Nortel CallPilot

Reporter Guide

NN44200-603

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Chapter 1
How to get Help

This section explains how to get help for Nortel products and services.

Getting Help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

Getting Help over the phone from a Nortel Solutions Center

If you do not find the information you require on the Nortel Technical Support Web site, and you have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

www.nortel.com/callus

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Getting Help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

www.nortel.com/erc

Getting Help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

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Chapter 2
Getting started with Reporter

This chapter contains the following topics:

"Overview of CallPilot Reporter" (page 13)

"Overview of reports and alerts" (page 14)

"Reporter requirements" (page 15)

"CallPilot online Help and documentation" (page 18)

Overview of CallPilot Reporter

Reporter is a Web-based application that helps you analyze and manage your CallPilot* system. Report data is pushed to the Reporter database from the CallPilot server through Open Database Connectivity (ODBC) (TCP/IP). Reporter converts raw statistics from your server into easy-to-read reports.

> ***Note:*** The Reporter application runs on the Reporter Web server and has no significant impact on the CallPilot server memory or processor load.

Reporter offers the following capabilities:

- **View on demand**—View reports and alerts at any time for a period that you specify.
- **Customize**—Customize reports to only include relevant data. For example, you can filter the data in a report to show activities that occur in a particular department.
- **Print**—Schedule reports to print on a regular basis, or print reports on demand. When you use a print schedule, you can monitor system usage over a period of time and identify patterns and trends. You can also set up alerts to print when they are triggered.
- **Export**—Export report information to a variety of file formats so that you can easily distribute the information to others who need it. For example,

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you can display exported reports on the World Wide Web, over an organizational intranet, or in a spreadsheet program.

Feature availability

To use and start Reporter, you must have Full Administrator rights or partial Administrator rights with Reporter Administration enabled in CallPilot manager.

Services

The following services must be running for CallPilot Reporter to run properly:

- CallPilot Reporter
- SQL AnyWhere
- WWW Publishing Service

Overview of reports and alerts

Reports organize the operational measurements (OMs) 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.

Reporter also includes alerts. Alerts are special reports that warn you about potential problems with the server hardware, software, or security. Alerts are automatically triggered when a predefined threshold is exceeded. 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-hours logons occur.

Report example

The Channel Usage Report shows information related to Digital Signal Processor (DSP) channels. The report extracts any relevant information and organizes it according to the number of incoming calls and outgoing calls.

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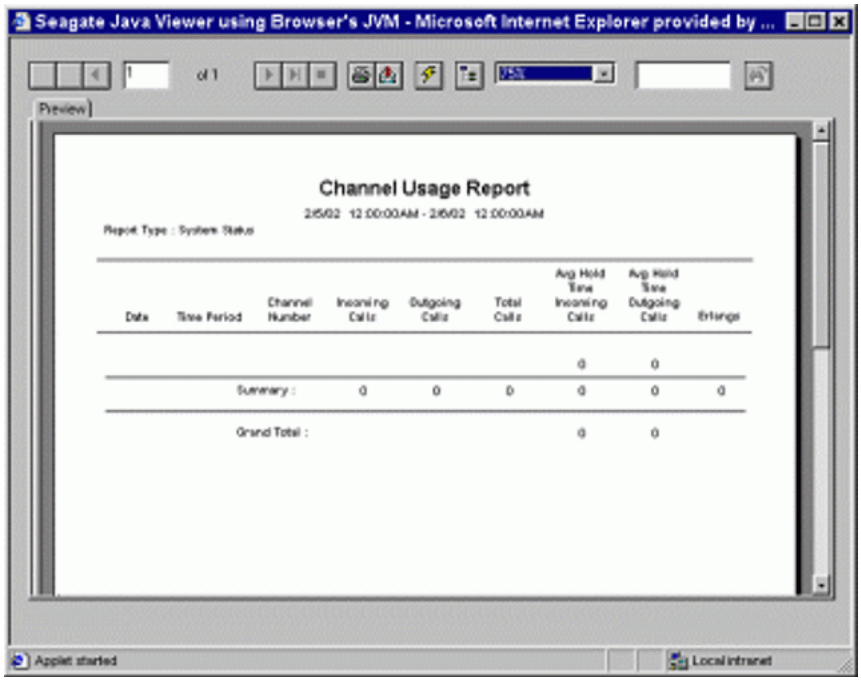

Benefits of reports

Analyze the information in reports to establish a pattern of normal system behavior. As you collect reports over time, you can:

- monitor system usage and system security
- assess the overall efficiency of your system
- detect potential system problems
- bill users for service usage
- identify alerts that result from possible hacker activity or potential software problems

For more information about interpreting reports, see Chapter 5 "Interpreting reports and alerts" (page 59).

Reporter requirements

This guide assumes that the CallPilot server is correctly installed and is operational. If the CallPilot server is not installed, install it before you proceed. For installation instructions, see the installation guide appropriate to your server type.

Reporter is available as an installation option when you install CallPilot Manager. During installation of CallPilot Manager, Crystal Reports and a Sybase database are installed on the Web server.

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You can only install Reporter when CallPilot Manager is installed on a Stand Alone server. For more information see *CallPilot 5.0 Software Administration and Maintenance* (NN44200-600).

When installation is complete, the report data is stored in the following directory: C:\Nortel\Data.

Compatibility

CallPilot Reporter is not backward-compatible with the CallPilot 1.07 server or client software.

Server requirements

This section contains the following requirement sections:

"Operating system" (page 16)

"Disk space" (page 16)

"Client computers" (page 17)

"Support for CallPilot servers" (page 17)

Operating system

You must install Reporter on a stand-alone Windows Web server. You cannot install Reporter on a CallPilot server. Reporter is not available for installation when you install CallPilot Manager on a CallPilot server.

The supported server operating systems are:

- Windows 2000 (IIS 5.0)
- Windows 2003 (IIS 6.0)

Disk space

Reporter stores operational measurement (OM) data collected by CallPilot servers on the Reporter Web server. The amount of data that Reporter stores on the Web server depends on a number of factors, including:

- the number of CallPilot servers that you use with Reporter
- the number of mailboxes stored on each CallPilot server
- the number of DSP channels in service
- the volume of traffic in your messaging system
- the database storage period defined in Reporter

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If the CallPilot Web server has insufficient disk space for incoming data, CallPilot servers stop transferring to Reporter. During Reporter software installation, the installation program calculates the amount of free space that remains on drive C. If less than 200 Mbytes of free disk space is available, the installation program displays a warning.

The 200 Mbytes limit is based on the potential database size for a single CallPilot system after several days of heavy traffic. Consider the factors described in the preceding list to assess the potential disk space consumption on your Reporter Web server. In general, the more disk space provided, the better.

For information about changing the database storage period on the Reporter Web server, see "Changing the database storage period" (page 51).

ATTENTION

Reporter checks only for the amount of free disk space during the Reporter installation process.

To ensure that the CallPilot server can transfer collected OM data to Reporter, regularly monitor the amount of free disk space on the Web server.

If an interruption in the LAN connection between the CallPilot server and Reporter occurs, the CallPilot server transmits the backlog of OM data when the connection is restored. If the interruption is of significant duration, the process of transmitting this data can consume up to 35 percent of the CPU cycles until the backlog is cleared. In a busy system, call processing can be noticeably slower during that time.

Client computers

Reporter supports the following operating systems and Web browsers:

- **Operating system**—Windows 2000, 2003, XP, and VISTA
- **Web browsers**—Internet Explorer 6 and 7, and Mozilla Foxfire 1.5 and 2
- Java(TM) 2 Runtime Environment (JRE) version 1.4.2.04 and 1.5

  Note: JRE version 1.4.2.04 is included on your Application CD.

Support for CallPilot servers

In CallPilot, a single instance of CallPilot Reporter running on a customer-provided Web server supports up to a maximum of 20 CallPilot servers.

The customer-provided Web server must be a Microsoft Internet Information Server (IIS) running Windows 2003.

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CallPilot online Help and documentation

CallPilot online Help and documentation incorporate the following:

- CallPilot Manager online Help is the primary source of procedural information.
- This *Reporter Guide* (NN44200-603) is available only in PDF format.

This guide assumes the following:

- The CallPilot server is correctly installed and is operational.
- The switch is installed and provisioned to support your CallPilot system.

If the CallPilot server is not installed, install the server before you proceed. For installation instructions, see the *Installation and Configuration Task List* (NN44200-306) and the server installation guide for your server.

CallPilot technical documents are stored on the CallPilot documentation CD that you receive with your system. The documents are also available from the following sources:

- CallPilot Manager
- My CallPilot
- the Nortel Partner Information Center (PIC) at www.nortel.com/pic

  You require a user ID and password to access the PIC. If you do not have a PIC account, click Register to request an account. It can take up to 72 hours to process your account request.

You can print part or all of a guide, as required.

Troubleshooting

The *Troubleshooting Guide* (NN44200-700) describes symptoms that can appear on all CallPilot server platforms and describes ways to resolve them. The *Troubleshooting Guide* (NN44200-700) is available from the Nortel PIC.

Using online sources

The CallPilot Manager and CallPilot Reporter software contain online Help that provides access to:

- technical documentation in Acrobat PDF format
- online Help topics in HTML format

To access online information, use either of the following methods:

- Click the orange Help button at the top of any screen to access the Administration Help area.

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- Click the grey Help button on any screen to display a topic that relates to the contents of the screen.

For more information about using these Help systems, access the CallPilot Manager Help, open the Getting Started book, and click Navigating CallPilot Manager Help.

Contacting Nortel

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

www.nortel.com/contactus

Reference documents

For a list of all CallPilot documents, see the following CallPilot Customer Documentation Map.

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NORTEL

CallPilot Customer Documentation Map

- **Fundamentals**
  - CallPilot Fundamentals Guide (NN44200-100)
- **Planning and Engineering**
  - Planning and Engineering Guide (NN44200-200)
  - Network Planning Guide (NN44200-201)
  - Converging the Data Network with VoIP Guide (NN43001-260)
  - Solution Integration Guide for Communication Server 1000/CallPilot/Contact Center/Telephony Manager (NN49000-300)*
- **Installation and Configuration**
  - Upgrade and Platform Migration Guide (NN44200-400)
  - High Availability: Installation and Configuration (NN44200-311)
  - Installation and Configuration Task List Guide (NN44200-306)
  - **Server Installation Guides**
    - 201i Server Hardware Installation Guide (NN44200-301)
    - 703t Server Hardware Installation Guide (NN44200-304)
    - 1002rp Server Hardware Installation Guide (NN44200-300)
    - 1005r Server Hardware Installation Guide (NN44200-308)
    - 600r Server Hardware Installation Guide (NN44200-307)
  - **Configuration and Testing Guides**
    - Meridian 1 and CallPilot Server Configuration Guide (NN44200-302)
    - T1/SMDI and CallPilot Server Configuration Guide (NN44200-303)
    - Communication Server 1000 System and CallPilot Server Configuration Guide (NN44200-312)
  - **Unified Messaging Software Installation**
    - Desktop Messaging and My CallPilot Installation and Administration Guide (NN44200-305)
- **Administration**
  - Administrator Guide (NN44200-601)
  - Software Administration and Maintenance Guide (NN44200-600)
  - Meridian Mail to CallPilot Migration Utility Guide (NN44200-502)
  - Application Builder Guide (NN44200-102)
  - Reporter Guide (NN44200-603)
- **Maintenance**
  - CallPilot Troubleshooting Reference Guide (NN44200-700)
  - Preventative Maintenance Guide (NN44200-505)
  - **Server Maintenance and Diagnostics**
    - 201i Server Maintenance and Diagnostics Guide (NN44200-705)
    - 703t Server Maintenance and Diagnostics Guide (NN44200-702)
    - 1002rp Server Maintenance and Diagnostics Guide (NN44200-701)
    - 1005r Server Maintenance and Diagnostics Guide (NN44200-704)
    - 600r Server Maintenance and Diagnostics Guide (NN44200-703)
    - Contact Center Manager Communication Server 1000/Meridian 1 & Voice Processing Guide (297-2183-931)*
- **End User Information**

End User Cards

- Unified Messaging Quick Reference Card
- Unified Messaging Wallet Card
- A-Style Command Comparison Card
- S-Style Command Comparison Card
- Menu Interface Quick Reference Card
- Alternate Command Interface Quick Reference Card

End User Guides

- Multimedia Messaging User Guide
- Speech Activated Messaging User Guide
- Desktop Messaging User Guide for Microsoft Outlook
- Desktop Messaging User Guide for Lotus Notes
- Desktop Messaging User Guide for Novell Groupwise
- Desktop Messaging User Guide for Internet Clients
- Desktop Messaging User Guide for My CallPilot
- Voice Forms Transcriber User Guide

**available in summer 2007*

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Chapter 3
Using reports and alerts

This chapter contains the following topics:

"Starting CallPilot Reporter" (page 22)

"Exiting CallPilot Reporter" (page 24)

"Enabling data collection" (page 25)

"Adding reports and alerts to the report list" (page 27)

"Removing reports and alerts from the list" (page 28)

"Duplicating a report or alert" (page 29)

"Viewing a report or alert" (page 30)

"Checking alert status" (page 32)

"Overview of customization" (page 32)

"Adding comments to reports or alerts" (page 33)

"Sorting the data in reports or alerts" (page 33)

"Filtering data in reports" (page 34)

"Set a threshold for an alert" (page 37)

"Overview of printing and exporting" (page 38)

"Printing or exporting based on a schedule" (page 40)

"Printing or exporting alerts when they are triggered" (page 43)

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"Printing or exporting on demand" (page 44)

"Printing or viewing reports as graphs" (page 46)

"Printing a list of reports or alerts" (page 48)

Starting CallPilot Reporter

Start CallPilot Reporter from CallPilot Manager or from your Web browser by performing the following procedure.

Step	Action
1	If you are logged on to CallPilot Manager, choose **Tools > Reporter**. ***Note:*** If you are on the main page of CallPilot Manager, you can also click the CallPilot Reporter link to start Reporter.
2	If you are not logged on to CallPilot Manager, in the Address box of your Web browser, type the URL http://<report-server>/cpmgr/cprpt for CallPilot Reporter and then press **Enter**. a. On the CallPilot Manager logon page, specify the logon information. b. Type your mailbox number and password. c. Specify the computer name of the CallPilot server you want to access. ***Note:*** You cannot log on to CallPilot Manager using the IP address when accessing Reporter on the Web server. The CallPilot server and the Web server must be on the same network segment. There must be no firewall between the CallPilot server and the Web server. d. Click **Login**. **Tip:** You can create a shortcut on your desktop to access the CallPilot logon page quickly. For more information, see the online Help.

—End—

The CallPilot Reporter page

The CallPilot Reporter window displays the report and alert categories on the left side of the window. To display the reports for a specific category, click the category name. The reports available for that category appear on the right side of the window.

