



**Avaya Integrated Management
Release 3.1
Configuring Red Hat Linux**

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<http://www.avaya.com/support>

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Chapter 1: Welcome

Purpose

This book explains how to set up Red Hat Linux on the server that runs components of Avaya Integrated Management.

Prerequisites

Configuring Linux requires familiarity with Linux operating systems. Experience using Red Hat is highly desirable.

Intended Audience

This book is written for system administrators who are responsible for installing software on Linux-based systems.

Conventions Used in This Book

The following typographical conventions are used:

- **Bold** type is used to indicate information that you type, buttons in a window, selections in a menu, and the **Enter** key on the keyboard. It is also used for emphasis.
- `Courier` font is used for any information that the computer screen displays.
- Arrows indicate options that you select from cascading menus; for example, “Select **File** > **Open**” means choose the **Open** option from the **File** menu.

Additional Resources

For help during installation and configuration of Integrated Management applications that run on a Linux server, see *Avaya Integrated Management Release 3.0, System Management Installation and Upgrade*, document number 14-300448.

Support Resources

Avaya provides a variety of planning, consulting, and technical services. The following sections describe the resources and services that are available.

Avaya Technology and Consulting (ATAC)

Avaya Technology and Consulting (ATAC) works with client teams to develop detailed solutions for connectivity to Avaya Communication Manager solutions. The ATAC also designs network configurations.

Communications, Solutions, and Integration (CSI) Group of Software Services

Avaya Communications, Solutions, and Integration (CSI) Group of Software Services offers customers the following services:

- Platform readiness verification
- Remote implementation and installation
- Network management server configuration
- Customer acceptance verification
- Custom on-site services

The CSI Group consists of the following two teams:

- **Converged Solutions Implementation Engineering**

The Converged Solutions Implementation Engineering (CSIE) team implements multi-site media gateway (G350/G650/G700) deployment projects for both voice and data design. The overall direction of the CSIE team is to bring the correct methodology to these complex deployments that span various regions and to provide continuity to the overall project from the voice and data implementation standpoint.

- **Data Network Implementation Engineering (formerly RNIS)**

The Data Network Implementation Engineering team implements and/or upgrades existing or new data networks. This team analyzes the customer's network design requirements and performance expectations, and then creates the hardware and software installation specification used to implement data devices including Cajun, VPN, Wireless LAN, Secure Gateways, Extreme, and multi-vendor data equipment.

The CSI Group provides support on a contract basis. You can purchase various implementation offers from the CSI Group in Tampa, Florida. See [Table 1: Customer-Accessible Resources](#) on page 9 for contact information.

Avaya Technical Service Organization (TSO)

The Avaya Technical Service Organization (TSO) provides support to the Avaya Integrated Management client teams, field technicians, and customers. The TSO will bill customers for support on a time and materials basis if the following conditions exist:

- Customers do not provide remote access.
- Customers do not have a current maintenance agreement.
- Customers do not procure and install the required systems and software as defined in the Integrated Management Services Support Plan.
- Customers request support that is outside the purchase agreement.

The TSO does not support hardware or software that customers purchase from third-party vendors.

Avaya Network Management Software Systems Support Group (NMSSS)

The Avaya Network Management Software Systems Support Group (NMSSS) in Tampa Bay, Florida answers customer calls about products in Avaya Integrated Management. NMSSS will either answer your questions directly or connect you with an associate who can answer questions about the products.

Customized Management Solutions for Avaya Integrated Management

The Integrated Management Product Team understands customer's needs and is focused on customer satisfaction. See [Table 1: Customer-Accessible Resources](#) on page 9 for contact information. The Product Team will assist customers with Avaya Integrated Management projects and will provide:

- **Project Management** — An Integrated Management project person will work with the customer to access configuration and customization requirements for any or all applications within each Avaya Integrated Management offer. If custom work is required, the evaluation will include a proposed statement of work and price. Note that this offer is *not* intended to provide installation for customers that choose to implement Integrated Management applications using Avaya Services or third-party implementation services.
- **Training** — Basic training can be performed remotely using an interactive medium to display the applications and a conference bridge for audio. On-site training can be customized to meet the customer's needs. Customized training will focus on application functionality that is relevant to the customer and provide focused knowledge transfer to facilitate application-specific training.

