following features. You might need to assign a more restrictive list to prevent unauthorized toll calls.
 - Mailbox Thru-Dialing (RPLs are assigned in mailbox classes)

- Call Answering/Express Messaging thru-dial (the RPL is assigned in Security Administration)

Are thru-dials from services?

Do the following to determine whether thru-dials are originating from Application Builder services:

- Run the Building Block Summary Report, and make sure Thru-Dial is the block type that will be reported on (see “Building Block Summary Report” on page 224). You can then identify how many times the Thru-Dial blocks in your Application Builder services have been accessed.
- Enable Hacker Monitor to monitor thru-dials from the Application Builder services or from all services you suspect hackers are using.
- Check the services you suspect to identify the restriction/permission list that is assigned. You can assign a more restrictive list to prevent unauthorized thru-dials.

Excessive Incomplete Messaging Accesses Alert

How to use this alert

One of the most common ways for hackers to gain access to a system is to guess mailbox numbers. However, hackers often enter many invalid mailbox numbers before finding one that is correct. Keep track of the number of invalid mailbox numbers that are entered over a certain interval to help alert you to potential hacker activity.

Set a threshold for this alert if you want to be notified when an excessive number of invalid mailbox numbers has been entered. This alert is triggered when the number of invalid mailbox numbers exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

This alert requires billing OM data.

Alert data

| Column | Description |
|-----------------------|---|
| Date | The date of the failed logons. |
| Time Period | The time of the failed logons. |
| Total Logon Accesses | The total number of logons to CallPilot. This number includes successful and unsuccessful logons. |
| Num of Logon Sessions | The total number of successful logons. |

| Column | Description |
|--------------------------|---|
| Failed Accesses | The total number of failed logons. |
| Percentage Failed | The percentage of all logons that failed. |

Suggested actions

Do as much as you can to increase the security of all mailboxes on your system.

- In Security Administration, check your mailbox security settings to ensure that these precautions are in place:
 - A password prefix has been defined that becomes part of the default password for newly created mailboxes.
 - An acceptable minimum password length is defined (no less than six characters is recommended).
 - Users must change their passwords.
 - Users cannot reuse the same password until they have used several other passwords first.
 - Mailboxes are temporarily locked when a certain number of invalid logon attempts are made.
- Secure passwords are hard for hackers to guess; remind all mailbox owners to follow these rules when creating passwords:
 - Never use words that are in a dictionary. Combinations of letters and numbers are more difficult to guess.
 - Never use your name or other personal information, such as your birth date or phone number.
 - Never use family names or other words that can be associated with you. If you are a bird-watcher, “owl” is a bad choice for a password.
 - Never let anyone borrow your password.
 - Never write down your password.
 - Never reuse old passwords.
 - Use at least six characters in your password.
- If you suspect a large-scale attack on many of your mailboxes, you can temporarily disable external logons until you get the situation under control. This is also done in Security Administration.

Excessive Failed Logons Alert

How to use this alert

One of the most common ways for hackers to penetrate a system is to guess passwords. However, hackers often enter many invalid password before finding one that is correct. Keep track of the number of incorrect passwords entered over a certain interval to help alert you to potential hacker activity.

Set a threshold for this alert if you want to be notified of an excessive number of failed logons. This alert is triggered when the number of failed logons exceeds the specified threshold.

Note: Thresholds are set using the Nortel Reporter program. For more information, see “Setting the threshold for an alert” on page 150.

Additional information

This alert requires billing OM data.

Alert data

| Box | Description |
|------------------|--|
| Date | The date of the failed logon. |
| Time | The time of the failed logon. |
| Mailbox | The mailbox with the failed logon attempt. |
| Caller DN | The number that originated the attempt. |
| Number of Logons | The total number of failed logons. |

Suggested actions

Do as much as you can to increase the security of all mailboxes on your system.

- In Security Administration, check your mailbox security settings to ensure that these precautions are in place:
 - A password prefix has been defined that becomes part of the default password for newly created mailboxes.
 - An acceptable minimum password length is defined (no less than six characters is recommended).
 - Users must change their passwords.
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 - Never let anyone borrow your password.
 - Never write down your password.
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- If you suspect a large-scale attack on many of your mailboxes, you can temporarily disable external logons until you get the situation under control. This is also done in Security Administration.

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CallPilot

Reporter Guide

Toronto Information Products
Nortel Networks
522 University Avenue, 14th Floor
Toronto, Ontario, Canada
M5G 1W7

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