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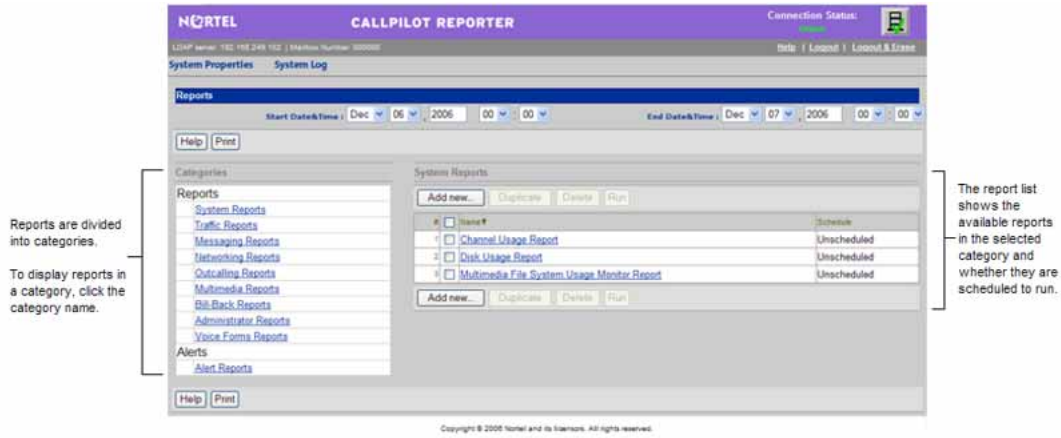

Confirming a first-time connection to a CallPilot server

Step	Action
1	After you successfully log on to Reporter, click **System Log**. **Result:** The Reporter Log appears.
2	Look for the message "Connection to CallPilot Server" in the log. • If the message appears, your connection to CallPilot is successful. ***Note:*** The message "Connection to CallPilot Server" only appears in the system log the first time an administrator logs on to a CallPilot system. If a subsequent successful logon by another administrator exists, the message does not appear in that administrator's system log. • If an error occurs, close the Reporter Log window, click **Logout & Erase** to delete the Reporter profile, and try to log on again. If Reporter still cannot connect to CallPilot, ensure that the network connection between the stand-alone Web server and CallPilot is working, and then try to log on again. ***Note:*** The Logout & Erase link is located at the top of the CallPilot Report window.

—End—

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Displaying a list of reports or alerts

Step	Action
1	If CallPilot Reporter is not already open, choose **Tools > Reporter** to open CallPilot Reporter. **Result:** The CallPilot Reporter window appears and lists the report and alert categories.
2	In the **Categories** section, click the appropriate report category. For example, to find the System Traffic Summary Report, click Traffic Reports. To view the list of alerts, click Alert Reports. **Result:** The list of reports in that category appears on the right side of the page.

—End—

Exiting CallPilot Reporter

You can exit Reporter in two ways:

- Exit and save your profile—Save your Reporter settings and custom reports for future use when you log off.
- Exit and remove your profile—Remove all custom settings and reports when you log off.

Note: If you are the last person with settings and reports stored on this system and you remove your profile, all operational measurements (OM) data and scheduled cleanup jobs are deleted. The first time a new user logs on to Reporter for the CallPilot system, OM data collection restarts automatically. For more information about profiles, see "Reporter profiles" (page 49).

Exiting Reporter and saving your profile

Step	Action
1	On the CallPilot Reporter page, click **Logout**.

—End—

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Exiting Reporter and removing your profile

Step	Action
1	On the CallPilot Reporter page, click **Logout & Erase**. **Result:** A confirmation message asks if you are sure you want to remove this system.
2	Click **Yes**. **Result:** Reporter ends the session and deletes all custom reports and custom settings. The next time you log on to Reporter, a new profile is created for you.

—End—

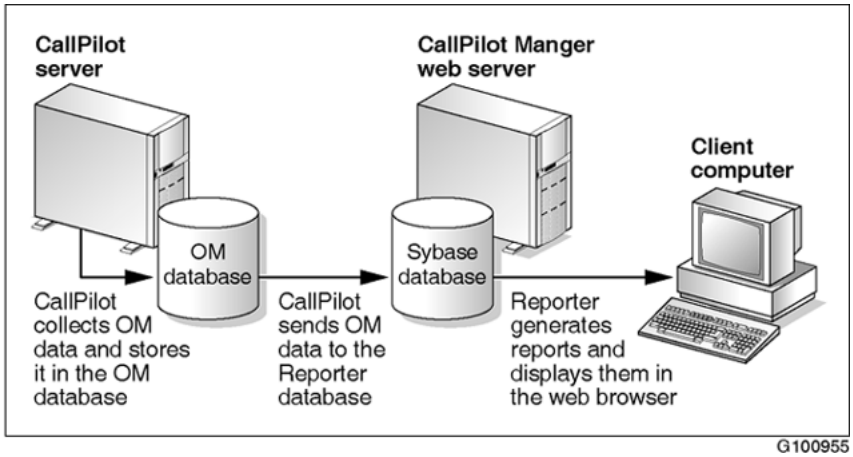
Note: If any change in the Computer Name of the CallPilot server that Reporter is connecting to occurs, click **Logout & Erase** to remove the profile from Reporter prior to the changes being made. Reconnect after the change is made. This action is required if the connecting CallPilot server is completely removed from the network.

Enabling data collection

Operational measurements (OM) data is used for reporting system activity and usage. Many activities within a CallPilot system generate operational measurements that you can review, monitor, and evaluate with Reporter.

Data collection in CallPilot Reporter

The following diagram shows how OM data is collected, stored, and displayed.



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Data collection on the OM server

To generate reports, OM data collection must be enabled on the CallPilot server. The CallPilot server collects OM data and stores the data, as well as summary information, in the OM server at 1-hour intervals. You can turn OM data collection on or off in CallPilot Manager, and you can store collected data on the OM server for up to 10 days.

Data collection on the Reporter Web server

The first time an administrator connects to a CallPilot server with Reporter, Reporter begins receiving OM data for that CallPilot server and stores the data in the Reporter database. Reporter continues storing OM data for a CallPilot server as long as a profile exists for the server. For more information about profiles, see "Reporter profiles" (page 49).

The storage period for the Reporter database is configured in Reporter. Access to Reporter administration tasks depends on your administrative privileges. For more information, see Chapter 4 "Administration tasks" (page 49).

Enabling OM data collection

Step	Action
1	In CallPilot Manager, click **System > OM Configuration**. **Result:** The OM Configuration page appears.

2	Select the **Collect OMs** check box to enable OM data collection.
3	In the **Storage Size (in Days)** box, type the number of days to store data on the OM server.
4	Click **Save**.

—End—

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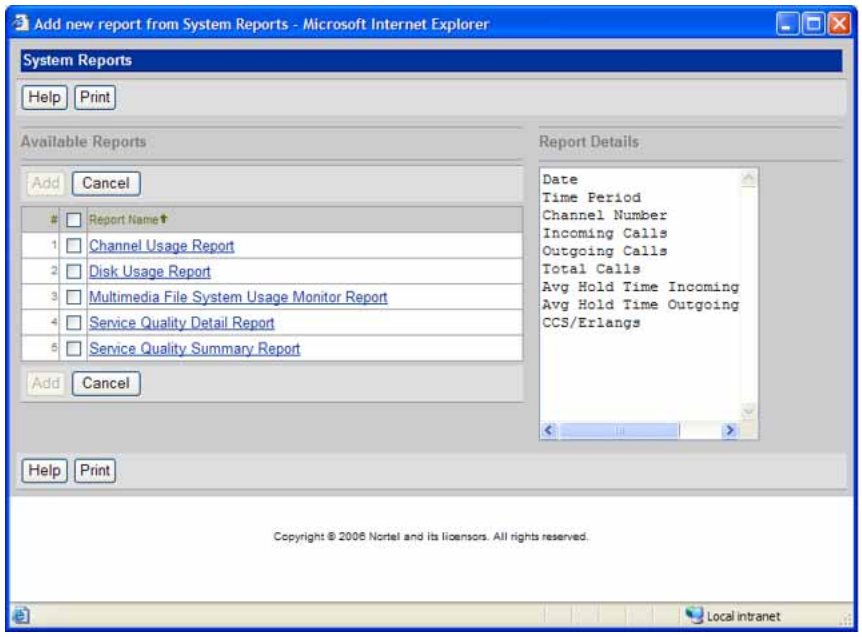
Adding reports and alerts to the report list

To view, print, or export a report, the name of the report must appear in the CallPilot report list. To get started, eight reports and six alerts, which are used on a regular basis, appear in the report categories. If you require additional reports in any category, you can add them to the report list.

Adding reports and alerts to the CallPilot Reporter window

Step	Action
1	In Reporter, under the **Categories** section, click the type of report you want to add. **Result:** The reports for this category appear on the left side of the page.
2	Click **Add new**. **Result:** The Add new report from <Category> Reports window appears.
3	Under **Available Reports**, select the check boxes adjacent to the reports you want to add. **Tip:** To see the information in the report, click the name of the report. The report details appear to the right. 
4	Click **Add**.
5	Click **OK** to respond to the confirmation message.

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Result: The report is added to the report list on the main Reports page.

If you add a report that already appears in the report list, CallPilot Reporter assigns a number to the duplicate report name and adds the report name with the assigned number to the list. For example, if you add a copy of the Channel Usage Report, a copy of the report, named Channel Usage Report (2), appears in the list.

6 To change the default name, click the name in the report list.

Result: The Properties window for the new report appears.

7 In the Properties window, under **General Settings**, change the name in the **Report Name** box. The maximum length of a report name is 50 characters.

8 In the **Comments** box, type any additional information about the report. The maximum length of comments is 250 characters.

9 Click **Save**.

Result: You can now run, print, or customize the report.

—End—

Removing reports and alerts from the list

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

Example

During the last two months, you used the Fax Delivery Report to monitor fax transmission errors. However, the fax problem is now solved and you no longer need this report.

What happens when you remove a report or alert

When you remove a report or alert, you delete the report from the report list on the CallPilot Reporter main page and cancel the report print schedule. However, a permanent copy of the original report remains on the Add New page. This means that you can add the report to the report list in the future.

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

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Removing a report or alert

Step	Action
1	Display the list of reports in the appropriate report category.
2	In the report list, select the check box adjacent to the reports you want to remove. ***Note:*** To select all reports, select the check box in the header row of the list. To deselect all reports, clear the check box in the header row.
3	Click **Delete**. **Result:** A confirmation dialog box appears.
4	Click **OK** to confirm the deletion. **Result:** The reports are removed from the list.

—End—

Duplicating a report or alert

You can create a new report or alert based on an existing report and then customize the new report to suit your needs.

Example

The Inactive Users Report shows the last logon date for all users who are logging to their voice mail. If you want to monitor inactive users by department, you can make several copies of the report, and then apply filters to each copy of the report to show only inactive users from one department. For example, you can create the Inactive Users/Accounting Report to show users in the accounting department, and the Inactive Users/Human Resources Report to show users in the human resources department.

Creating a report from an existing report or alert

Step	Action
1	Display the list of reports in the appropriate report category.
2	In the report list, select the check box adjacent to the report that you want to use as the basis for the new report.
3	Click **Duplicate**.

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Result: Reporter automatically assigns a number to the duplicate report name and adds the report to the CallPilot Reporter list. For example, if you duplicate the Channel Usage Report, a copy of the report, named Channel Usage Report (2), appears in the list.

4 To change the default name, click the name of the duplicated report in the report list.

The Properties window appears.

5 In the Properties window, under **General Settings**, change the name in the **Report Name** box.

6 If desired, in the **Comments** box, type details about the report.

7 Select filtering criteria and sorting criteria. See "Filtering data in reports" (page 34) and "Adding comments to reports or alerts" (page 33).

8 Click **Save**.

—End—

Viewing a report or alert

You can generate a report and view it on the screen at any time.

Before you view a report on the screen, specify the number of days of data that you want the report to contain. For example, you can set the report to display data for three days—Monday, Tuesday, and Wednesday. Set up the report to collect data from Monday at 12:00 a.m. to Wednesday at 12:00 p.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 window.
- To scroll through the pages one at a time, use the left and right arrow buttons.
- To print the report, click the printer icon.

Viewing a report or alert

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report you want to view.

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Result: The Properties window for that report appears.

3 Scroll down to the **Output Options** section.

4 Select the format for the report. The available formats are **Tabular Format** and **Graph**. You can select a single format or both formats.

Note: Not all reports support the Graph option.

5 Click **Save**.

Result: The CallPilot Reporter main page appears.

6 On the CallPilot Reporter page, in the **Start Date & Time** boxes, select the first date and time for the data included in the report (for example, Jan 14, 2007, 14:00).

Note: The time boxes use the 24-hour clock.

7 In the **End Date & Time** boxes, select the last date and time for data included in the report.

8 In the report list, select the check box adjacent to the report you want to view.

9 Click **Run**.

Result: The selected report appears.

Note: You can view a report or alert only on an on-demand basis. Although you can select Export Report or Print Report schedule exporting and schedule printing, clicking Run displays the report or alert on the screen. Export Report and Print Report options are designed only for schedule exporting and printing and when alert is triggered.

—End—

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Checking alert status

When an alert is triggered, the Triggered column displays the date when the alert was triggered.

Reporter updates the status of the alert each time it performs an alert check.

- If the collected data still exceeds the alert threshold, Reporter updates the date in the Triggered column.
- If the collected data no longer exceeds the alert threshold, Reporter clears the alert.

To maintain a record of the alert over time, you can schedule the alert to print or export alert data when the alert is triggered. For more information, see "Printing or exporting alerts when they are triggered" (page 43).

Viewing alert status

Step	Action
1	In the **Categories** list, select the **Alert Reports** category.
	—End—

Overview of customization

When you customize a report or alert, you can 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 in a report. The fields in a report are predefined and cannot be changed.

How you can customize reports and alerts

You can customize a report or alert in various ways, as shown in the following table.

Customization	Reports	Alerts
add comments	✓	✓
sort	✓	✓
filter	✓	
set a threshold		✓

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Add comments

You can add comments to specify additional information about the data.

Sort

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

Filter

You can filter to reduce the volume of data displayed in a report. For example, instead of showing data for all users, you can use filtering to only select data for users in one department.

Set a threshold for an alert

You can set a threshold for an alert to specify the number of events that must occur before the alert is triggered.

Adding comments to reports or alerts

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 on the printed report.

Adding comments to a report

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report to which you want to add comments. **Result:** The Properties window for that report appears.
3	In the **General Settings** section, type any additional information about the report in the **Comments** box.
4	Click **Save**.

—End—

Sorting the data in reports or alerts

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

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Example

The Inactive User Report shows the last logon date for all users who are accessing their mailboxes. Use the sorting feature to group users by mailbox instead of name.

Limitations

Some reports cannot be sorted. You cannot sort the report if the Sorting section does not appear after the General Settings section in the Properties window. Also, not all items on the report can be sorted.

Sorting the data in a report or alert

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report you want to sort. **Result:** The Properties window for that report appears.
3	In the **Sorting** section, select the sort criteria in the **Sort by** and **Then by** lists. By default, the data is sorted in ascending order. To reverse the order, click the **Descending** option buttons. You can specify up to four sort criteria. Each additional criterion sorts within the previous criterion.
4	Click **Save**.

—End—

Filtering data in reports

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 only contains data for that department.

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Limitation

Some reports cannot be filtered. If the Selection Criteria section does not appear in the Properties window, you cannot filter the report.

Filter data

Before you can filter data, you must define your selection criteria. The three types of selection criteria are item, operator, and value.

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. For example, the items listed in the Top Users of Storage report are Mailbox Class and Switch location.

