

RightFAX[®]

7.2 SNMP Alerting Module Guide

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Revision Number: 7.2 09/00
Document Number: 000-00056-00

Printed in the United States of America.

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chapter

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Chapter 1: Overview of the RightFAX SNMP Alerting Module

The RightFAX SNMP Alerting module is an optional component of the RightFAX server software that acts as an interface between an SNMP-capable network monitoring application and RightFAX's server modules. The RightFAX SNMP Alerting module collects status data from the RightFAX server and returns it to the monitoring application for processing and reporting. The Alerting module also actively sends status messages and alerts to your network monitor application for realtime monitoring of RightFAX processes. RightFAX alerts are divided into four severities: Critical, Error, Warning, and Informational, and alerts can be enabled or disabled according to their severity. The RightFAX SNMP Alerting module also allows RightFAX services to be stopped and restarted directly from your network monitor application.

Using This Guide and Other Learning Tools

The *RightFAX SNMP Alerting Module Guide* is designed for use by RightFAX administrators who will be installing, configuring, and using the RightFAX SNMP Alerting module software.

This guide assumes that you have a significant working knowledge of both RightFAX and your SNMP-capable network monitoring application, and that you have administrative access to all RightFAX servers and the monitor application(s).

In addition to this guide, RightFAX provides several additional sources for information on getting the most out of your RightFAX software.

Resources for the RightFAX Administrator

RightFAX Administrator's Guide. This guide contains detailed instructions on installing and configuring RightFAX for both the server and client workstations. This guide is specifically designed for RightFAX administrators and includes the technical information necessary to manage the fax server.

RightFAX Docs-on-Demand and TeleConnect Guide. This guide is designed for use by RightFAX administrators who will be installing and configuring the

Docs-on-Demand™ and/or TeleConnect™ modules. This guide provides information on installing, using, managing, and integrating the RightFAX Docs-on-Demand and TeleConnect modules with your RightFAX software.

RightFAX Fax Board Guide. This guide provides installation, testing, and configuration instructions for all supported fax hardware.

RightFAX Gateway for Microsoft Exchange, Gateway for Lotus Notes, and Web Client Guide. This guide is included when you purchase RightFAX Enterprise Suite, the Microsoft® Exchange or Lotus® Notes® Gateway™, or the Web Client™ optional module. This guide provides information on installing, using, managing, and integrating the RightFAX E-mail Gateways and RightFAX Web Client module with your RightFAX software.

RightFAX OCR and PDF Modules Guide. This guide is included when you purchase RightFAX Enterprise Suite™, either of the OCR modules, or the PDF module. This guide provides information on installing, using, managing, and integrating these modules with your RightFAX system.

RightFAX SNMP Alerting Module Guide. This guide is designed for use by RightFAX administrators who will be installing, configuring, and using the RightFAX SNMP Alerting software for realtime monitoring of the RightFAX server via SNMP-capable network monitoring applications.

Resources for the Production Fax Administrator

RightFAX Connector for SAP R/3 Guide. This guide is designed for use by RightFAX and SAP R/3 administrators who will be installing and configuring the SAP Connector and SAP clients who will be sending and receiving faxes via the Connector.

RightFAX Filter for Production Guide. This guide is designed for RightFAX and host application administrators who will be installing and configuring the Filter for Production and client applications that will be sending faxes to RightFAX via the Filter.

RightFAX InternetLink Module Guide. This guide is designed for RightFAX administrators who will be installing and configuring the InternetLink module for the RightFAX Production Integration Module. This guide includes all the technical information necessary to operate the InternetLink Module for delivery of production faxes via the Internet.

RightFAX Integration Module Guide. This guide is designed for use by RightFAX administrators who will be installing and configuring the Integration Module on the RightFAX server for advanced automation of their production fax processes.

AVT Consulting Services. AVT Consulting Services provides hands-on expertise in the installation, setup, and customization of the RightFAX software. They will assess your requirements and work either on-site or remotely to ensure compliance with your organization's pre-determined project scope, defined boundaries, timelines, benchmarks, and closure expectations.

Resources for RightFAX Users

Because your RightFAX server(s) may support dozens, hundreds, or even thousands of fax users, RightFAX has designed its end-user documentation to be thorough, easy-to-use, and easily accessible. All the information your fax users need to operate their client applications is included in the online help installed with the application. For users who prefer to reference written materials, RightFAX also provides Quick Reference Cards for all its major client applications. These useful cards are compact and can be easily distributed throughout even the largest organizations.

Online Help. RightFAX online help is a convenient and easy-to-use source of assistance. You can access the online help by selecting the **Help** menu in any FaxUtil or Enterprise Fax Manager window. Online help lets you scan for help by topic, or search for key words and terms. In addition, many RightFAX dialogs include a "What's This?" Help button **[?]** in the top right. Click this button, then click on any field in the dialog for a description of that specific field.