Avaya Contact Information

[Table 1](#) and [Table 2](#) provide contact information that you may use if you need assistance during the process of installing and setting up Avaya Integrated Management. To access the links in [Table 2](#), you must be able to access the Avaya intranet.

Table 1: Customer-Accessible Resources

Resource	Contact Information
Avaya Support Center	http://www.avaya.com/support
Network Management Software Systems Support (NMSSS)	+1 800 237-0016
Communications, Solutions, and Integration (CSI) Group of Software Services	+1 800 730-9108, prompt 3
Integrated Management Product Team	Send email to: AIMtraining@avaya.com
Toll Fraud Intervention	+1 800 643-2353, prompt 1

Table 2: Avaya Internal Resources

Resource	Contact Information
Avaya System Management Support	http://aem-support.dr.avaya.com
Avaya Technology and Consulting (ATAC)	+1 888 297-4700, prompt 2,6 http://forum.avaya.com (requires a password)
Communications, Solutions, and Integration (CSI) Group of Software Services	http://associate2.avaya.com/sales_market/products/data-implementation-services/
Integrated Management Services Support Plan	http://associate2.avaya.com/solution/support_plans/#Enterprise

Product Documentation

The latest version of Avaya Integrated Management product documentation, including this book, is available from the Avaya Support Web Site. To view or download these books from the Web, you must have access to the Internet, an Internet browser, and Adobe Acrobat Reader, version 5.0 or later. Adobe Acrobat Reader is available from <http://www.adobe.com>. See [How to Access Books on the Web](#) for instructions on how to view or download these books.

How to Access Books on the Web

To view or download books from the Avaya Support Web Site, follow these steps:

1. Access <http://www.avaya.com/support>.
2. Click **Find Documentation and Downloads by Product Name**.
3. Click the letter **I** in the alphabet listing.
4. Locate the Integrated Management product or offer name and click the corresponding link.
5. Click **View All Documents** to display a list of available books for that product or offer.

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Let us know how this book measured up to your expectations. Your opinions are crucial to helping us meet your needs! Send us your comments by mail, fax, or e-mail as follows:

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Subject: Avaya Integrated Management Documentation Team

Chapter 2: Linux Server Installation

Overview

This chapter specifies the options that you must select during the installation of Red Hat Enterprise Linux ES 4.0 or Red Hat Enterprise Linux AS 4.0 to support Avaya Fault and Performance Manager, Avaya Proxy Agent, and Avaya MultiSite Administration. This document is copied from the appendix of the Avaya Integrated Management Implementation Guidelines, which is available from your Avaya client executive.

Note:

Red Hat Enterprise Linux ES 4.0 or Red Hat Enterprise Linux AS 4.0 is required for new installations. Red Hat Enterprise Linux ES or AS 3.0 is supported only if you are upgrading from Avaya Integrated Management Release 3.0 to Avaya Integrated Management Release 3.1.

Make sure a modem is attached to COM 1 (ttyS0) of the Linux server for dial-in access and turned on while you install Red Hat Enterprise Linux.

Installing Red Hat Enterprise Linux ES 4.0 or Red Hat Enterprise Linux AS 4.0

To perform a new installation of Red Hat Enterprise Linux ES 4.0 or Red Hat Enterprise Linux AS 4.0, perform the following steps:

1. Insert the first Red Hat Enterprise Linux ES or AS 4.0 CD into the CD-ROM drive, and start the Red Hat Enterprise Linux System Installer in graphical mode.
2. Follow the prompts until you come to the Welcome page.
3. Click the **Next** button.
The Disk Partitioning Setup page appears.
4. Click the **Manually Partition with Disk Druid** option button, and click the **Next** button.
The Disk Setup page appears.

Linux Server Installation

5. Perform the following steps:
 - a. Use the **Delete** button to delete any partitioning that appears for the hard drive.
 - b. Use the **New** button to add partitions as shown in [Table 3](#).