Operator

The operator is a mathematical function that compares the item with the value. You can use seven possible operators to define your criteria:

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

Value

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

Using wildcard characters

If you use the is like operator, you can use wildcard characters in your filter value. The wildcard characters include the asterisk (*) and the question mark (?).

You can use the asterisk (*) to represent multiple characters. For example, in the Top Users of Storage report, if you want to include only those users whose names start with Ma, select Name as the item, is like as the operator, and type Ma* as the value.

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You can also use the question mark (?) to represent a single character. For example, if you want a report to include all mailboxes in the range 4350 to 4359, use the filter value 435?.

Filtering example

The Top Users of Storage Report helps you determine which mailbox owners use the most voice storage. To reduce the scope of the data displayed in this report, select Mailbox Class as the item, is equal to as the operator, and Regular Users as the value. Used together, these selection criteria produce a report that shows only the top users of storage in the Regular Users class.

Narrowing and broadening the filter 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 specify.

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 specify.

Note: When filtering data by using comparisons such as "less than" or "greater than", it is important to remember that you are comparing strings and not real numbers. The filter compares the left most character of each string first. If one character is larger than the other, the filter views that string as being the larger of the two. For instance, if you compare the string "1000" to the string "9" The filter views the string "9" as being the greater value. Consider the following example:

- Your CallPilot channels are numbered from 1000 to 1048.
- You want to view the traffic results for channels 1000 to 1023.
- You use filter data >999 (greater than 999), and <1024 (less than 1024).

In this example, the report reveals all zeros because the filter views 999 as being greater than any of the channel numbers. A correct filter for the example would be: >=1000 (greater than or equal to 1000) and <1024 (less than 1024).

Filtering report data

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report you want to filter. **Result:** The Properties window for that report appears.
3	Scroll to the **Selection Criteria** section.

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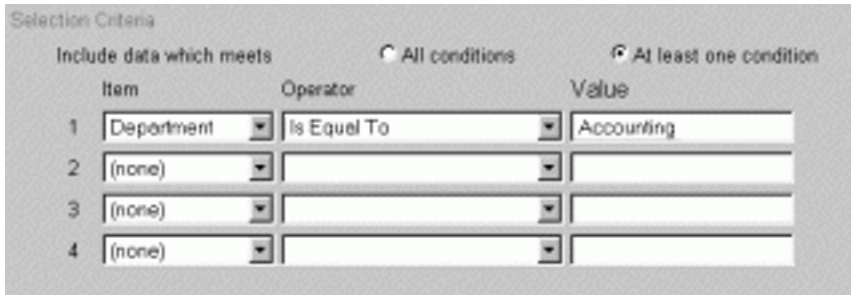
Note: If the Selection Criteria section of the Properties window does not appear, you cannot filter this report.



4 In the **Item** list, select a condition.

5 In the **Operator** list, select how to compare the item you selected with the value (for example, Is Equal To or Is Not Equal To).

6 In the **Value** file, type an appropriate value.

7 If desired, repeat steps 4 to 6 in the next three rows.

8 Do one of the following:

- To narrow the scope of the filter, click the **All conditions** option button.
- To widen the scope of the filter, click the **At least one condition** option button.

9 Click **Save**.

—End—

Set a threshold for an alert

For certain events, such as a failed logon, the system compares the number of these events to a predefined limit 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-hours logons occur.

Setting the threshold for an alert

Step	Action
1	In Reporter, under **Categories**, click **Alert Reports** to display the list of alerts.

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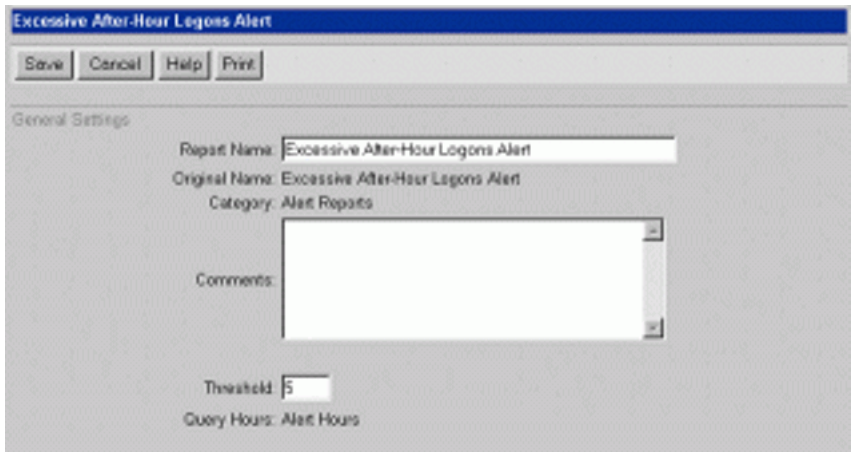
Result: The alert reports appear on the right side of the page.

2 Click the name of the alert for which you want to set the threshold.

Result: The Properties window for the selected alert report appears.



3 In the **General Settings** section, type the maximum number of occurrences before the alert is triggered in the **Threshold** box.

4 Click **Save**.

—End—

Overview of printing and exporting

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

Example

You schedule the Users Exceeding Storage Limit 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 exceeded the mailbox storage limit by voice messages. You can choose to ensure these users are trained to use the voice mail system more efficiently.

Printing and exporting options

You can print or export reports and alerts on a regular basis according to a preset schedule, or you can print or export reports on demand. Storage of reports over a period of time helps you to identify patterns and trends related to system usage.

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You can schedule reports for printing or exporting only on the Reporter Web server. To print or export reports on a client computer, you can print or export the report on demand.

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

Example

With the System Traffic Summary Report, you can monitor the total amount of traffic processed by the different services installed on your system. You can print this report as a graph to easily identify the busiest hours of the system and to determine whether you have sufficient channel capacity to handle the volume of traffic.

Export formats

When you export a report or alert, you change its current file format to the file format of an external program. Use the export feature to view the data in an external format, such as a spreadsheet. The export feature is useful when you must transfer data from bill-back reports to an external billing program.

You can use exporting based on a schedule or you can use exporting on demand.

You can export reports to the following file formats based on a schedule.

File format	Extension
Comma-separated values, Character-separated values	CSV
Crystal Reports 7, 8, 11	RPT
Microsoft Excel 5.0, 5.0 Tabular, 7.0, 7.0 Tabular, 8.0, 8.0 Tabular	XLS
HTML 3.2, 4.0 Standard	HTML

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File format	Extension
Adobe Portable Document Format	PDF
Record style (columns of values)	REC
Rich Text Format	RTF
Tab-separated text	TTX
Tab-separated values	TSV
Text	TXT
Microsoft Word	DOC

You can export reports to the following file formats on demand.

File format	Extension
Crystal Reports 7, 8, 11	RPT
Adobe Acrobat (Portable Document Format)	PDF
Microsoft Excel 97 - 2000	XLS
Microsoft Excel 97 - 2000 - Data Only	XLS
Microsoft Word	RTF
Microsoft Word - Editable	RTF
Rich Text Format	RTF

Limitations

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

Printing or exporting based on a schedule

When you set up a schedule, you can print or export standard reports on a daily, weekly, or monthly basis. Generate reports on a regular basis to identify patterns and trends related to system usage.

Scheduled reports print to a specified printer connected to your Web server. You must set up the CallPilot Reporter service on the Web server to support scheduled printing.

If you want to print a report with a printer configured on your client computer, you can print the report on demand. For more information, see "Printing or exporting on demand" (page 44).

Tip: 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.

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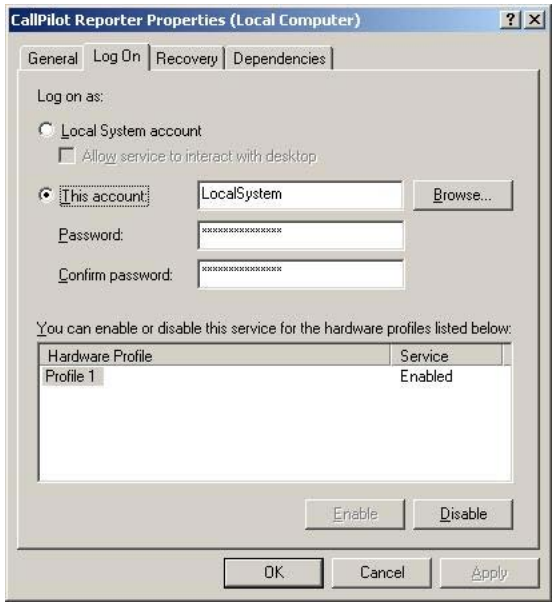
You cannot schedule alerts, but you can set up an alert to print or export data when an alert is triggered. For more information, see "Printing or exporting alerts when they are triggered" (page 43).

Setting up the CallPilot Reporter service for printing

Step	Action
1	On the Reporter Web server, open the Windows Administrative Tools.
2	Open the Services applet. **Result:** The Services window appears.
3	In the list of services, right-click**CallPilot Reporter**, and then click **Properties**. **Result:** The CallPilot Reporter Properties window appears.



Step	Action
4	Select the **Log On** tab.
5	Select the **This account** option button. Specify a user account with the appropriate access privileges: • To print on a network printer, specify a user account with network access privileges. • To print on a local printer connected to the Web server, specify a user account with local access privileges.

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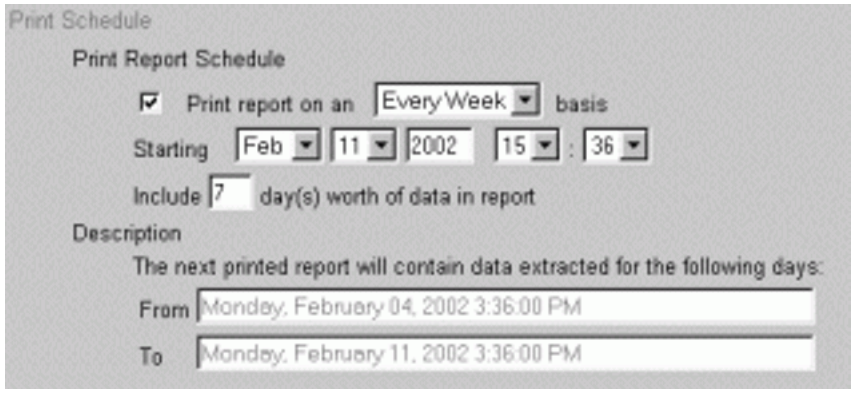
6 Click **Apply** and then click **OK**.

Result: A message appears stating that you must restart the service for the settings to take affect. Nortel recommends rebooting the CP Reporter Server instead of starting and stopping the service.

—End—

Setting a schedule for a report

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report you want to schedule. **Result:** The Properties window for that report appears.
3	Scroll down to the **Print Schedule** section. 
4	Ensure that the **Print report on an <...> basis** check box is selected.
5	From the **Print report on an <...> basis** list, specify how often you want to print or export the report (for example, every day, week, or month). ***Note:*** Reports scheduled on a monthly basis print or export data on the first day of the month.
6	In the **Starting** row, specify the first date and time that you want the report to print. **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.

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7 Check the **Description** section. The **From** and **To** boxes show the date and time for which the next printed report will contain data.

8 In the **Output Options** section, select the required options:

- To print the report, select **Print Report**.
- To export the report, select **Export report to the following format**. Select a format from the list, and then specify the path and file name for the file (for example, d:\reports\exported). If the appropriate file extension is not provided, ensure that you type the correct file extension.

9 Specify the format for the report (**Tabular Format**, **Graph**, or both).

Note: You can print scheduled reports in graph format, but you cannot export them in graph format.

10 Click **Save**.

Note: To print reports, ensure that a printer is accessible to, and is installed on, the CP Reporter server.

—End—

Printing or exporting alerts when they are triggered

Alerts are not a part of day-to-day system operation. You cannot schedule the printing or data export of alerts. When you choose to print or export an alert, whether the alert is triggered or not, Reporter prints or exports the data.

You can print alerts on any printer connected to the Web server on which Reporter is installed. You must set up the CallPilot Reporter service on the Web server to support printing of triggered alerts. For details about setting up the CallPilot Reporter service, see "Setting up the CallPilot Reporter service for printing" (page 41).

You can export data to any network location that is always accessible to the Web server on which Reporter is installed.

Printing or exporting an alert when it is triggered

Step	Action
1	In the list of alerts, click the name of the appropriate alert. **Result:** The Properties window for the alert appears.
2	In the **Output Options** section, select the required options:

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- To print the report, select **Print Report**.
- To export the report, select **Export report to the following format**. Select a format from the list, and then specify the path and file name for the file.

3 Click **Save**.

—End—

Printing or exporting on demand

Print or export a report on demand when you do not want to wait for a scheduled report to execute. You can also print a report on demand if you suspect that a problem exists with your system and you require data before the report is scheduled to print.

When you run a report on demand, you can send the report to any printer that is configured on the client computer. You can print only scheduled reports on a printer configured on the Reporter Web server.

Printing data on demand

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the required report. **Result:** The Properties window for that report appears.
3	In the **Output Options** section, specify the format for the report (**Tabular Format**, **Graph**, or both).
4	Click **Save**. **Result:** The CallPilot Reporter main page appears.
5	Above the report list, in the **Start Date & Time** boxes, select the start date and time for the data included in the report.

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6 In the **End Date & Time** boxes, select the end date and time for the data included in the report.

7 In the report list, select the check box adjacent to the name of the report you want to print.

8 Click **Run**.

Result: The report appears on the screen in a separate window.

9 On the toolbar, click the **Print** button.

Result: The Print dialog box appears.

10 Select the printer to use and the number of copies, and then click **OK**.

Result: When the file exports a window appears stating that the export has completed.

11 Click **OK** and then close the report window.

—End—

Exporting data on demand

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the required report. **Result:** The Properties window for that report appears.
3	In the **Output Options** section, specify the format for the report (**Tabular Format**, **Graph**, or both).
4	Click **Save**.
5	Above the report list, in the **Start Date & Time** boxes, select the start date and time for the data included in the report.

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6 In the **End Date & Time** boxes, select the end date and time for the data included in the report.

7 In the report list, select the check box adjacent to the name of the report you want to export.

8 Click **Run**.

Result: The report appears on the screen in a separate window.

9 On the toolbar, click the **File Export** button.

Result: The Export dialog box appears.

10 Select the **Export Format**, enter the destination path in the **Save To** box, and then click **OK**.

11 When you are finished, close the report window.

—End—

Printing or viewing reports as graphs

Most of the reports generated by Reporter are printed as tables. However, you can print some reports as graphs. Graphs enable you to analyze data quickly, observe trends, and make comparisons about system usage. Scheduled reports print to a specified printer connected to your Web server. When you run a report on demand, you can send the report to any printer that is configured on the client computer.