Quick Reference Cards. These cards give you quick and easy access to the most common fax management features of the FaxUtil, Microsoft Exchange, Lotus Notes, and Web Client fax client applications.

RightFAX Training

Everyone knows that training plays a key role in the successful implementation of information technology. RightFAX training gives you the skills to optimize your RightFAX solution. Our comprehensive technical, administrative and user training programs produce full utilization and understanding of RightFAX products. Regular classes are held at the state-of-the-art RightFAX Training Center in Tucson, Arizona throughout the year, or you can choose the convenience of training at your own location or at various regional locations. Customized training is also available to meet your specific needs. Training materials and computer-based training tools are also available. For more information on RightFAX training, please visit our Web site at www.rightfax.com/training, or call us at (520) 320-7098 and let us help you develop a customized training plan for your organization.

Document Conventions

Fonts and icons are used consistently throughout this guide to make it as easy as possible to read and understand.

Italics are used whenever referring to another chapter or section in this guide, or when referring to other user guides.

Boldface is used to indicate a dialog or menu name, a field or option listed on a dialog, or a menu option.

“Quotes” are used to indicate the name of an item in a list box or pull-down menu on a dialog.

Courier font is used to indicate text entered in a dialog field or on a command line, or written in an ASCII or other text file. This font is also used to set examples off from the surrounding text. If the text contains variables (e.g., a command line with variable parameters), the variables are ***Italicized*** and then described in the subsequent paragraph.

Directory and file names are written in CAPITALS to set them apart from the surrounding text. Directory names are always preceded with a backslash character (\) and file names always include both the name and extension.



Special notes, warnings, and tips like this one are displayed throughout this guide. Each is preceded by an icon indicating the importance of the information.

Special notes, tips, and warnings appear throughout this guide and always appear in the left margin like the example here. An icon at the beginning of the paragraph indicates its purpose. A lower-case “i” indicates a note or other information that may only be important under certain circumstances. A question mark indicates a useful tip or troubleshooting information. An exclamation point indicates a warning. Warnings should always be read carefully before proceeding.

Technical Support

Your *Customer Support Guide* includes detailed information about the support options available to RightFAX customers. Please fill out the *RightFAX Software Warranty & Registration Card* and return it immediately. If you have technical questions, please contact your organization's RightFAX administrator or network administrator before calling technical support.

RightFAX Technical Support:

6303 E. Tanque Verde
Suite 120

Tucson, Arizona 85715 USA

Voice: (520) 320-7070

Fax: (520) 321-7461

Web: www.rightfax.com

E-mail: tech@rightfax.com

5:00 a.m. to 6:00 p.m. MST, Monday through Friday

6:00 a.m. to 6:00 p.m. MST, Saturday

Support Plan Sales & Administration: (520) 320-7000

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chapter

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Chapter 2: Installing and Configuring the SNMP Alerting Module

The RightFAX SNMP Alerting module requires several separate components be installed. Before installing the RightFAX SNMP Alerting module software, you must install the Microsoft SNMP service to all RightFAX servers that will host the SNMP Alerting module, and update the SNMP service to NT 4.0 Service Pack 3 or higher. The RightFAX SNMP Alerting module software can then be installed on each RightFAX server.

Installing the Microsoft SNMP Service

If you have already installed the Microsoft SNMP service on the RightFAX server but have not applied Service Pack 3 or higher, do so before installing the RightFAX SNMP Alerting module software. If it has not already been installed on the RightFAX server, follow these steps to install the SNMP service before installing the RightFAX SNMP Alerting module software.

1. On the RightFAX server, select “Network” from the Control Panel, then click the **Services** tab.
2. If “SNMP Service” does not already appear in the **Network Services** list, click the **Add** button.
3. Highlight “SNMP Service” and click **OK**. You will be prompted to insert your Windows NT CD-ROM. Insert the CD, specify the drive letter of your CD-ROM drive, and click **Continue**.
4. Once the SNMP service has been installed, close the **Network** dialog.
5. Apply Windows NT 4.0 Service Pack 3 or higher to the RightFAX server to update the SNMP service installed from your CD to the supported revision level.

Installing the RightFAX SNMP Alerting Module

The RightFAX SNMP Alerting module requires RightFAX v6.0 SP1 or higher, and the RightFAX machine you are installing to must have the Microsoft

SNMP service installed. If the SNMP service is not installed, the RightFAX SNMP Alerting module installation will fail.

1. On the RightFAX server, insert the RightFAX SNMP Alerting module CD. If Autorun is not enabled on this machine, run the install program by selecting **Run** from the **Start** menu and type:

D : \SETUP

(Where D: is the drive letter of your CD-ROM.)