Table 3: Hard Drive Partitions

Mount Point	File System Type	Partition Size (40 GB HD)	Proportion of Disk Space (>40 GB HD)
/	ext3	800 MB	2%
/boot	ext3	100 MB	1%
/home	ext3	6000 MB	17%
/usr	ext3	6000 MB	15%
/opt	ext3	10000 MB	26%
/var	ext3	10000 MB	26%
swap	swap	2048 MB	2048 MB
/tmp	ext3	3000 MB	8%
Total		37948 MB	100%

Note:

The precise partition sizes are shown for a 40 GB hard drive. (Note that a 40 GB hard drive partitions to approximately 38 GB.) If the hard drive is bigger than 40 GB, use the proportion column to partition the hard drive.

- c. When finished adding the hard drive partitions, click the **Next** button.

The Boot Loader Configuration page appears.
6. Click the **Next** button to accept the default settings.

The Network Configuration page appears.
7. Click the **Edit** button.

The Edit Interface eth0 dialog box appears.
8. In the Edit Interface eth0 dialog box, perform the following steps:
 - a. Click the **Configure using DHCP** check box to deselect it.
 - b. Enter the static IP address and subnet mask.
 - c. Click the **OK** button.

9. In the Network Configuration page, perform the following steps:
 - a. In the Hostname section of the page, enter the fully qualified domain name.
 - b. In the Miscellaneous Settings section of the page, enter the gateway, primary, secondary, and tertiary DNS server IP addresses.
 - c. Click the **Next** button.

The Firewall Configuration page appears.

10. In the Firewall Configuration page, perform the following steps:
 - a. Click the **No Firewall** option button.
 - b. Click the **SELinux** check box to disable secure Linux kernel mode.
 - c. Click the **Next** button.

The Additional Language Support page appears.

11. Click the **Next** button to accept the default settings.

Note:

Avaya Integrated Management supports only English operating systems.

The Time Zone Selection page appears.

12. Click the **Next** button to accept the default settings.

The Set Root Password page appears.

13. Enter the root user password, enter it again for confirmation, and then click the **Next** button.

The Package Installation Defaults page appears.

14. Click the **Customize software packages to be installed** option button, and click the **Next** button.

The Package Group Selection page appears.

15. Select the following packages:
 - **KDE Desktop**
 - **Editors**
 - **Web Server (php-pgsql)**
 - **FTP Server**
 - **Network Servers (openldap)**
 - **Legacy Network Server (all)**
 - **KDE Software Development**
 - **Legacy Software Development**

- **System Tools (vnc, tsclient, uucp)**

If you are using analog modem-based alarming with Avaya Proxy Agent on this server, for the **System Tools** package, perform the following steps:

- a. Click **Details**.

The Details for System Tools dialog box appears.

- b. Click the **UUCP check box**, and then click the **OK** button.

16. In the Package Group Selection page, click the **Next** button.

The About to Install page appears.

17. Click the **Next** button.

The installation status bar appears.

18. Continue with the installation.

19. When the installation is complete, click the **Reboot** button.

20. After the system reboots, follow the prompts to perform initial configuration of the operating system, such as setting the date and time and registering the system with Red Hat.

Note:

Be sure to add at least one regular user account to the system.

Do not update postgres or any components related to postgres. Doing so can cause serious problems in the Avaya Fault and Performance Manager and Avaya Integrated Management Database applications.

Upgrading Red Hat Enterprise Linux ES 3.0 or AS 3.0 to Red Hat Enterprise Linux ES 4.0 or AS 4.0

To upgrade Red Hat Enterprise Linux ES 3.0 or Red Hat Enterprise Linux AS 3.0 to Red Hat Enterprise Linux ES 4.0 or Red Hat Enterprise Linux AS 4.0, perform the following steps:

1. Insert the first Red Hat Enterprise Linux ES or AS 4.0 CD into the CD-ROM drive, and start the Red Hat Enterprise Linux System Installer in graphical mode.
2. Follow the prompts until you come to the Welcome page.
3. Click the **Next** button.