Reports that are available as graphs

You can view or print the following reports as graphs:

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

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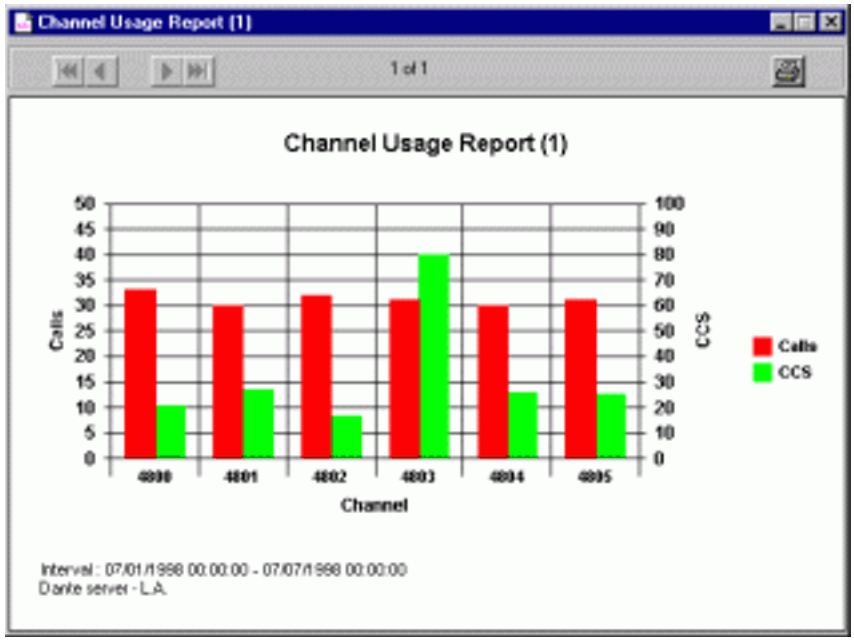
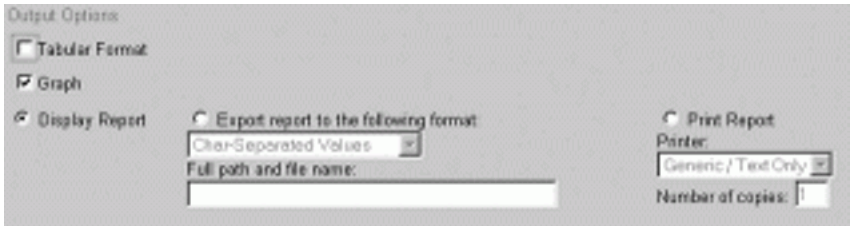


Printing or viewing a report as a graph

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click the name of the report you want to print or view. **Result:** The Properties window for that report appears.
3	Scroll down to the **Output Options** section. 
4	Select the **Graph** check box. ***Note:*** To view reports in regular report format, select the Tabular Format box.
5	Select the **Display Report** option button or **Print Report** option button.
6	Click **Save**.

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—End—

Printing a list of reports or alerts

To keep a list of reports or alerts for future reference, print the contents of the Reporter window. You can print the list on any printer configured on the client computer.

Printing a list of reports or alerts

Step	Action
1	Display the list of reports in the appropriate report category.
2	Click **Print**. **Result:** The Print dialog box appears.
3	Click **Print**.

—End—

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Chapter 4
Administration tasks

This chapter contains the following topics:

"Overview" (page 49)

"Changing the database storage period" (page 51)

"Backing up and restoring the Reporter database" (page 52)

"Changing the alert hours" (page 55)

"Changing the traffic units" (page 56)

"Troubleshooting" (page 56)

Overview

Administration options for Reporter are available in the Reporter main, System Properties, and System Log windows. The CallPilot Reporter administration tasks include the following:

- changing the database storage period (System Properties window)
- backing up the database (Sybase)
- changing the alert hours (System Properties window)
- changing the traffic units (System Properties window)
- viewing the system log (System Log window)
- removing a system (Reporter main window)

Reporter profiles

The first time you log on to Reporter, a new profile is created for you. Your profile includes:

- all custom reports that you create
- your Reporter settings

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- your Reporter Log

When you finish your Reporter session, you can:

- exit Reporter and save your profile (Logout)
- exit Reporter and remove your profile (Logout & Erase)

Saving your profile

If you save your profile, your custom settings and custom reports are available the next time you log on to Reporter. Your custom reports are available only to you.

If you want to share custom reports with other users, create a mailbox specifically for shared reports. All administrators with access to Reporter can use the mailbox number and password to log on to Reporter and access the shared reports.

Removing your profile

If you remove your profile, Reporter deletes all custom reports and custom settings. Reporter creates a new profile for you with the default settings and reports the next time you log on.

Profiles and data collection

The first time an administrator connects to a CallPilot server with Reporter, Reporter creates a profile for the administrator and begins receiving and storing OM data for the CallPilot server. Because the administrator owns the first profile, the administrator's Reporter Log contains some information that does not appear in subsequent profiles created for the same CallPilot server, including:

- the message "Connection to CallPilot Server" for a successful first-time connection to a CallPilot system
- information about nightly audits

If the administrator removes their profile, the nightly audit information is transferred to the next available profile.

Reporter continues to collect OM data for a CallPilot server as long as a profile is associated with the server. If you remove your profile, and you are the last person with a profile associated with the server, Reporter performs the following actions:

- Reporter stops OM data collection for the CallPilot server.
- Reporter deletes all OM data and scheduled cleanup jobs associated with the CallPilot server from the Reporter database.

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Changing the database storage period

CallPilot collects operational measurements (OM) data on the OM server. Reporter then retrieves the data and stores it in the Reporter database. By default, data is stored in the OM database for 30 days. You can specify a storage period of up to 120 days for the Reporter database.

Notes:

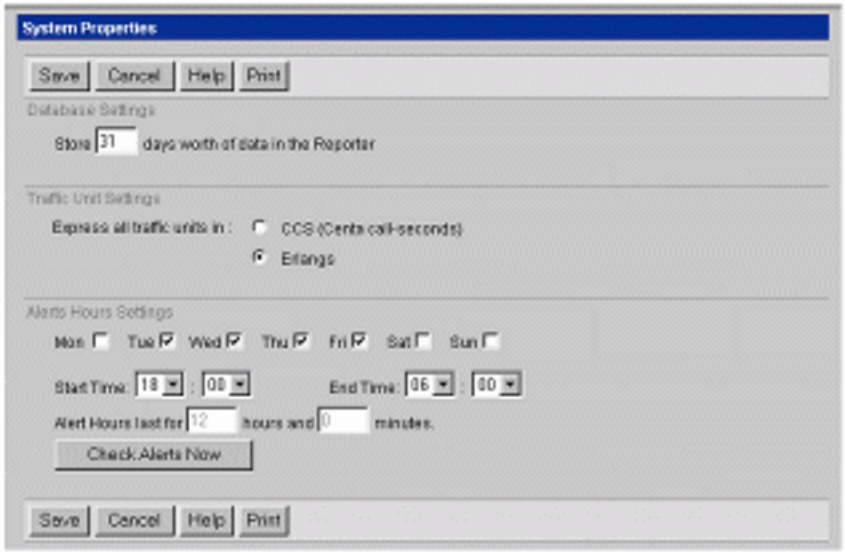
- To change the Reporter database storage period, you must have Reporter Administration privileges.
- Because the storage period specified by other administrators can very, Reporter uses the maximum value specified in a profile associated with the CallPilot server. For more information about profiles, see "Reporter profiles" (page 49).

ATTENTION

If you specify 0 for the Reporter database storage period, all data for the system to which you are logged on is deleted from the OM database during the next nightly audit.

Changing the storage period for the Reporter database

Step	Action
1	On the CallPilot Reporter page, click **System Properties**. **Result:** The System Properties window appears.



2	In the **Database Settings** section, type the number of days to store data in the Reporter database.

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3 Click **Save**.

—End—

If you enter 0 as a value, the system deletes all data for the current CallPilot system during the next nightly audit.

Backing up and restoring the Reporter database

You can back up and restore the Reporter database using the backup utility that installs with CallPilot Reporter. Performing regular backups minimizes the risk of losing operational measurements (OM) data. To prevent data from being lost due to a system failure, back up your database regularly. Reporter uses a Sybase database to store collected OM data.

WARNING
If you need to restore your Reporter database, do not log on to Reporter at any time during the restore. Wait until the restore is complete. If you do log on during the restore, the restored data will be unavailable for reports.

ATTENTION
If you upgrade your Reporter software to a new version or release, create a new backup when you complete the upgrade. If you try to restore a backup from the previous version or release, the data might be unavailable for reports due to changes to the database architecture.

Backing up the Reporter database

Step	Action
1	Log on to the CallPilot Reporter Web server as an administrator. ***Note:*** Do not log on to CallPilot Manager and then click the link to connect to Reporter.
2	Create a folder to contain the backup.
3	Click the Windows **Start** button, point to **Programs > CallPilot Manager**, and then click **Reporter Database Backup Restore Tool**.
4	In the **Destination Folder** box, type the path to the backup folder. Alternatively, click **Browse** to locate the folder, and then click **OK**.
5	In the **Enter a name for backup** box, type a name for the file containing the backup data.

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You can use the backup name that appears, or type a different name.

6 Click **Start Backup**.

7 When you receive a message that states the backup is complete, click **OK**.

8 On the **Operation Status** message, click **OK**.

9 Click **Close** to close the Reporter Database Backup Restore Tool.

—End—

If you plan to restore this data immediately (for example, as part of a software recovery scenario), do not log on to Reporter until you complete the restore.

Scheduling Reporter database backups

Step	Action

Schedule regular Reported database backups using the Windows Task Scheduler. This mode does not require any user interaction. The Progress window appears on the screen and represents operation status. The window is closed automatically when backup is completed.

1 Log on to the CallPilot Reporter Web server as an administrator.

> ***Note:*** Do not log on to CallPilot Manager and then click the link to connect to Reporter.

2 Create a folder to contain the backup.

3 Click the Windows **Start** button, point to **Settings > Control Panel > Scheduled Tasks.** Double click on **Add Schedule Task** to start schedule task wizard. Click **Next** to proceed with task selection.

4 Browse and select **Reporter Database Backup Restore Tool**. Click **Next** to continue.

5 Select the schedule for the backup task: **Daily, Weekly, Monthly** and etc. Optionally: change the task name. Click **Next** to continue.

6 Set start time and date for the backup task. Click **Next** to continue.

7 Enter CallPilot Reporter Web server administrator account user name and password. Click **Next** to continue.

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8 Ensure that **Open advanced properties for this task when I click Finish** checkbox is selected and then click **Finish**.

9 In the advanced properties window navigate to the **Task tab**. Make sure to add **–auto** parameter and backup path to the command line in **Run:** edit. Backup path is an optional parameter. If not specified the path will be set to the recent one (or to default value if there is no previous operations).

For example, *C:\Nortel\Data\rpt_dbbr.exe –auto D:\Temp C:\Nortel\Data\rpt_dbbr.exe –auto*

10 Make sure that **Run only if logged on** checkbox is unchecked. Click **OK** to save scheduled task.

Note: Cleanup backup location regularly. Too many database backups can cause hard drive overflow.

—End—

Restoring the Reporter database

Step	Action

Do not log on to Reporter until you complete the restore. Ensure you are not logged on to Reporter when you start the restore.

1 Log on to the CallPilot Reporter Web server as an administrator.

Note: Do not log on to CallPilot Manager and then click the link to connect to Reporter.

2 Click the Windows **Start** button, point to **Programs > CallPilot Manager**, and then click **Reporter Database Backup Restore Tool**.

3 Select the **Restore** tab.

4 Click **Browse** to locate the backup folder, and then click **OK**.

5 Click **List Folder** to locate the backup file, and then select the backup you want to restore.

6 Click **Start Restore**.

Result: A message prompts you to confirm if you want to continue.

7 Click **Yes**.

8 When a message tells you the restore is complete, click **OK**.

9 On the **Operation Status** message, click **OK**.

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10 Click **Close** to close the Reporter Database Backup Restore Tool.

11 Log on to Reporter and perform the following steps to ensure the restore was successful:

a. To ensure the restored data is available, run a report.

b. To create new OM data, make test calls.

c. To ensure Reporter is collecting new data, run another report.

—End—

Changing the alert hours

If you want to be notified of potential hacking that takes place outside regular business hours, you can set or change the hours during which alerts are triggered. Information is recorded in the following reports:

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

Note: By default, Monday to Friday from 6:00 p.m. to 6:00 a.m. the following morning and all day Saturday and Sunday are already selected.

Changing the alert hours

Step	Action
1	On the CallPilot Reporter page, click **System Properties**.
2	In the **Alert Hour Settings** section, select each day for which you want to set specific hours. ***Note:*** To specify an entire non-business day, for example, a statutory holiday, clear the appropriate day.
3	In the **Start Time** boxes, select the hour and minutes at which the non-business hours begin.
4	In the **End Time** boxes, select the hour and minutes at which the non-business hours end. **Result:** The Alert Hours last for... boxes display how many hours and minutes you selected. You can use these boxes to confirm that you entered the start and end times correctly.
5	Click **Save**.

—End—

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Changing the traffic units

You can display data from the Channel Usage Report and the System Traffic Summary Report in centa-call seconds (CCS) or Erlangs.

- **Erlang**—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.
- **centa-call seconds (CCS)**—American unit of telephone traffic.

  Note: 1 Erlang equals 36 CCS

Changing the traffic units

Step	Action
1	On the CallPilot Reporter page, click **System Properties**. **Result:** The System Properties window appears.
2	In the **Traffic Unit Settings** section, perform one of the following steps: • To display information in centa-call seconds, select **CCS**. • To display information in erlangs, select **Erlangs**.
3	Click **Save**.

—End—

Troubleshooting

If you encounter problems with Reporter, you can use the following sources of information:

- **Windows Event Viewer Log**
  - Use the Event Viewer Log on the Reporter Web server to identify low-level errors and situations where Reporter has problems accessing the OM database.
  - Use the Event Viewer Log on the CallPilot server to identify problems with the OM server.
- **Reporter Log**

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— Use the Reporter Log to identify Reporter-specific errors.

If you report a problem with CallPilot Reporter, the Help desk representative can ask you to view and report some information from the Reporter Log.

Using the Windows Event Viewer

Step	Action
1	Click **Start > Programs > Administrative Tools > Event Viewer**. The Event Viewer window appears. To view a log, click the name of the log in the left pane of the window.

—End—

Viewing the Reporter Log

Step	Action
1	On the CallPilot Reporter page, click **System Log**.
2	To close the System Log window, click the following button.

—End—

Deleting all errors from the Reporter Log

Step	Action
1	In the System Log window, click **Clear All**. **Result:** A confirmation dialog box appears.
2	Click **OK** to confirm.