2. Click **Next** from the introductory screen. This opens the RightFAX SNMP Alerting module ReadMe file. Click **Next**.
3. The Setup program will prompt you to enter an install directory. In most cases, the default setting will be correct for your RightFAX installation. Click **Next**. The Setup program copies the required files, including the MIB variables (AVTC.MIB) and trap definitions (RFTRAPD.CONF), to the install directory on your RightFAX server's hard drive.
4. When the Setup is complete, click **Finish** to exit. If you do not select **Yes** to automatically reboot the computer, you must reboot the computer yourself before the RightFAX SNMP Alerting module will be operational.

Configuring the SNMP Service on Your RightFAX Server

Follow these steps to configure the SNMP service properties:

1. On the RightFAX server, select "Network" from the Control Panel, then click the **Services** tab.
2. Double-click "SNMP Service" in the list of network services, then click the **Traps** tab.
3. In the **Community Name** field, add the community name "Public."
4. In the **Trap Destination** field, enter the IP address of each machine on your network where you want to send RightFAX SNMP alerts (each machine used for network monitoring). RightFAX alerts can be sent to an unlimited number of network monitoring stations on your network. Click **OK**.

Configuring Your Network Monitor Application

Before it can receive SNMP alerts from the RightFAX servers, your organization's network monitor application must be configured to recognize the RightFAX SNMP Alerting module's Management Information Base (MIB) variables and trap definitions.

In the network monitor, execute the appropriate command(s) to load new SNMP MIB variables and trap definitions. The MIB variables for the RightFAX SNMP Alerting module are located in a file called AVTC.MIB and the trap definitions are located in RFTRAPD.CONF. Both of these files are installed by default to the RightFAX server in the \RIGHTFAX\SNMP directory. They are also located in the \CONFIG directory on the RightFAX SNMP Alerting module CD.

The RightFAX SNMP Alerting module software includes a utility that automates this configuration for HP OpenView Network Node Manager. To automatically load the MIB variables and trap definitions in Network Node Manager, run the file RFHPOV.BAT from a command line on the Network Node Manager machine. This file is installed by default to the RightFAX server in the \RIGHTFAX\SNMP directory and is also located in the \CONFIG directory on the RightFAX SNMP Alerting module CD.

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chapter

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Chapter 3: RightFAX Alerts and Status Information

The RightFAX SNMP Alerting module actively pushes RightFAX alerts to your SNMP-capable network monitoring application. This helps you ensure that problems with the RightFAX server are reported and addressed promptly. The SNMP Alerting module also lets you query several variables on the RightFAX server so you can view the status of the fax server in real time.

Receiving RightFAX Alerts in Your Network Monitor

The fax server can send up to nine alerts to your SNMP network monitor. *Table 3a* (page 22) defines each RightFAX alert. The default RightFAX severity is also listed; however, your network monitor software may be configured to use different terminology. In RightFAX terms, “Critical” is severity level one, “Error” is severity level two, and “Warning” is severity level three.

For information on diagnosing and resolving the causes of each alert see *Appendix B: Troubleshooting the RightFAX Alerts* on page 39.

Table 3a: RightFAX SNMP Alerts

Alert Message	Default Severity	Definition
"All BoardServers are down. Fax sending and receiving is not currently operating."	Critical	All BoardServers attached to this fax server have gone down.
"One or more drives on the fax server are approaching critically low disk space (<150 MB)."	Warning	One or more drives on the RightFAX server have less than 150 MB free.
"One or more drives on the fax server are critically low on disk space (<50 MB). Many fax server functions have been suspended."	Critical	One or more drives on the RightFAX server have less than 50 MB free.
"Possible phone line failure on channel #, three consecutive no-dial-tone errors within 45 minutes."	Critical	One or more fax channels have gone down due to line failure.
"RightFAX E-mail Gateway Module on <i>FaxServerName</i> : The Exchange Connector has not responded in a timely fashion. Inbound message processing temporarily disabled."	Warning	The RightFAX server is unable to communicate with the Exchange server.
"The fax server internal queue is more than 90% utilized."	Critical	The RightFAX internal event queue is more than 90% utilized.
"The fax server process was not properly shutdown."	Critical	A fax server was shut down unexpectedly.
"The send queue depth on server <i>ServerName</i> is currently: #/# (faxes/pgs)."	Critical	There are more than 1,000 faxes or 10,000 fax pages in the fax queue.
"Unable to communicate with BoardServer <i>ServerName</i> (error 2)"	Error	One BoardServer is down, but at least one other BoardServer is still running.

Each alert's severity indicates how vital the component is to the operation of the RightFAX server. "Critical" and "Error" alerts indicate a loss of fax functionality. "Warning" and "Informational" alerts indicate a loss of fax capacity. These severity levels may use different names in your network monitoring application, but the hierarchy of severities remains the same. RightFAX does *not* send specific "clearing" alerts that indicate when the cause of an alert has been resolved.

Alerts generated by the RightFAX SNMP Alerting module are stored in your network monitor under the “RightFAX Server Alerts” category. Please refer to your network monitoring application’s documentation for information on displaying and managing alarm messages.

Because SNMP alerts are generated from the event log on the RightFAX server machine, the **Event LogLevel** of each individual RightFAX service module must be set to an appropriate level. The “Terse” setting records critical errors only. “Verbose” records all significant events and is most useful for tracking and resolving problems but can cause the Event Log to fill up quickly, which may prevent new events from being logged. For information on configuring the **Event LogLevel** for each RightFAX service module, please refer to your *RightFAX Administrator’s Guide*.

Enabling and Disabling RightFAX Alerts

The RightFAX SNMP MIB contains four variables that let you enable or disable the RightFAX alerts according to their severities. To edit these variables, expand the MIB tree to:

```
.iso.org.dod.internet.private.enterprises.AVTC.Right-  
FAX.rfFaxServer.rfServerTraps
```

This object contains four editable (read/write) variables:

- rfSvrEnableCriticalTraps
- rfSvrEnableErrorTraps
- rfSvrEnableWarningTraps
- rfSvrEnableInformationalTraps

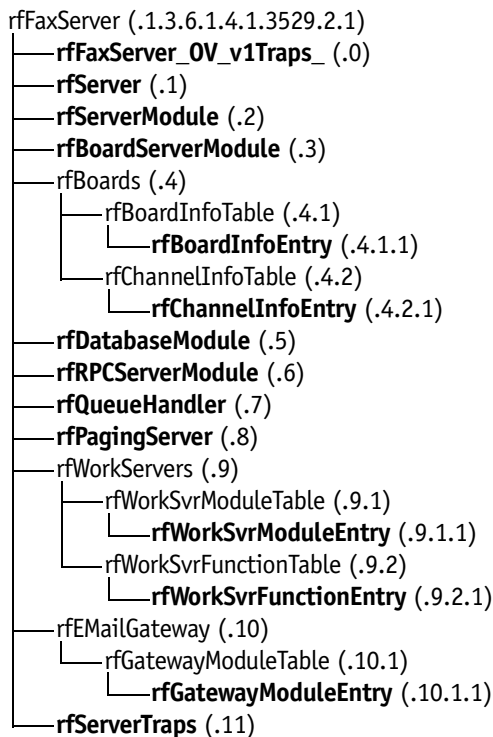
Each variable can be set to either “objectENABLE” or “objectDISABLE.” Changes to these variables will take effect immediately. Please refer to your network monitoring application’s documentation for information on editing variables in the MIB.

Querying RightFAX Status Variables

The RightFAX SNMP MIB is comprised of 12 objects, each made up of several variables. These variables provide realtime status information on the RightFAX server. To query the RightFAX variables in your network monitoring application, expand the MIB tree to:

```
.iso.org.dod.internet.private.enterprises.AVTC.Right-  
FAX.rfFaxServer
```

All addresses below this branch point to a RightFAX SNMP object or variable. The following tree lists each object in the RightFAX SNMP MIB tree. Objects in boldface contain variables.



The following tables list each of the RightFAX SNMP variables and their definitions grouped according to the objects they are contained in. Variables in boldface are editable. For information on using your network monitoring application to access the MIB tree and query variables in the MIB, please refer to the documentation for your particular application. For more information on RightFAX modules and services, please refer to the *RightFAX Administrator's Guide*.

rfFaxServer_OV_v1traps_

Table 3b: Variables in the rFAXServer_OV_v1Traps_ MIB Object

Variable	Type	Definition
rfSvrCriticalTrap	Notif.	Text of critical alert reported by the RightFAX server. This is a notification type variable and cannot be queried or edited.
rfSvrErrorTrap	Notif.	Text of error alert reported by the RightFAX server. This is a notification type variable and cannot be queried or edited.
rfSvrWarningTrap	Notif.	Text of warning alert reported by the RightFAX server. This is a notification type variable and cannot be queried or edited.
rfSvrInformationalTrap	Notif.	Text of informational alert reported by the RightFAX server. This is a notification type variable and cannot be queried or edited.

rfServer

Table 3c: Variables in the rfServer MIB Object

Variable	Type	Definition
rfSvrQueueUsage	Integer	Percentage of the fax server's internal Event Queue currently in use.
rfSvrEventsProcessed	Integer	Total number of events processed by the fax server since the Fax Server Module was started.
rfSvrBoardSvrAvailIndex	Integer	Availability of the server's fax board(s).
rfSvrCurrentFaxesQueued	Integer	Current number of outgoing faxes waiting to be sent.
rfSvrCurrentPagesQueued	Integer	Current number of outgoing fax pages waiting to be sent.
rfSvrDiskAvailForfaxImages	Integer	Percentage of disk space on the fax server available for storing fax images.
rfSvrDiskAvailForfaxDB	Integer	Percentage of disk space on the fax server available for storing fax database information.