—End—

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Chapter 5
Interpreting reports and alerts

This chapter contains the following topics:

"Types of reports" (page 59)

"Benefits of reports and alerts" (page 61)

"Guidelines for interpreting reports and alerts" (page 64)

Types of reports

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

Report type	More information
System reports System 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.	See Chapter 6 "System status reports" (page 67)
Messaging reports Messaging reports show trends and patterns related to the messaging programs installed on your CallPilot system. For example, the Desktop Messaging Activity Report shows which users are using their mailboxes from Desktop CallPilot. The Top Users of Storage Report shows which users are using excessive amounts of voice storage.	See Chapter 9 "Messaging reports" (page 83)

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Report type	More information
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 failed to print. The Fax on Demand Audit Trail Detail Report shows faxes that failed to transmit.	See Chapter 11 "Outcalling reports" (page 105)
Multimedia application report The multimedia application report analyzes service activity for voice menus, announcements, and fax on demand. The multimedia application report includes the Building Block Summary Report.	See Chapter 10 "Multimedia report" (page 101)
Networking reports Networking reports show trends and patterns related to networking activity.	See Chapter 5 "Interpreting reports and alerts" (page 59)
Traffic reports Traffic reports show how much the system is used. For example, the Productivity Report shows the total number of incoming and outgoing calls processed by the CallPilot system. The System Traffic Summary Report shows the number of times each service is accessed.	See Chapter 8 "Traffic reports" (page 77)
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 in bill-back reports is exported to an external billing program. Administrators can then charge the appropriate user or department for service usage.	See Chapter 13 "Bill-back reports" (page 139)
Administration report The Administration Action report provides information about changes performed by administrators. The report also provides brief explanations of actions and the items affected by these actions.	See Chapter 7 "Administration report" (page 75)

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Report type	More information
Voice form reports Voice form reports provide information about the activity within a specified voice form. This includes the number of responses to a voice form and the details about a caller's session. The reports also include the number of transcribed responses as well as details about a transcriber's session.	See Chapter 14 "Voice Form reports" (page 147)
Alert reports Alert reports point out possible hacker activity on your system and failures that can be caused by software problems.	See Chapter 15 "Alert reports" (page 151)

Benefits of reports and alerts

Analyze the information in reports to:

- establish a pattern of normal behavior
- monitor system usage
- assess the overall efficiency of your system
- detect potential system problems
- monitor system security
- bill users for service usage
- monitor administrative changes
- identify alerts from possible hacker activity
- identify alerts from potential software problems

Use reports to establish a baseline

Generate reports on a regular basis to establish a pattern of normal behavior or a baseline for your system. Using this baseline you can differentiate between normal system activities and unusual or suspicious activities. When you establish 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 per hour. If one channel suddenly drops to only three or four calls per hour, this can indicate a problem with your system hardware or configuration.

Use reports to monitor system usage and assess system efficiency

Study your reports to assess the overall efficiency of your system and decide whether changes are necessary.

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Reports can show:

- amount of time callers wait before their calls are handled
- number of callers who abandon their calls
- frequency with which callers access each service or feature
- number of calls processed by each channel
- amount of free disk space 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 establish an overall view of which services generate the most, least, or no traffic.

Use reports to detect potential system problems

Analyze the information in reports to identify potential system problems, such as hardware failures or inadequate resources. The following examples discuss some potential problems that are detected through reports.

Example 1: Hardware failure

If the Channel Usage Report shows that channel 4 did not handle any calls during an 8-hour period, check that this channel is 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 may 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 you originally anticipated.

Example 3: Inefficient usage

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

- Callers do not know how to use the service. Rephrase the wording of the prompts for clarity.
- Callers are not aware that the service exists. Determine how to promote the service to potential callers.
- Technical problems are occurring. Investigate further and repair the problems.

Use reports to monitor system security

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

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Example

If the Voice Messaging Activity Report indicates a discrepancy between the number of call answer sessions and the number of generated messages, this can 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.

You can also use the alert reports to monitor system security.

Use reports to bill service usage

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

Example

The DTT Usage Report tracks calls made by the Delivery to Telephone (DTT) service to external numbers. This report records information, such as:

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

If some of the calls listed in this report are 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 important information provides a history of changes, including when changes were made, where they were made, and who made the changes.

Use alert reports to identify alerts from possible hacker activity

Alert reports point out excessive attempts to log on to your system, indicating possible interference by hackers.

Example

The Excessive Thru-Dialer Access Alert is triggered by an unusually high number of thru-dialer accesses. This alert can be triggered if hackers penetrate your system and use a thru-dialer to place toll calls.

Use alert reports to identify alerts from potential software problems

Alert reports can point out problems, such as failed fax delivery or failed Remote Notification (RN) sessions that can be caused by software problems.

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Example

When the Failed DTT Alert report shows an unusually high number of Delivery-to-Telephone messages that are not received, it can indicate a problem with the DTT service setup.

Guidelines for interpreting reports and alerts

When you interpret reports, follow these guidelines:

- **Determine your system size**—Know your system disk capacity and the number of installed channels. Use this information to identify when you are reaching resource limits and to plan for future upgrades.
- **Establish a baseline**—Learn what is normal or average behavior for your system. Establish a baseline to 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.
- **Observe day-to-day system use**—Learn how your organization operates on a day-to-day basis. The information in reports often relates directly to the routines and schedules of your company. For example, if a large number of employees are working overtime, your reports may 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 can generate more traffic than usual. If users are not familiar with the feature, it can generate less traffic.

Reports and changes to server time

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

The server time can change for various reasons:

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

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If the server time is advanced by 1 hour, the generated data of calls made during that time shows lengths of time increased by 1 hour. Totals and averages of call sessions displayed in reports covering the time change are also increased.

Example 1

The server time is advanced by 1 hour due to Daylight Saving Time. Calls that are in progress when the time changes show lengths of time increased by 1 hour.

Actual call length: 5 minutes

Report data shows: 1 hour 5 minutes

Example 2

Server time is decreased by 1 hour due to Daylight Saving Time. Calls in progress when the time changes show lengths of time decreased by 1 hour.

Actual call length: 5 minutes

Report data shows: -55 minutes

If the server time is decreased by 1 hour, the generated data of calls made during that time can show negative lengths of time. Totals and averages of call sessions displayed in reports covering the time change are also decreased.

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Chapter 6
System status reports

This chapter contains the following topics:

"Service Quality Summary Report" (page 67)

"Service Quality Detail Report" (page 69)

"Channel Usage Report" (page 71)

"Multimedia File System Usage Monitor Report" (page 72)

"Disk Usage Report" (page 73)

Service Quality Summary 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.

With this report you can determine whether adequate channel resources exist or whether the minimum or maximum channel settings in the Service Directory Number (SDN) table need adjustment to provide the required quality of service for callers to the system.

Use this report to determine:

- number of callers forced to wait before accessing a channel
- number of callers who abandon their calls

Additional information

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

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Report data

Column	Description
Date	Date of the reporting period
Time Period	Time of the reporting period
All Channels Busy (mm:ss)	Length of time in minutes and seconds that all the channels on your system were busy
Voice Waited	Number of callers who waited for a voice channel
Voice Abandoned	Number of callers who abandoned their calls while waiting for a voice channel
Fax Waited	Number of callers who waited for a fax channel
Fax Abandoned	Number of callers who abandoned their calls while waiting for a fax channel
SR Waited	Number of callers who waited for a speech recognition channel
SR Abandoned	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 (SR) channel.

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

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

Suggested actions

- Check the SDN table to determine if one of the services has a minimum channel setting that might be unnecessarily tying up channels and preventing callers to other services from 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 determine if any service has a maximum channel setting that prevents callers to the service from accessing a channel without waiting. Increase the maximum setting to reduce the chance of callers waiting for a channel to access the service.
- The number of voice, fax, and SR traffic channels can be out of balance due to the busy hour voice, fax, and SR traffic. For example, if fax channels are under utilized, but callers to speech recognition

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channels must wait, reallocate 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. See "Service Quality Detail Report" (page 69).

How many callers abandoned calls?

Check the number of callers who abandoned a voice, fax, or speech recognition channel. If a large number of callers abandon their calls, the reason can be attributed to caller frustration with long wait times.

Suggested actions

- 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. See "Channel Usage Report" (page 71).

Service Quality Detail Report

This report provides detailed information about the grade of service provided by each type of channel. These details can 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 speech recognition channel
- determine how many callers abandoned their calls to a specific type of media

Additional information

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

Report data

Column	Description
Date	Date of the reporting period
Time Period	Time of the reporting period

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Column	Description
Media Type	Media type of the channels reported: voice, fax, and SR. The numeric values are 1 = voice, 2 = fax, 3 = SR.
Number of Callers Waited	Number of callers who waited
Percentage Calls Waited	Percentage of calls that waited
Average Wait Time (mm:ss)	Average time a caller waited
Maximum Wait Time (mm:ss)	Maximum time a caller waited
Number of Callers Abandoned	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 can become frustrated and abandon their calls.

Suggested actions

- Check the SDN table to determine if one of the services has a minimum channel setting that is unnecessarily tying up channels and preventing callers to other services from accessing 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 determine if any services have a maximum channel setting preventing callers to the service from accessing a channel without waiting. Increase the maximum setting to reduce the chance of callers waiting for a channel to access the service.
- The number of voice, fax, and SR traffic channels can be out of balance with the busy hour voice, fax, and SR traffic. For example, if fax channels are under utilized, but callers to speech recognition channels must wait, reallocate 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 due to lengthy wait times, you can configure additional channels to handle fax.

Suggested actions

- If callers are abandoning their calls to a specific media type due to frustration over long wait times, increase the number of channels that handle the type of media.

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- Run the Channel Usage Report to view the state of each channel. This ensures that your channels are operating correctly. See "Channel Usage Report" (page 71).

Channel Usage 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

You can print this report as a graph.

Report data

Column	Description
Date	Date of the reporting interval
Time Period	Time of the reporting interval
Channel Number	Number of the multimedia channel
Incoming Calls	Number of incoming calls on each channel
Outgoing Calls	Number of outgoing calls on each channel
Total Calls	Total number of incoming and outgoing calls on each channel
Avg. Hold Time Incoming Calls	Average hold time in seconds of incoming calls on each channel
Avg. Hold Time Outgoing Calls	Average hold time in seconds of outgoing calls on each channel
CCS/Erlang	**CCS**—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. **Erlangs**—Number of Erlangs is rounded to two decimals, with the total being the total of the rounded numbers. A single channel can handle a maximum of 1 Erlang. ***Note:*** Information is shown in either CCS or Erlangs. For more information, see "Changing the traffic units" (page 56).

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Is traffic evenly distributed across your channels?

Compare the number of incoming and outgoing calls for each channel. Verify that the average amount of traffic for each channel is similar. If a channel shows no incoming or outgoing calls, the channel is either disabled or faulty.

Suggested actions

Use the Multimedia Channels program and the DS0 Channels program to check state of the channel:

- 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 showing a high number of incoming calls but low CCS times mean that calls are very short. Channels showing an unusually short Average Hold Time (AHT) can indicate a problem with that channel.

Suggested action

Run the traffic reports to obtain more information about the problem. See Chapter 8 "Traffic reports" (page 77).

Multimedia File System Usage Monitor 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 important that you do not allow a volume capacity to become full.

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

Additional information

You can print this report as a graph.

Report data

Column	Description
Date	Date of the information
Time	Time of the information
Volume ID	ID of the storage volume (volumes are sections on the Nortel disk)

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

Is your capacity over 90 percent?

Suggested actions:

- Check the time of day 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; however, by Monday, storage usage can be low as no new messages are read over the weekend.

- Run the Top Users of Storage Report to identify mailboxes that are storing too many messages. See "Top Users of Storage Report" (page 98). 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 determine if any events occurred to indicate problems with the Multimedia File System (MMFS) and its nightly audit. For example, a problem occurs when the system does not recover the space held by deleted messages. If these events exist, contact your distributor immediately.

Disk Usage Report

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

- operating system
- CallPilot software
- CallPilot database
- first multimedia volume VS1

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

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

Additional information

You can print this report as a graph.

Report data

Column	Description
Date	Date of the information
Time Period	Time period of the information
Disk Capacity (kbytes)	Amount of disk space currently available, in kbytes
Disk Used (kbytes)	Amount of disk space used, in kbytes
Percentage Disk Used	Percentage of disk space used
Disk Drive	Disk drive used

Check available disk space

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

Suggested action

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

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

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Chapter 7
Administration report

This chapter contains the following topics:

"Administration Action Report" (page 75)

Administration Action Report

Use this report to obtain high-level information about changes that administrators make to the CallPilot system. This information is useful to determine

- whether changes were recently 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

Column	Description
Date	Date when the action was generated
Time	Time when the action was generated
Administrator Name	Full name of the administrator responsible for executing the changes
Action Type	Type of action: Create, Modify, or Delete
Client Network Address	Network IP address for the client from which the changes were made

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Column	Description
Object	Item or items affected by this action, such as: • Users • Mailbox Class • SDL • Message Delivery • Messaging Administration • Outcalling Administration • Security Administration • RPL • Messaging Network • Internet Mail • System Prompt • Application Builder • Service DN
Description	High-level description of the changes

Limitations

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

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Chapter 8
Traffic reports

This chapter contains the following topics:

"Productivity Report" (page 77)

"System Traffic Summary Report" (page 78)

Productivity Report

Use this report to obtain information about productivity gains from using the CallPilot system. This information is useful to demonstrate:

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

Report data

Field	Description
Calls Summary	
Number of Incoming Calls	Number of calls that entered the CallPilot system
Number of Outgoing Calls	Number of outgoing calls originated by the CallPilot system
Total Calls	Total number of incoming and outgoing calls to and from the CallPilot system
Total Connect Time (Hours)	Total amount of connect time, in hours, due to all calls to and from the CallPilot system
Equivalent Person Weeks	Number of 40-hour person weeks required to handle the same service that CallPilot provided during the specified date and time interval
Messaging Sessions	
Number of Express Voice Messaging Sessions	Total number of Express Voice Messaging sessions

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Field	Description
Number of Call Answering Sessions	Total number of Call Answering sessions
Number of ST Call Answering Sessions	Total number of Shared Telephone Call Answering sessions
Number of Express Fax Messaging Sessions	Total number of Express Fax Messaging sessions
Number of Fax Call Answering Sessions	Total number of Fax Call Answering sessions
Number of Logon Sessions	Total number of logon sessions
Number of Speech-Activated Messaging Sessions	Total number of speech-activated messaging sessions
Messages Created	
Number of EVM/CA Voice Messages	Total number of voice messages created by Express Voice Messaging and Call Answering
Number of STCA Voice Messages	Total number of voice messages created by Shared Telephone Call Answering
Number of EFM/FCA Fax Messages	Total number of fax messages created by Express Fax Messaging and Fax Call Answering
Number of Logon Voice Messages	Total number of voice messages created during any type of session, including DTMF logon, voice/fax logon, or speech-activated messaging
Number of Logon Fax Messages	Total number of fax messages created during any type of session, including DTMF logon, voice/fax logon, or speech-activated messaging
Other Activity	
Application Builder	Total number of Application Builder sessions
Remote Notification	Total number of remote notification attempts
Delivery to Telephone	Total number of delivery to telephone attempts
Fax Deliveries	Total number of fax delivery attempts
Enterprise Networking	Total number of Enterprise Networking calls
AMIS Networking	Total number of AMIS Networking sessions, including Integrated and Open AMIS

System Traffic Summary Report

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

- busy hours for your system

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- services that are not used
- services that generate an unusually high volume of traffic
- periods when users have trouble logging on
- users who do not respond to their voice mail

Additional information

You can print this report as a graph.

Report data

Column	Description
Date	Date of the report
Time Period	Time period of the report
Service Name	Name of the service, such as Call Answering, that was accessed
Total Accesses	Total number of times the service was accessed
Average Hold time (mm:ss)	Average length, in minutes and seconds, of an access to the service during the specified period
CCS/Erlang	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	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, you can 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 determine if callers are waiting or abandoning calls during the busy hour. If they are, the System Traffic Summary Report identifies what services they are trying to reach and helps identify which services require minimum and maximum channels adjusted in the SDN table. See "System Traffic Summary Report" (page 78).

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Identify services that are not being used

Check the number of accesses for each service. A service with a low number of accesses can indicate that the service is not working properly, or that users are unaware the service exists.