Table 3c: Variables in the rfServer MIB Object (Continued)

Variable	Type	Definition
rfSvrAllTimeFaxesSent	Integer	Total number of faxes sent from this server since the All-Time Counter starting date (see below).
rfSvrAllTimePagesSent	Integer	Total number of fax pages sent from this server since the All-Time Counter starting date (see below).
rfSvrAllTimeFaxesReceived	Integer	Total number of faxes received on this server since the All-Time Counter starting date (see below).
rfSvrAllTimePagesReceived	Integer	Total number of fax pages received on this server since the All-Time Counter starting date (see below).
rfSvrAllTimeCounterStart	Integer	Starting date from which the "All-Time" statistics (above) are calculated.

rfServerModule

Table 3d: Variables in the rfServerModule MIB Object

Variable	Type	Definition
rfSvrModuleServiceName	String	Fax Server module service name.
rfSvrModuleVersionNumber	String	Fax Server module version number.
rfSvrModuleServiceStatus	Integer	Current Fax Server service state.
rfSvrModuleTimeRunning	String	Length of time the Fax Server service has been running.

rfBoardServerModule

Table 3e: Variables in the rfBoardServerModule MIB Object

Variable	Type	Definition
rfBoardSvrModuleServiceName	String	BoardServer service name.
rfBoardSvrVersionNumber	String	BoardServer module version number.
rfBoardSvrModuleStatus	Integer	Current BoardServer service state.
rfBoardSvrModuleTimeRunning	String	Length of time the BoardServer has been running.

rfBoards.rfBoardInfoTable.rfBoardInfoEntry

Table 3f: Variables in the rfBoards.rfBoardInfoTable.rfBoardInfoEntry MIB Object

Variable	Type	Definition
rfBoardIndex	Integer	Fax board index.
rfBoardName	String	Each installed fax board type.

rfBoards.rfChannelInfoTable.rfChannelInfoEntry

Table 3g: Variables in the rfBoards.rfChannelInfoTable.rfChannelInfoEntry MIB Object

Variable	Type	Definition
rfChannelIndex	Integer	Channel table index (lists each installed fax channel).
rfChannelChannel	String	Channel numbers and [S] or [R] flag indicating send or receive functionality.
rfChannelOperation	String	Current operational status of all channels.
rfChannelRoutingCode	String	Inbound routing code for all incoming faxes.
rfChannelPhoneNumber	String	Destination phone number of outgoing faxes.
rfChannelUserID	String	Destination User ID for incoming faxes.
rfChannelState	String	Channel state.
rfChannelRemoteID	String	Remote ID of machines sending incoming faxes.

Table 3g: Variables in the rfBoards.rfChannelInfoTable.rfChannelInfoEntry MIB Object (Continued)

Variable	Type	Definition
rfChannelRate	String	Current rate of transmission.
rfChannelCompression	String	Data compression method.
rfChannelPagesInCall	Integer	Number of fax pages being transmitted during this call.
rfChannelMinutesRemain	Integer	Estimated number of minutes remaining until end of transmission.

rfDatabaseModule

Table 3h: Variables in the rfDatabaseModule MIB Object

Variable	Type	Definition
rfDatabaseSvrModuleServiceName	String	Database module service name.
rfDatabaseSvrVersionNumber	String	Database module version number.
rfDatabaseSvrModuleStatus	Integer	Current Database module service state.
rfDatabaseSvrModuleTimeRunning	String	Length of time the Database service has been running.

rfRPCServerModule

Table 3i: Variables in the rfRPCServerModule MIB Object

Variable	Type	Definition
rfRPCSvrModuleServiceName	String	RPC module service name.
rfRPCSvrVersionNumber	String	RPC module version number.
rfRPCSvrModuleStatus	Integer	Current RPC module service state.
rfRPCSvrModuleTimeRunning	String	Length of time the RPC service has been running.

rfQueueHandler

Table 3j: Variables in the rfQueueHandler MIB Object

Variable	Type	Definition
rfQueueHandlerModuleServiceName	String	Queue handler service name.
rfQueueHandlerModuleStatus	Integer	Current Queue handler service state.
rfQueueHandlerModuleTimeRunning	String	Length of time the queue handler has been running.

rfPagingServer

Table 3k: Variables in the rfPagingServer MIB Object

Variable	Type	Definition
rfPagingSvrModuleServiceName	String	Paging module service name.
rfPagingSvrVersionNumber	String	Paging module version number.
rfPagingSvrModuleStatus	Integer	Current Paging module service state.
rfPagingSvrModuleTimeRunning	String	Length of time the Paging module has been running.

rfWorkServers.rfWorkSvrModuleTable.rfWorkSvrModuleEntry

Table 3l: Variables in the rfWorkServers.rfWorkSvrModuleTable.rfWorkSvrModuleEntry MIB Object

Variable	Type	Definition
rfWorkSvrModuleIndex	Integer	WorkServer module table index (lists all WorkServers).
rfWorkSvrModuleServiceName	String	Each WorkServer module service name.
rfWorkSvrModuleVersionNumber	String	Each WorkServer module version number.
rfWorkSvrModuleStatus	Integer	Each WorkServer module service state.
rfWorkSvrModuleTimeRunning	String	Length of time each WorkServer has been running.

rfWorkServers.rfWorkSvrFunctionTable.rfWorkSvrFunctionEntry

Table 3m: Variables in the rfWorkServers.rfWorkSvrFunctionTable.rfWorkSvrFunctionEntry MIB Object

Variable	Type	Definition
rfWorkSvrFunctionIndex	Integer	Workserver function table index (lists all WorkServers).
rfWorkSvrFunctionArchive	Integer	Is Archive service processed? (Yes/No)
rfWorkSvrFunctionCoverSheet	Integer	Is Cover sheet service processed? (Yes/No)
rfWorkSvrFunctionCVL	Integer	Is CVL service processed? (Yes/No)
rfWorkSvrFunctionFileRoute	Integer	Is FileRoute service processed? (Yes/No)
rfWorkSvrFunctionOverlay	Integer	Is Overlay service processed? (Yes/No)
rfWorkSvrFunctionPCL5	Integer	Is PCL5 service processed? (Yes/No)
rfWorkSvrFunctionPrint	Integer	Is Print service processed? (Yes/No)
rfWorkSvrFunctionNetMessaging	Integer	Is Network Messaging service processed? (Yes/No)
rfWorkSvrFunctionDelImageFile	Integer	Is Delete Image File service processed? (Yes/No)
rfWorkSvrFunctionOCR	Integer	Is OCR service processed? (Yes/No)
rfWorkSvrFunctionInterConnect	Integer	Is InterConnect service processed? (Yes/No)
rfWorkSvrFunctionPostscript	Integer	Is PostScript service processed? (Yes/No)

rfEMailGateway.rfGatewayModuleTable.rfGatewayModuleEntry

Table 3n: Variables in the rfEMailGateway.rfGatewayModuleTable.rfGatewayModuleEntry MIB Object

Variable	Type	Definition
rfGatewayModuleIndex	Integer	Gateway module table entry index (lists each E-mail Gateway).
rfGatewayModuleServiceName	String	Each Gateway service name.
rfGatewayModuleVersionNumber	String	Each Gateway module version number.
rfGatewayModuleStatus	Integer	Current state of each Gateway service.
rfGatewayModuleTimeRunning	String	Length of time each Gateway has been running.

rfServerTraps

Table 3o: Variables in the rfServerTraps MIB Object

Variable	Type	Definition
rfSvrTrapComputer	String	Computer that generated the alert. This variable is used only for trap notifications and cannot be queried or edited.
rfSvrTrapSource	String	Source of the alert. This variable is used only for trap notifications and cannot be queried or edited.
rfSvrTrapSeverity	Integer	Severity of the alert. This variable is used only for trap notifications and cannot be queried or edited.
rfSvrTrapMessage	String	Alert notification message. This variable is used only for trap notifications and cannot be queried or edited.
rfSvrEnableCriticalTraps	Integer	Critical alerts enabled/disabled.
rfSvrEnableErrorTraps	Integer	Error alerts enabled/disabled.
rfSvrEnableWarningTraps	Integer	Warning alerts enabled/disabled.
rfSvrEnableInformationalTraps	Integer	Informational alerts enabled/disabled.

Controlling RightFAX Services From Your Network Monitor

Each RightFAX service object in the MIB contains a status variable. For example, the rfDatabaseModule object contains the variable rfDatabaseSvrModuleStatus. There are a total of eight service status variables, each contained in a separate MIB object:

- rfSvrModuleServiceStatus
- rfBoardSvrModuleStatus
- rfDatabaseSvrModuleStatus
- rfRPCSvrModuleStatus
- rfQueueHandlerModuleStatus
- rfPagingSvrModuleStatus
- rfWorkSvrModuleStatus
- rfGatewayModuleStatus

When queried, these variables list the current state of the service on the RightFAX service (e.g., stopped, started, or paused).