Suggested actions

- Ensure that the service is installed on your CallPilot system.
- Ensure that the service is working correctly.
- Ensure that users are aware of the service and are 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 frequently 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 can 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 required for a service in the SDN table. You can also expand the system if the overall traffic is higher than originally anticipated.
- If a particular service is experiencing sporadic traffic spikes, and the service is a less important application than others (such as call answering), then set a maximum number of channels for this service in the SDN Table.

Identify periods when users are having trouble logging on

If users experience 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, add resources or reallocating resources to better serve callers.

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- Check the SDN Table for services with non-zero minimum channels settings. and lower 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" (page 90). 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" (page 83).

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Chapter 9
Messaging reports

This chapter contains the following topics:

"Call Answering/User Responsiveness Report" (page 83)

"Inactive User Report" (page 85)

"Mailbox Call Session Summary Report" (page 86)

"Mailbox Counts Report" (page 89)

"Voice Messaging Activity Report" (page 90)

"Desktop Messaging Activity Report" (page 92)

"Fax Messaging Activity Report" (page 93)

"Messaging Usage Report" (page 94)

"Speech-Activated Messaging Report" (page 96)

"Top Users of Storage Report" (page 98)

"Users Exceeding Storage Limit Report" (page 99)

Call Answering/User Responsiveness 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

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Report data

Column	Description
Name	Name of the mailbox owner
Mailbox	Mailbox number
Date	Date of the report interval
Total CA+EVM+STCA Calls	Total number of Call Answering, Express Voice Messaging, and Shared Telephone Call Answering calls
No Msg CA+EVM+STCA Calls	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 Call Answering, Express Voice Messaging, or Shared Telephone Call Answering for a mailbox and does not leave a message.
Percentage Of No Message Calls	Percentage of no message calls to total calls
Logons	Number of successful logons
CA+EVM+STCA Message Received	Total number of Call Answering, Express Voice Messaging, and Shared Telephone Call Answering with message being left by the caller
Logons per Message	Percentage of successful logons to Call Answering, Express Voice Messages and Shared Telephone Call Answering with a message left by the caller

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 a higher percentage of calls than messages occurs, 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.

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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 more messages exist than logons, users are not retrieving their voice messages.

Suggested actions

- Determine 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 their greeting, you can record a temporary absence greeting on their behalf.

Inactive User Report

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

- logging on to their mailboxes
- reading their messages

Report data

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

Identify users who are not logging on to their mailboxes for a long time

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

- Determine if any users are on vacation or extended leave.
- Remind users that stored messages consume disk space.

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- 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" (page 86).

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, resulting 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" (page 86).

Mailbox Call Session Summary 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 can indicate hacker activity
- investigate user complaints of delayed messages

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	User's name and the mailbox number
Date/Time	Date and time of the call
Session Length	Length of the session in hours, minutes, and seconds (hh:mm:ss)

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Column	Description
Session Type	Type of session: 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 STCA—Shared Telephone Call Answering Field includes the count of invalid logon attempts.
Caller DN	Telephone number (either internal extension or external phone number) that originated the call to the mailbox. This box can contain up to 17 digits.
STCA/CA/EVM Voice Msg Received	Total number of voice messages left during the Shared Telephone Call Answering, Call Answering, or Express Voice Messaging session
FCA/EFM Fax Msg Received	Total number of fax messages that arrived during the FCA or EFM session
Msg Read	Total number of voice and fax messages that were read during the logon session
Msg Sent	Number of voice and fax messages that the user sent during the logon session
Msg Unread	Total number of unread voice and fax messages at the end of the session
Session End Indicator	Shows how the session ended: • applications error • hang up • time out • log off • log on • transfer • switched to fax mode • unknown

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Column	Description
Transfer DN	DN to which the caller is transferred when a call transfer occurs during the session

Identify sources of low user responsiveness

Identify sources of low user responsiveness by examining 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 number of messages received, the user is not listening to all of their messages.
- Check the Session Type field to find users who do not log on often (users who have 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 on how to retrieve messages.

Identify suspicious caller DNs

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 to determine if one of the DNs belongs 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.

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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 to dial out from your system to place long-distance calls. If a hacker gains access to a mailbox, the hacker can set up a session and leave the session open 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 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 their 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

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.

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Report data

Column	Description
Mailbox Counts(Mailbox Class) Report	
Mailbox Class	Name of the mailbox class
Mailbox Count	Total number of mailboxes
Mailbox Counts(Department) Report	
Department	Department name
Mailbox count	Total number of mailboxes
Mailbox Counts(Switch Location) Report	
Switch Location	Name of the switch location
Mailbox Count	Total number of mailboxes

Voice Messaging Activity 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

Report data

Column	Description
Date	Date of the reporting interval
Time Period	Time of the reporting interval
CA/EVM Sessions	Number of Call Answering and Express Voice Messaging sessions during the specified time period
STCA Sessions	Number of Shared Telephone Call Answering sessions during the specified time period
Logon Sessions	Number of voice messaging logon sessions during the specified time period
Speech Rec. Messaging Sessions	Number of Speech Rec. Messaging sessions during the specified time period

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Column	Description
Desktop Message Transfers	Number of new voice messages received by clients
Average Session Length (sec.)	Average length in seconds of CA, EVM, and logon sessions for the specified time period
Maximum Session Length (sec.)	Longest length in seconds of CA, EVM, and logon sessions for the specified time period
Call Answering Messages Created	Number of CA messages created during the specified time period
ST Call Answering Messages Created	Number of STCA messages created during the specified time period
Logon Messages Created	Number of logon messages created during the specified time period
Average Message Length (sec.)	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 is allocated for voice messages.
Maximum Message Length (sec.)	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.
- Expand 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 fewer messages exist 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.

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— If users have not recorded a greeting, ask them to record one. If users are unavailable, 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 more sessions exist 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 unfamiliar with the service. If hackers thru-dial out of your system during a CA session, you receive CA sessions, but no messages.

Suggested actions

- Provide users with training on CA and EVM.
- Require users to 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" (page 83).
- If you suspect hacker activity, check the restriction/permission list 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" (page 160).

Desktop Messaging Activity Report

This report summarizes the Desktop Messaging activity on your CallPilot system. Use this report to determine the number of:

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

Report data

Column	Description
Date	Date that the activity took place
Time Period	Start and end time between which the activity took place

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Column	Description
New Voice Presented	Number of new voice messages received by clients
New Fax Presented	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

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

Report data

Column	Description
Date	Date of the reporting period
Time Period	Time of the reporting period
Fax Call Answering Sessions	Number of times callers were routed to Fax Call Answering on the CallPilot system
Express Fax Messaging Session	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	Number of fax messages created after callers were routed to the CallPilot system
Express Faxes Created	Number of fax messages created after callers dialed the Express Fax service
Logon Faxes Created	Number of fax messages created by users logged on to the CallPilot system
Average Fax Size (pages)	Average number of pages that make up one fax message
Fax Print Sessions	Number of fax messages printed by users logged on to the CallPilot system
Desktop Message Transfers	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

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- 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, 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 more direct and helpful. If so, rerecord the prompts.
- If only one mailbox is specified for Fax Auto Attendant, ensure the mailbox number is correct.

Messaging Usage Report

This report provides a daily summary of the number of system resources a mailbox is using. The report provides 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 mailbox:

- resource usage
- messages sent and received

Additional information

When you run or print this report, include a period of at least 24 hours of data in the report. This ensures that the information spans a significant length of time.

Report data

Column	Description
Name	First and last name of the mailbox owner
Mailbox	Number of the mailbox
Date	Date for which mailbox usage data is provided

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Column	Description
Channel Connect Time (sec)	Total amount of time that the mailbox was connected to a channel on the specified date ***Note:*** The channel connect time does not include outcalling time.
Storage (mm:ss)	Average amount of disk space used by the mailbox on the specified day, in minutes and seconds, and including the amount of space taken up by voice messages, fax messages, and greetings
Storage (kbytes)	Average amount of disk space used by the mailbox on the specified day, in kbytes
# of SAM Sessions	Number of Speech-Activated Messaging sessions that occurred on the specified date
Desktop Message Transfers	Number of new voice and fax messages received by clients
Messages Received	Total number of messages received by the mailbox on the specified date
Messages Sent	Total number of messages originating from the mailbox on the specified date
Total	Average amount of disk space used per mailbox on the specified date
Grand Total	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, which can indicate that hackers are using the mailbox to place outcalls.

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Suggested actions

- Check the status of the mailbox and its owner. Determine the 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

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.

Report data

Column	Description
Header: User Name, Mailbox number	Last name and first name of the mailbox user, and the number of the mailbox
Date	Date of the session
Time	Time of the session
Session Length	Length of the session
Caller DN	Directory number from which the call originated
Total Unsuccessful Logon Attempts	Total number of unsuccessful Speech Recognition (SR), Dual-tone multifrequency (DMTF), and Mixed logon attempts during the attempted SAM session
Unsuccessful SAM Logon Attempts	Number of unsuccessful logon attempts to SAM using SR
Unsuccessful DTMF Logon Attempts	Number of unsuccessful logon attempts to SAM using DTMF
Unsuccessful Mixed Logon Attempts	Number of unsuccessful logon attempts to SAM using either SR or DTMF

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Column	Description
Logon Result	0 = success with SR 1 = success with DTMF 2 = success with SR and DTMF 3 = maximum invalid 4 = hung up 5 = canceled 6 = timed out 7 = locked out
Total Recognitions	Total number of attempted recognitions of user speech by the speech recognizer
Accepted Recognitions%	Percentage of attempted recognitions by SR that were successful and did not require a confirmation query of the user. Attempted recognitions occurred because the speech recognizer was statistically confident that SR understood what the user said.
Queried Recognitions%	Percentage of attempted recognitions by SR that were successful but required a confirmation query of the user. Queried recognitions occurred because the speech recognizer understood what the user said, but was statistically unsure and queried the user to confirm.
Rejected Recognitions%	Percentage of attempted recognitions by SR that failed. Rejected recognitions occurred because the speech recognizer did not understand what the user said and asked the user to try again.
DTMF Switches	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 attempted to be recognized during this SAM session. If the user switched to DTMF, the user abandoned SR for this session.

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Suggested actions

Temporary factors can affect SR performance, such as a bad connection or noisy background, a user not speaking normally due to fatigue, or other factors. You can determine if problems that affect performance are temporary by verifying that other SAM sessions for this user do not show problems.

However, some users consistently have problems with SR. Users can have the greatest difficulty when the system does not recognize a user's mailbox number and password. After a user logs on, a user 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.

Top Users of Storage Report

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

Additional information

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	Name associated with the mailbox
Mailbox	Number of the mailbox
Storage Used (mm:ss)	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)	Total amount of disk storage used by the user, in fax pages
Storage Used (Kbytes)	Total amount of disk storage used by the user, in kbytes

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Column	Description
Mailbox Class	Mailbox class for the mailbox
Switch Location	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.
- Run the Users Exceeding Storage Limit Report to determine which users are exceeding their storage limit.

Users Exceeding Storage Limit Report

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

Report data

Box	Description
Name	User name associated with the mailbox
Mailbox	Number of the mailbox
Storage Used (mm:ss)	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)	Maximum storage allowed by the mailbox class
Percent Above Limit	Storage exceeding the mailbox class, as a percentage
Mailbox Class	Mailbox class of the mailbox
Switch Location	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

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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 determine if users are checking their messages. See "Call Answering/User Responsiveness Report" (page 83). If users are not checking their messages, find out if they are on extended leave. If a user is absent and their mailbox is exceeding capacity, you can archive their messages to tape.

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Chapter 10
Multimedia report

This chapter contains the following topics:

"Building Block Summary Report" (page 101)

Building Block Summary 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 information 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. Ensure 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

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Report data

Column	Description
ServiceAppID	Unique number used to identify the Application Builder application in which the block resides. If the application is in the Service DN table, the application is called a service.
Block Name	Name given to the block when it was placed in the application
Block Type	Type of block. This report records information for five types of blocks: • Announcement • Call Transfer • Fax Select • Menu • Thru-Dial
Date	Date the report data was collected for the block
Time	Time the report data was collected for the block
Average Access Time	Average amount of time callers interacted with the block
Number of Abandonments	Number of calls abandoned while in this block
Number of Accesses	Number of times this block was reached or accessed
Number of Times Each Key Has Been Used	Number of times that callers pressed keys on the telephone set to interact with the block
# of Faxes Selected	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.

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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 telephone set.

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 Number 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 Number of Accesses field contains a large number for an Announcement block, callers are pressing keys on the telephone set to interrupt and bypass the announcement.

A large number implies one of the following situations:

- The announcement is unnecessary.
- The announcement must be repositioned elsewhere in the application.
- The announcement must be configured so that callers cannot interrupt it.

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Hacker activity

Check the Number 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 can be experiencing difficulty interacting with that particular block.

A block and its related voice items can hinder caller interaction. For example, if callers take a long time at the Thru-Dial block, they do not understand how to enter the number that they want to dial. 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.

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Chapter 11
Outcalling reports

This chapter contains the following topics:

"DTT Activity Report" (page 105)

"DTT Audit Trail Summary Report" (page 108)

"DTT Audit Trail Detail Report" (page 109)

"Fax Deliveries Activity Report" (page 111)

"Fax On Demand Audit Trail Summary Report" (page 114)

"Fax On Demand Audit Trail Detail Report" (page 117)

"Fax Print Audit Trail Summary Report" (page 119)

"Fax Print Audit Trail Detail Report" (page 121)

"RN Activity Report" (page 124)

"RN Audit Trail Summary Report" (page 126)

"RN Audit Trail Detail Report" (page 128)

DTT Activity Report

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

- the service is being used
- messages are being delivered
- DTT service can acquire channels when needed
- DTT retry settings are adequate

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Report data

Column	Description
Date	Date of the specified reporting period
Time Period	Time of the specified reporting period
New Requests	Total number of new requests for message delivery 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.
Retry Failures	Number of times the DTT service tried to resend messages that were not 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 [DTMF] 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	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 restriction/permission list (RPL) assigned to DTT.
Average Wait Time (mm:ss)	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)	Longest amount of time that the DTT service had to wait during the reporting period to acquire a channel to place the outcall
Blocked Attempts	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 condition 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

- Determine 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 ensure that delivery to the required external phone numbers is allowed.

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- 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 a high number of failures exist), messages are not being delivered.

Suggested actions

- Check the DTT setup in Outcalling Administration.
  - — Ensure the economy delivery time overlaps with the allowed delivery times.
  - — Ensure 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 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, purchase additional channels or change the allocations for other services.

Are retry limits appropriate?

If the number of retry failures is high, reset the retry limits for DTT.

Suggested action

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

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DTT Audit Trail Summary Report

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

Report data

Column	Description
Name	Name of the mailbox owner
Mailbox	Mailbox number from which the call originated
Date	Date the call was made
Time	Time the call was made
Duration (hh:mm:ss)	Duration of the call in hours, minutes, and seconds
Target Phone Number	Telephone number that was called
Call Status	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. Operation completed successfully but CallPilot could not detect voice on destination side. **18** = Voice parts of message delivered; fax parts exist but were not delivered. **19** = Fax parts of multimedia message delivered; voice parts exist but were not delivered. **22** = Invalid destination number or bad/invalid address **47** = No delivery, voice-only message answered by Fax machine
Retry Counter	Total number of retry attempts that were made at the time of the call attempt. This field increments by one each time a retry attempt is made.