You can also edit these variables to manually start or stop the services on the RightFAX server. Each variable can be set to either “statSERVICE_STOPPED” or “statSERVICE_RUNNING.” Changing any of these variables automatically instructs the RightFAX server to start or stop the appropriate service. Please refer to your network monitoring application’s documentation for information on editing variables in the MIB.

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appendix

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Appendix A: Files Installed By the SNMP Alerting Module

By default, the RightFAX SNMP Alerting module installs the following files to your RightFAX server in the \PROGRAM FILES\RIGHTFAX directory:

- AVTC.MIB
- RFTRAPD.CONF
- RFHPOV.BAT
- README.TXT
- RFSNMPUI.DLL

The AVTC.MIB and RFTRAPD.CONF MIB definition files must also be separately installed to each machine that will be monitoring and receiving alerts from RightFAX.

In addition, these files are installed to your RightFAX server in the \WINNT directory:

- RFIFAX32.DLL
- RFSNMP.DLL
- BOARDRPC.DLL
- RFSTAT.DLL

For information on installing the RightFAX SNMP Alerting module to the RightFAX server and copying the MIB definitions to your network monitoring applications, see *Chapter 2: Installing and Configuring the SNMP Alerting Module* on page 15.

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appendix

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Appendix B: Troubleshooting the RightFAX Alerts

S NMP alerts are designed to call attention to events or conditions on the RightFAX server that may effect your server's ability to send and receive faxes. The actual causes of these events and conditions are not reported as part of the SNMP alerts. In most cases, reviewing the Event Log on the server which is reporting the alert will provide details as to the cause of the alert.

The troubleshooting information in this chapter is designed to point network administrators who have a familiarity with RightFAX to the most common causes and solutions for each the nine SNMP RightFAX alerts. However, as a client-server application, RightFAX relies on the network for much of its functionality. Because network-related problems can trigger RightFAX alerts, the steps included here may not always resolve the cause of the alert. If RightFAX alerts persist after following these steps, contact your RightFAX administrator and/or network administrator.

All BoardServers Down

This alert indicates that all primary and remote BoardServer services have failed.

1. Run Enterprise Fax Manager or the NT Services application and attempt to restart the BoardServer(s). If the BoardServer(s) fail to start, check the application log in the NT Event Viewer for details.
2. If the application log does not provide adequate information to resolve the problem, attempt to run the BoardServer in a window. On the RightFAX server and any machines running remote BoardServers, change to the \RFBOARD directory and enter:

```
BOARDSRV.EXE -D -1
```

This runs the BoardServer module as a session in a window in debug mode. As the board initializes, debug information is displayed and the reason for the BoardServer failure should appear as the last line of the debug text. (There may be additional lines of information associated with the BoardServer module shutting down again after the failure.)

3. If a RightFAX BoardServer module on a remote machine starts and appears to be running normally but the alert persists, the failure may be due to problems with network connectivity between the remote BoardServer machine and the RightFAX server.

Critically Low Disk Space

This alert indicates that one or more drives on the RightFAX server have fallen below 50 MB of available space.

1. Run Enterprise Fax Manager and check the status of the RightFAX services. If the RightFAX Server Module has not already stopped, stop it. RightFAX will automatically stop processing additional fax traffic until both the drive that RightFAX is installed on and the drive that NT is installed on have more than 50 MB available. Additional SNMP alerts may be generated as a result of this action.
2. Uninstall any unnecessary applications from the RightFAX server using the Add/Remove Software applet in Control Panel.
3. If this does not alleviate the storage problem, check the RIGHTFAX\IMAGE directory. If it is exceptionally large, consider running the FAXAGE utility. This will delete faxes from the server database based on the age of the fax. For information on running FAXAGE.EXE please refer to the *RightFAX Administrator's Guide*.
4. If running FAXAGE is not an option, you can move the \RIGHTFAX\IMAGE directory to a new drive. First, create a \RIGHTFAX\IMAGE directory on a new drive with sufficient free storage space. Stop the RightFAX Server Module and move all of the images from the old \RIGHTFAX\IMAGE directory to the new one. Run REGEDT32.EXE on the RightFAX server and add a new REG_SZ entry called "Image" to the HKEY_LOCAL_MACHINE\Software\RightFAX key and set its value to "D:\RIGHTFAX\IMAGE" (where D: is the new drive). Restart the RightFAX Server Module.

Exchange Server is Not Responding

This alert indicates that the RightFAX server is unable to communicate with the Exchange server. This is probably due to a failure of the RightFAX Connector for Exchange which is the service responsible for all communications between the the two systems.

1. Attempt to restart the Connector on the Exchange server through NT Services.

2. If the connector still appears to be running, shut down and restart the connector.

Fax Server Event Queue Full

This alert indicates that the RightFAX internal event queue is more than 90% utilized. This indicates that too many events currently require the attention of the RightFAX Server Module.

1. To get the RightFAX server back online, the event queue size needs to be increased. A modest increase to the event queue size will not have any adverse effects on the RightFAX server itself. On the RightFAX server run REGEDT32. Look for the REG_DWORD entry "QueueSize" in the HKEY_LOCAL_MACHINE\Software\RightFAX\FaxServer key. If the entry is there, change the value to 3000 (decimal). If the entry is *not* there, add it and set its value to 3000. Run the Services applet from the Control Panel and stop and restart the RightFAX Server Module. The fax server should return to normal operation.
2. During a period of low fax traffic, run the Services applet from the Control Panel and stop the RightFAX Server Module. This will automatically stop the Database Module and the WorkServer Modules. Go to the RIGHTFAX\DATABASE directory and check the size of the FAXDATA.D0F file. If the is between 500 KB and 2 MB, the alert was probably the result of a large fax broadcast or unusually high fax volume. Increasing the event queue will prevent this from happening again. Restart the RightFAX Server Module.
3. If the FAXDATA.D0F file is 2 MB or larger, too many events are queued and not being resolved. The most common cause of this file becoming too large is unresolved work requests involving fax notifications and/or OCR. If users are set to receive notifications via Network Broadcast and no WorkServer is set to perform the "Network Broadcast" task, all the notification requests for the users will remain in the FAXDATA.D0F file. Similarly, if users have enabled automatic OCR of received faxes and no WorkServers are set to perform OCR, the work requests will go unresolved and stack up. Also, if users have a large number of faxes in their FaxUtil mailboxes with a status of "Info Not Complete," the fax server will constantly monitor the faxes and repeatedly notify the users that their faxes need attention, occupying event queue resources.

For more information on diagnosing and resolving RightFAX database problems, please refer to the *RightFAX Administrator's Guide*.

Low Disk Space

This alert indicates that one or more drives on the RightFAX server have less than 150 MB free. This condition by itself should not effect your server's fax functionality, but is intended to warn you that resources are getting low. Please see the troubleshooting steps for "Critically Low Disk Space" (page 40) for information on resolving this alert.

Probable Line Failure

This alert indicates that one or more of the fax channels have gone down due to line failure. This alert is only generated when the BoardServer returns certain errors in sequence over a given period of time and is the direct result of phone line problems as opposed to a failure on the RightFAX server.

1. To prevent additional alerts while diagnosing the problem, run the BoardServer Control Panel applet and deactivate the channel that is generating the alerts.
2. Verify that all phone lines are correctly and securely attached to the fax board(s).
3. Disconnect the phone lines from the server and attach a standard phone to verify that the line is still active.
4. If using a of PBX, verify that the line is still active through the PBX.
5. For T1 installations, confirm that the green light on the fax board that indicates the T1 line is active is lit.

Send Queue Too Deep

This alert indicates that there are more than a predefined number of faxes or fax pages in the fax queue waiting to send.

1. Verify that there are no other problems being reported with the server or phone lines that might prevent all of your outbound fax channels from being used.
2. If this alert appears frequently, too few fax channels may be dedicated to outbound faxing. Run the BoardServer Control Panel applet and reevaluate each channel's send/receive capability.
3. If your fax traffic exceeds the capability of all of your fax channels, consider increasing your total number of channels.

Server Improperly Shut Down

This alert indicates that a fax server was shut down unexpectedly. This indicates a sudden and unexpected loss of power.

1. Ensure that the server has recovered properly and is stable. The RightFAX services should restart automatically. Monitor services and the Event Viewer for any problems.
2. The most common result of an unexpected shutdown is database corruption, which, if severe, can prevent the RightFAX Server Module from starting. For information on diagnosing and resolving RightFAX database problems, please refer to the *RightFAX Administrator's Guide*.
3. Faxes that were in progress during the shutdown may become "stuck" and will need to be either kicked or resent. To "kick" a fax, run FaxUtil, highlight the fax, then select **Kick Fax** from the **File** menu.

One BoardServer Down

A BoardServer attached to this server has gone down, but at least one other BoardServer is still running.

This alert is generally not produced as the result of a BoardServer going down, but rather the loss of network connectivity between the RightFAX server and a remote BoardServer machine. You can verify this by running the NT Services application on each remote BoardServer machine to confirm that they are all operating correctly. If this is the case, contact your network administrator.

If one or more BoardServer services are down, refer to the instructions for the "All BoardServers down" alert (page 39).

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