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DTT Audit Trail Detail Report

Use this report to monitor Delivery to Telephone (DTT) usage by mailbox.

Report data

Box	Description
Name	Name of the mailbox owner
Msg ID	Identification number of the message
Target Phone Number	Telephone number that was called
Date	Date the call was made
Time	Time the call was made
Duration (hh:mm:ss)	Length of the call in hours, minutes, and seconds
Call Retries	Total number of retry attempts made. This field increments by one each time a retry attempt is made.
Process Type	One of the following audit trail entry types displays: **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 can be due to restriction/permission settings, problems with the switch (for example, no dial tone) or configuration.
Call Status	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. Operation completed successfully but CallPilot could not detect voice on destination side.

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Box	Description
	18 = Voice parts of multimedia message delivered; fax parts exist but were not delivered. **19** = Fax parts of multimedia message delivered; voice parts exist but were not delivered. **22** = Invalid destination number or bad/invalid address **47** = No delivery, voice-only message answered by Fax machine
Action	Action performed on the request: **1** = Reschedule **2** = Remove **3** = Add
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

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Box	Description
	10 = Message deleted **11** = Message read **12** = Invalid DN **13** = Message Recovered **14** = Profile Changed
Channel Number	DN of the channel used to place the call

Fax Deliveries Activity Report

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

- these services are being used
- messages are being delivered
- DTF service can acquire channels when needed
- DTF retry settings are adequate

Additional information

You can print this report as a graph.

Report data

Column	Description
Date/Time Period	Date and time interval of the specified reporting period
New Requests	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.
New Attempts	Total number of attempts made to process the new requests for DTF and fax printing services during the specified time period

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Column	Description
Retries	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 transmission failure occurs
Successes	Total number of successful fax deliveries during the specified time period
Retry Failures	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 a transmission error occurs. If the target fax number is restricted by the switch, the attempt is counted as a retry failure.
Other Failures	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)	Average amount of time the system waited to acquire a channel to deliver faxes
Maximum Wait Time (mm:ss)	Longest amount of time the system had to wait to acquire a channel to deliver a fax
Blocked Attempts	Number of fax delivery attempts that were blocked because channels were not available

Are the services being used?

Check the number of new requests. A low number can indicate that callers are unaware the service exists, or that callers do not understand how to use the feature. Also, there can be a hardware or software problem.

A low number of requests can indicate a very restrictive RPL. Because the system checks the address the message is composed, a request is not made if the number is restricted.

Suggested actions

- Ensure 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 ensure 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.

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- If the Application Builder service is restored from backup, ensure the service is opened, checked, and saved. Otherwise, callers hear an error prompt.
- Investigate and correct technical problems.

Are messages being delivered?

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

Suggested actions

- Check the DTF setup in Outcalling Administration.
  - Ensure the economy delivery time overlaps with the allowed delivery times.
  - Ensure 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 determine if the DTF service is having problems acquiring channels.
- Check if the RPL assigned to DTT/DTF 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 determine if the DTF retry limits are causing delivery failures or if indications exist of problems with the destination device.

Are allocated channel resources adequate?

High values in the following fields can indicate that the current channel allocations for the DTF service are insufficient to handle the amount of traffic DTF generates:

- Average Wait Time
- Maximum Wait Time
- Blocked Attempts

Suggested actions

- Increase the minimum or maximum number of channels allocated to the DTF service. In the SDN Table, modify 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 can purchase additional channels or change the allocations for other services.

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Are retry limits appropriate?

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

Suggested actions

- To determine specific instances of high retries, run the Fax Audit Trail Summary Report for the corresponding time interval to determine if the causes are due to no carrier or transmission errors. See "Fax Print Audit Trail Summary Report" (page 119). If so, contact the organization to which you are sending faxes, and ask them to examine their equipment.
- Increase some of the retry limits configured in Outcalling Administration.

Fax On Demand Audit Trail Summary 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 experience. For example, the Fax Deliveries Activity Report alerts you when 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 obtain details, such as the called DN and the reason for the retry failure (for example, no carrier versus transmission problems).

Use this report to troubleshoot:

- an Application Builder service
- a particular fax device
- lengthy fax delivery sessions

Report data

Column	Description
Date	Date of the fax delivery
Time	Time of the fax delivery
Duration (hh:mm:ss)	Length of the call in hours, minutes, and second
Target Phone Number	Destination DN (fax phone number) of the call

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Column	Description
Call Status	Result of 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. Operation completed successfully but CallPilot could not detect voice on destination side. **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 delivered (Yes or No).
Service DN	Service Directory Number (SDN) of the Application Builder service from which a caller requested fax delivery to a callback number
App Name	Name of the service (application) from which a caller requested fax delivery to a callback number ***Note:*** The App Name shows only the current information associated with the SDN. 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 session profile.
Billing DN	Billing directory number of the application that originated the call

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Column	Description
	Note: The Billing DN shows only 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 session profile.

Is there a problem with an Application Builder service?

If callers are requesting faxes from a particular service and faxes are regularly not delivered, a problem can exist with the service setup.

Check the Successful Delivery field for unsuccessful calls. Then check the SDN and App Name fields to determine whether faxes requested from particular services are not 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, faxes are not delivered if an error occurs. 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 a problem exists with the receiving fax device, for example when the fax machine is out of paper or turned off.

Check the Successful Delivery field for unsuccessful calls. Then check the Target Phone Number field to determine if failed deliveries are associated with the same DN(s).

Suggested actions

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

Are there any lengthy sessions?

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

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Suggested actions

- Take the Application Builder application out of service until the problem is fixed.
- Reduce the session time limit in the SDN configuration of the service.
- Follow up to determine 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, assign a more restrictive restriction/permission list to the service.
- Use password blocks to require callers to enter passwords before entering callback numbers that incur long-distance charges.

Fax On Demand Audit Trail Detail Report

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

Report data

Column	Description
Target Phone Number	Target DN of the fax delivery attempt
Msg ID	Unique number the system assigned to each Delivery to Fax request. This allows all requests to be tracked.
Date	Date of the fax delivery attempt
Time	Time of the fax delivery attempt
Duration (hh:mm:ss)	Length of the call in hours, minutes, and seconds
Service DN	Service DN of the service from which the callback fax call originated
Call Retries	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.)
Process Type	Type of audit trail entry: **1** = Server process. This can be a submission of a new request, the rescheduling of a request, or the removal of a request. **2** = Agent made a call.
Process Type (continued)	**3** = Agent attempted to make a call but failed. This can be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration.

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Column	Description
Call Status	Result of 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. Operation completed successfully but CallPilot could not detect voice on destination side. **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
Action	Action performed on the request: **1** = Reschedule **2** = Remove **3** = Add

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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 **13** = Message Recovered **14** = Profile Changed
Channel Number	DN of the channel used to place the call

Fax Print Audit Trail Summary Report

This report tells you whether problems are with particular fax machines or are associated with particular mailboxes. Use the report 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.

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Report data

Column	Description
Date	Date of the fax printing attempt
Time	Time of the fax printing attempt
Duration (hh:mm:ss)	Length of the call in hours, minutes, and seconds
Target Phone Number	DN of the fax device to which the fax was sent for printing
Call Status	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. Operation completed successfully but CallPilot could not detect voice on destination side. **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
Call Status (continued)	**22** = Invalid destination number or bad/invalid address **23** = Local system error
Successful Delivery	Whether the fax was successfully printed (Yes or No)
Name	First and last name of the user who printed the fax
Mailbox	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 problems exist.

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- 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" (page 121).

Fax Print Audit Trail Detail Report

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

Report data

Column	Description
Target Phone Number	Number of the fax machine to which the fax was sent for printing
Msg ID	Identification number assigned to the fax for tracking purposes
Date	Date of the printing attempt
Time	Time of the printing attempt
Duration (hh:mm:ss)	Length of the call in hours, minutes, and seconds
Mailbox	Number of the mailbox that requested fax printing
Call Retries	Total number of retries for this request that have been made since the first attempt. After each attempt, the counter increments by one.
Process Type	Type of audit trail entry: **1** = Server process. This can 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 can be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration.

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Column	Description
Call Status	Result of 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. Operation completed successfully but CallPilot could not detect voice on destination side. **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
Action	Action performed on the request. The possibilities include: **1** = Reschedule **2** = Remove **3** = Add

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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 **13** = Message Recovered **14** = Profile Changed
Channel Number	DN of the channel used to place the call

Are there recurring fax printing failures?

Repeated failures to print faxes can 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 recurs along with printing failures, this can indicate channel problems.

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RN Activity Report

This report can determine Remote Notification (RN) busy times. Use the report to obtain information about Remote Notification activity during a specified time period.

Use this report to troubleshoot:

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

Report data

Column	Description
Date	Date of the specified period
Time Period	Time of the specified period
New Requests	Number of new RN requests during the specified time period
Retry Failures	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: • 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	Number of Remote Notification attempts that failed due to reasons other than retry failures. A failure can occur if: • The RPL assigned to DTF changed after an RN request was accepted. Remote Notification Activity Report populates inconsistent data when referenced with the following reports. — "RN Audit Trail Detail Report" (page 128) — "RN Audit Trail Summary Report" (page 126) — "Productivity Report" (page 77) — "Channel Usage Report" (page 71) • A notification request occurs outside the allowed time period.

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Column	Description
Average Wait Time (mm:ss)	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)	Longest amount of time, in minutes and seconds, it took for the RN service to acquire a channel to make a call
Blocked Attempts	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 can 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. If required, 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 being delivered 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 to ensure they have enough lines to handle the volume of pager requests.
- Check the average wait time, maximum wait time, and blocked attempts to determine if the RN service is having problems acquiring channels.
- If the RPL assigned to RN changed, inform users of the newly restricted numbers so they can update their target DNs.

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- Run the RN Audit Trail Summary Report to isolate specific instances of failure. See "RN Audit Trail Summary Report" (page 126).

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, purchase additional channels or change allocations for other services.

RN Audit Trail Summary Report

This report shows information about successful and unsuccessful calls. Use this report to determine which Remote Notification (RN) attempts are causing the high number of failures detected by the RN Activity Report.

Use this report to troubleshoot:

- high recounts and failures
- RN setup of users

Report data

Column	Description
Name	Name of the user to which the RN was made
Mailbox	Mailbox number from which the RN attempt originated
Date	Date of the call
Time	Time of the call
Duration (hh:mm:ss)	Duration of the call in hours, minutes, and seconds
Target Phone Number	Telephone or pager number that the mailbox called. This is the target DN defined in the RN setup of users.

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Column	Description
Call Status	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. Operation completed successfully but CallPilot could not detect voice on destination side **22** = Invalid destination number or bad/invalid address **23** = Dial tone not detected, or Local system error, or Unknown outcalling status **49** = Special Information Tone Detected
Retry Counter	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. A number in brackets, for example, (1), represents a call retry attempt for which the call is answered; however, the recipient does not confirm the reception of the message, the recipient hangs up.

Which calls failed?

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

Suggested action

Run the RN Audit Trail Detail Report to determine the details of each request submitted by the RN service. See "RN Audit Trail Detail Report" (page 128).

Are there problems with a users RN setup?

If calls originating from certain mailboxes keep failing, there can be problems with how users set up their RN service.

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Suggested actions

- Check the Mailbox field to determine if repeated RN failures occur from the same mailbox. The user might have selected the wrong device type in their RN setup or entered the wrong Personal Identification Number (PIN) (if notification is to a pager). Check the RN setup of the user in User Manager, or ask the user to verify the device type and PIN in their RN setup.
- Check the Target Phone Number field to determine if repeated RN failures occur to certain phone numbers. If so, the target DN defined by the user might be invalid. From User Manager, check the RN setup of the user. Call the target DN to determine what happens. If you confirm that the number is not valid, contact the user and ask the user to change or delete the target DN.
- Check the RN setup of the user from User Manager to determine if the time period is defined for too short a time.

RN Audit Trail Detail Report

This report only shows information about unsuccessful calls. 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

Report data

Column	Description
Name	Name of the mailbox owner
Msg ID	Identification number assigned to the message for tracking purposes
Target Phone Number	Telephone number that the mailbox called
Date	Date of the call
Time	Time of the call
Duration (hh:mm:ss)	Duration of the call in hours, minutes, and seconds

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Column	Description
Call Retries	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. A number in brackets, for example, (1), represents a call retry attempt for which the call is answered; however, the recipient does not confirm the reception of the message, the recipient hangs up.
Process Type	One of the following audit trail entry types is displayed: **1** = Server process. This can 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 can be due to restriction/permission settings, problems with the switch (for example, no dial tone), or configuration.
Call Status	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. Operation completed successfully but CallPilot could not detect voice on destination side. **22** = Invalid destination number or bad/invalid address **23** = Dial tone not detected, or Local system error, or Unknown outcalling status

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Column	Description
	49= Special Information Tone Detected
Action	Action performed on the request: **1** = Reschedule **2** = Remove **3** = Add
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 **13** = Message Recovered

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Column	Description
	14 = Profile Changed **15**= Special Information Tone Detected limit exceeded
Channel Number	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" (page 71). 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 cause:

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

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Chapter 12
Networking reports

This chapter contains the following topics:

"Networking Activity Report" (page 133)

"Open Networking Activity Report" (page 136)

Networking Activity 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 can access 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 Non Delivery Notification (NDN) messages
- identify high numbers of undelivered messages
- identify times when remote sites are not available

Additional information

You can print this report as a graph.

Report data

Column	Description
Date	Date of the specified reporting period
Time Period	Time of the specified reporting period

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Column	Description
Protocol	Networking protocol. Possible values are: • Enterprise • AMIS • VPIM • unknown
Messaging Server	Name of the remote server being monitored
Messages Sent	Total number of messages sent (including ACKs and NDNs) to the specified remote server from the local site
Messages Received	Total number of messages received (including ACKs and NDNs) from the specified remote server
Connect Time (mm:ss)	Total connection time between the local and remote site, in minutes and seconds
Total Sessions	Total number of connection attempts with the specified remote server
Failed Network Sessions	Total number of connections made with the specified remote server which later failed due to an error
Blocked Attempts	Total number of connection attempts with the specified remote server that failed because a channel was not available at the local site
Site Unavailable	Number of times a connection to the remote server failed because the network call was dropped (call not answered or busy tone) or the network protocol failed (no D tone after C tone)
NDN Messages Delivered	Total number of NDN messages sent to remote site because messages could not be delivered to mailboxes at the local site
Undelivered Messages	Total number of messages that could not be delivered to the remote server before the message stale timer expires

Notes:

1. Several messages can be sent within one session.
2. Several sessions can be required to successfully deliver a message.

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.

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Suggested actions

- Check the SDN table to determine if a maximum channel limit is 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, increase the maximum channels for AMIS or Enterprise in the SDN table. If the channel is already set to the maximum, add 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 the channels is already set to the maximum, add 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 remote users are not receiving messages sent by local users. This can indicate incorrect configuration problems at the remote site.

Suggested actions

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

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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 administrator. If multiple sites experience the same problem, local site networking can be the 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

This report shows the messaging networking activity of the local site to open remote sites. Use the report to determine how efficiently your system is working. The information in the report indicates if your system is properly configured for the system traffic or if your system 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, which are part of your messaging network, is shown in the Networking Activity Report.

Use this report to check the number of:

- blocked session attempts
- Nondelivery Notifications (NDN) and undelivered messages
- failed networking sessions

Additional information

You can print this report as a graph.

Report data

Column	Description
Date	Date of the specified period
Time Period	Time of the specified period
Protocol	AMIS or VPIM Networking

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Column	Description
Messages Sent	Total number of messages sent through open networking
Messages Received	Total number of messages received through open networking
Connect Time (hh:mm:ss)	Total connect time used by open networking sessions in hours, minutes, and seconds
Completed Sessions	Total number of completed open networking sessions
Failed Sessions	Total number of failed open networking sessions
Blocked Session Attempts	Total number of blocked session attempts with the specified remote site
Site Unavailable	Number of times an outgoing session was attempted with an available port, but the session can not be established because the remote site was not responding
NDN Messages Delivered	Number of NDN messages returned to the local site
Undelivered Messages	Total number of undelivered messages. 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

Increase 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 can 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.

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Suggested action

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

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Chapter 13
Bill-back reports

This chapter contains the following topics:

"800 Access Bill-back Report" (page 139)

"DTT Usage Bill-back Report" (page 140)

"Messaging Usage Bill-back Report" (page 141)

"Network Usage Bill-back Report" (page 142)

"RN Usage Bill-back Report" (page 142)

"Fax on Demand Bill-back Report" (page 143)

"Fax Print Bill-back Report" (page 144)

800 Access Bill-back Report

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

Additional information

- You can export this report to a file format that you can use 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	Date of the 800 call

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Column	Description
Time	Time of the 800 call
Length (sec.)	Length of time of the call, in seconds
Called DN	The VSDN on which the call terminated
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 STCA—Shared Telephone Call Answering
Last Name	Last name of the mailbox owner
First Name	First name of the mailbox owner
Mailbox	Mailbox number
Department	Department of the mailbox owner
Mailbox Class	Class of Service (COS) of the mailbox
Switch Location	Name of the switch location

DTT Usage Bill-back Report

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

Additional information

- You can export report to a file format that you can use 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	Name of the user
Mailbox	Mailbox number of the user

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Column	Description
Department	Department of the user
Date	Date of the telephone call
Time	Time of the telephone call
Call Hold Time (hh:mm:ss)	Length of time that the user was on hold, in hours, minutes, and seconds
Target DN	Directory number that is being called
Retry Counter	Number of retries made to complete the call
Mailbox Class	Mailbox Class to which the user belongs
Switch Location	Name of the switch location

Messaging Usage Bill-back Report

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

Additional information

- You can export this report to a file format that you can use 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	Name of the mailbox owner
Mailbox	Mailbox to which the messaging activity is billed
Department	Department to which the mailbox belongs
Session Length (sec.)	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	Class of service to which the mailbox is assigned
Switch Location	Name of the switch location
Total Storage (kbytes)	Total amount of disk space used by the mailbox, in kbytes
Date	Session start date

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Network Usage Bill-back 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 nondelivery notifications (NDN) are not reflected in this total.

Report data

Column	Description
Last Name	Last name of the mailbox owner
First Name	First name of the mailbox owner
Mailbox	Mailbox to which the networking activity is billed
Date	Date of the networking session
Time	Time of the networking session
Duration (hh:mm:ss)	Length of the logon session in hours, minutes, and seconds
Messaging Server	CallPilot server being monitored
Priority	Priority of the networking session
Mailbox Class	Class of service to which the mailbox assigned
Department	Department associated with the mailbox
Switch Location	Name of the switch location

RN Usage Bill-back 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

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	Name of the mailbox owner
Mailbox	Mailbox to which the report is billed
Department	Department number of the active mailbox

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Column	Description
Date	Date that the call was answered
Time	Time that the call was answered
Call Hold Time (hh:mm:ss)	Length of the call, in hours, minutes, and seconds
Target DN	Phone number that was the destination of the call
Retry Counter	Number of retries made to complete the call
Mailbox Class	Class of service to which the mailbox is assigned
Switch Location	Name of the switch location

Fax on Demand Bill-back Report

Use this report to charge the cost of Fax on Demand usage to the appropriate user or department.

Additional information

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	Application directory number
Billing DN	Directory number to which the bill is sent
Date	Date of the fax
Time	Time of the fax
Call Hold Time (hh:mm:ss)	Length of time of the fax in hours, minutes, and seconds
Target DN	DN (phone number of the fax machine) that was the intended destination of the fax call
Retry Counter	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	The result of the call, in a numeric return code: **1** = Could not reach destination: line busy **2** = Destination did not answer the call **3** = Unknown status **4** = Operation successful

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Column	Description
	5 = Protocol error (time out, invalid data received, remote system aborts session) **6** = Call was answered by a human; also detected no fax carrier **7** = Voice parts of message delivered; fax parts exist but were not delivered **8** = Fax parts of message delivered; voice parts exist but were not delivered **9** = Invalid destination number; also site unreachable **10** = System error; unable to initiate outcalling session **11** = The destination DN is restricted **12** = The outcall was answered and the target device was notified **13** = All DNs in the RN setup of the user are invalid **19** = Fax parts of message delivered; voice parts exist but were not delivered

Fax Print Bill-back Report

Use this report to bill mailbox users for the long distance charges incurred by printing faxes to fax machines.

Additional information

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	Name of the user
Mailbox	Number of the mailbox
Department	Number of the department to which the user belongs

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Column	Description
Date	Date on which the faxback call was answered
Time	Time at which the faxback call was answered
Call Hold Time (hh:mm:ss)	Length of the faxback call in hours, minutes, and seconds
Target DN	Phone number of the fax machine that was the intended destination of the fax call
Retry Counter	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	The result of 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. Operation completed successfully but CallPilot could not detect voice on destination side. **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

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Chapter 14
Voice Form reports

This chapter contains the following topics:

"Voice Form Callers Detail Report" (page 147)

"Voice Form Summary Report" (page 148)

"Voice Form Transcribers Detail Report" (page 148)

Voice Form Callers Detail Report

This report shows the information collected each time a caller accesses a voice form or uses a voice form service from a stand-alone application or an integrated application.

- Standalone voice forms—Callers access these voice forms directly by dialing into a dedicated service DN. The voice form is not integrated with other voice forms or applications.
- Integrated voice forms—Callers access these voice forms by dialing into a service DN assigned to an application created with the Application Builder software. This application transfers or switches the caller to a particular voice form.

The data in this report is only for the time period you specify when you run the report.

Report data

Column	Description
Voice Form ID	Unique number that identifies the voice form
Voice Form Title	Title of the voice form
Calling DN	Caller's directory number (DN)
Login To Voice Form Date/Time	Date and time when the caller begins the voice form session

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Column	Description
Logoff From Voice Form Date/Time	Date and time when the caller ends the voice form session
Response Saved Date/Time	Date and time that system saves the response. If the field is blank, the response was not saved.
Application Type	The application type (stand-alone or integrated voice form)

Voice Form Summary Report

This report shows the number responses and the number of transcribed responses for a particular form during a specified period of time. The data in this report is only for the time period you specify when you run the report.

Report data

Column	Description
Voice Form ID	Unique number that identifies the voice form
Voice Form Title	Title of the voice form
Total number of responses	Total number of saved responses for the voice form
Total number of transcribed responses	Total number of transcribed responses for the voice form

Voice Form Transcribers Detail Report

This report shows the information collected each time transcribers log on to a voice form. Data is not collected when any of the following occur:

- a logon attempt is unsuccessful
- the session is disconnected immediately after login due to password expiry
- service is unavailable

Note that the data in the report is only for the time period specific when you run the report.

Report data

Column	Description
Voice Form ID	Unique number that identifies the voice form
Voice Form Title	Title of the voice form
Calling DN	Transcriber's directory number Appears only when the transcriber used a telephone

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Column	Description
Computer IP address	IP address of the transcriber's computer Appears only when the transcriber uses MyCallPilot
Transcriber mailbox number	Transcriber's mailbox number Appears only when the transcriber used MyCallPilot
Login To Voice Form Date/Time	Date and time that the transcriber logged in to voice form
Logoff From Voice Form Date/Time	Date and time that the transcriber logs out of the voice form.
Number of transcribed responses	Number of transcribed responses for the session (that is, the time between log on and log off)
Transcriber User Interface (Telephone/MyCallPilot)	Indicates whether the transcriber used a telephone or MyCallPilot to transcribe the voice form

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Chapter 15
Alert reports

This chapter contains the following topics:

"Failed DTT Alert" (page 151)

"Failed RN Alert" (page 152)

"RN Target Problem Alert" (page 153)

"Failed Networking Sessions Alert" (page 154)

"Failed Fax Delivery Alert" (page 155)

"Excessive After-Hours Logons Alert" (page 156)

"Excessive Thru-Dialer Access Alert" (page 158)

"Excessive Incomplete Messaging Accesses Alert" (page 160)

"Excessive Failed Logons Alert" (page 161)

Failed DTT 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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

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Alert data

Column	Description
Date	Date of the failures
Time Period	Time of the failures
New Arrivals	Number of new requests that were made to the DTT service during the time period
Cancelled by Retry Limits	Number of DTT attempts canceled due to exceeded busy, no answer, or answered (no Dual-tone Multi-frequency [DTMF] confirmation) retry limits or because the message became too old
Cancelled by Other	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	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.

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 obtain more detailed information about DTT call sessions:

- "DTT Activity Report" (page 105)
- "DTT Audit Trail Summary Report" (page 108)
- "DTT Audit Trail Detail Report" (page 109)

See Chapter 11 "Outcalling reports" (page 105).

Failed RN 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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

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Alert data

Column	Description
Date	Date of the alert
Time Period	Time period covered by the alert
New Arrivals	Number of new requests that were made to the RN service during the time period
Cancelled by Retry Limits	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
Cancelled by Other	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	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" (page 124)
- "RN Audit Trail Summary Report" (page 126)
- "RN Audit Trail Detail Report" (page 128)

See Chapter 11 "Outcalling reports" (page 105)

RN Target Problem Alert

Remote notifications (RNs) are sent to target telephone or pager numbers (DNs) that are defined in user schedules. This alert notifies you of target DNs that the RN service cannot successfully reach. This alert is triggered 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 DNs. 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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

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Alert data

Column	Description
Target DN	DN was not reached successfully
Date	Date of the notification failure
Time	Time of the notification failure
Name	Owner of the mailbox from which the RN attempt originated
Mailbox	Number of the mailbox

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 them 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, run the RN Audit Trail Detail Report to isolate the cause of the failures. See "RN Audit Trail Detail Report" (page 128).

Failed Networking Sessions 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 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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

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Alert data

Column	Description
Messaging Server	Identification of the remote site where one or more networking calls failed
Date	Date of the networking failure(s)
Time Period	Time of the networking failure(s)
Messages Attempted	Total number of networking messages attempted to a particular site for the given period since the last download of information
Messages Failed	Total number of failed messages because the site can not establish a network session to a particular site in the time period specified
Percent Failed	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" (page 133).
- If failures are associated with one remote site, contact the site administrator. There can be a problem with the site networking setup or hardware.

Failed Fax Delivery 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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

Alert data

Column	Description
Date	Date of the fax delivery problem
Time	Time of the fax delivery problem

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Column	Description
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.
Target DN	If the fax originated from a mailbox, this indicates the target fax number to which the user sent the fax. If the fax originated from an Application Builder service, this indicates the fax callback number entered by the caller.
Channel DN	Channel number being used for the failed fax delivery

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" (page 111)
  - "Fax On Demand Audit Trail Summary Report" (page 114)
  - "Fax On Demand Audit Trail Detail Report" (page 117)
  - "Fax Print Audit Trail Summary Report" (page 119)
  - "Fax Print Audit Trail Detail Report" (page 121)

See Chapter 11 "Outcalling reports" (page 105)

Excessive After-Hours Logons Alert

Hackers try to gain access to mailboxes and other system resources during non-business hours, when their activity is less noticeable.

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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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

Additional information

Before you can use this alert, you must specify the hours during the day that your company considers after-hours, or non-business hours. After-hours are defined using the CallPilot Reporter program. For more information, see "Changing the alert hours" (page 55).

Alert data

Column	Description
Mailbox	Mailbox associated with the after-hours logon
Date	Date of the after-hours logon
Time	Time of the after-hours logon
Duration (hh:mm:ss)	Length of the logon session in hours, minutes, and seconds
Caller DN	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 a thru-dial or logon from the CLID or mailbox occurs, 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, on extended leave, or no longer with your company?

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— 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, change the user's password or disable the mailbox until the user returns.

— If the mailbox is active, ask the user if they log on frequently after hours. If the user does not log on after hours, inform the user 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

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 CallPilot Reporter program. For more information, see "Set a threshold for an alert" (page 37).

Alert data

Column	Description
Date	Date of the alert
Time Period	Time period of the alert
Number of Incoming Calls	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 enable users and callers to make thru-dials:

- Mailbox Thru-Dial
- Call Answering/Express Messaging Thru-Dial
- Application Builder services that contain Thru-Dial blocks

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Are thru-dials originating from mailboxes?

Perform the following steps to determine whether thru-dials are originating from mailboxes:

- Enable Hacker Monitor to monitor all mailboxes for thru-dials. This feature provides 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, 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. For more information, see "Tips for creating secure passwords" (page 161).
  - Monitor the mailbox regularly.
- Check the restriction/permission list (RPL) that is assigned to the following features. You can 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?

Perform the following to determine whether thru-dials are originating from Application Builder services:

- Run the Building Block Summary Report, and ensure Thru-Dial is the block type on which a report is issued. See "Building Block Summary Report" (page 101). You can then identify how many times the Thru-Dial blocks in your Application Builder services are 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.

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Excessive Incomplete Messaging Accesses 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 entered over a certain interval to 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 are entered. This alert is triggered when the number of invalid mailbox numbers exceeds the specified threshold. For more information, see "Set a threshold for an alert" (page 37).

Alert data

Column	Description
Date	Date of the failed logons
Time Period	Time of the failed logons
Total Voice Mail Accesses	Total number of voice mail accesses to CallPilot. This number includes successful and unsuccessful logons.
Number of Logon Sessions	Total number of successful logons
Failed Accesses	Total number of failed logons
Percentage Failed	Percentage of all logons that failed

Suggested actions

Increase as much as possible 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 is defined and is part of the default password for newly created mailboxes.
- An acceptable minimum password length is defined (no less than six characters is recommended).
- Users regularly 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.

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Tips for creating secure passwords

Secure passwords are difficult 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, names of your pets, or other words that can be associated with you.
- Never allow anyone to 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 your mailboxes, you can temporarily disable external logons until the situation is under control. You can disable external logons in Security Administration. For more information about the settings in Security Administration, see the *Administrator's Guide* (NN44200-601).

Excessive Failed Logons 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. For more information, see "Set a threshold for an alert" (page 37).

Alert data

Box	Description
Date	Date of the failed logon
Time	Time of the failed logon
Mailbox	Mailbox with the failed logon attempt
Caller DN	Number that originated the attempt

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Suggested actions

Increase as much as possible 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 is defined and is part of the default password for newly created mailboxes.
  - An acceptable minimum password length is defined (no less than six characters is recommended).
  - Users regularly 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.

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Nortel CallPilot

Reporter Guide

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