The Upgrade Examine page appears.

4. Click the **Upgrade an existing installation** option button, and click the **Next** button.

5. From the drop-down list box, select the system you want to upgrade, and click the **Next** button.

The Upgrade Boot Loader Configuration page appears.

6. Click the **Next** button to accept the default settings.

The About to Upgrade page appears.

7. Click the **Next** button.

The installation status bar appears.

8. Continue with the upgrade installation.

9. When the upgrade installation is complete, click the **Reboot** button.

Installing Additional Software

To install additional software, perform the following steps:

1. After you install the Red Hat Linux operating system, you must install the **mgetty** Red Hat Package Manager (RPM) files from the Red Hat CD. The mgetty RPM is required for remote maintenance by Avaya Services. This may not be required if alternate remote network access (RAS/VPN) is being provided to Avaya Services personnel.

2. In addition, verify that the following RPM files were loaded during the Red Hat installation:

- **ppp**

The ppp RPM is required for remote maintenance by Avaya Services. This may not be required if alternate remote network access (RAS/VPN) is being provided to Avaya Services personnel.

- **vnc** (located in System Tools)

The vnc RPM is required for remote maintenance by Avaya Services for access to graphical user interfaces for troubleshooting purposes. This may not be required if an alternate method for displaying the XWindow desktop of the Linux server is provided.

- **vnc-server** (located in X Windows System)

The vnc-server RPM is required for remote maintenance by Avaya Services for access to graphical user interfaces for troubleshooting purposes. This may not be required if an alternate method for displaying the X Window desktop of the Linux server is provided.

- **httpd** (installed with Integrated Management 3.1)

The httpd RPM is required by the Integrated Management Database.

- **php** (located on Web Server)

The php RPM is required by the Integrated Management Database.

- **php-pgsql** (located on Web Server)
The php-pgsql RPM is required by the Integrated Management Database.
- **openldap (2.0.23-4)** (located on Network Server)
The openldap RPM is required by MultiSite Administration for Modular Messaging and SSH support.
- **cyrus-sasl (1.5.24-25)** (installed with Integrated Management 3.1)
The cyrus-sasl RPM is required by MultiSite Administration for Modular Messaging and SSH support.
- **openssl (0.9.6b-18)** (installed with Integrated Management 3.1)
The openssl RPM is required by MultiSite Administration for Modular Messaging and SSH support.

Note:

Most of these RPM files are installed during the Red Hat Linux operating system installation, while others are installed during installation of the Integrated Management 3.1 applications that run on the Linux server.

To determine the RPM files installed, see [Determining Whether RPM Files are Already Installed](#) on page 16. To install an RPM file, see [Installing RPM Files](#) on page 17.

Determining Whether RPM Files are Already Installed

To determine whether RPM files are already installed, perform the following steps:

1. In the terminal emulation window, at the command prompt, type **rpm -q <name of RPM package>**.
2. To search for RPM files using a partial RPM package name, at the command prompt type:
rpm -qa | grep <partial name>

For example, **rpm -qa | grep vnc** to determine if any RPM packages beginning with “vnc” have been installed.

Installing RPM Files

To install RPM files, perform the following steps:

1. Insert the Red Hat installation CD in the CD-ROM drive.
2. Open a terminal emulation window.
3. Type **cd /mnt/cdrom/RedHat/RPMS**.

Note:

If Linux responds “directory does not exist,” you may have to manually mount the CD-ROM drive. To do so, perform the following steps:

- a. Type **mount /dev/cdrom**.
 - b. Type **cd /dev/cdrom/RedHat/RPMS**.
4. At the command prompt, type **rpm -iv <name of RPM package>**.

Security Considerations

In order to strengthen system security, it is recommended that you turn off the Remote Procedure Calls (RPC) service on all Linux servers that run Avaya Integrated Management applications. To turn off the RPC service, you must close all related ports that provide the service.

Note:

You must have root access to turn off the RPC service.

Perform the following steps:

1. To turn off the service, at the command line prompt in the terminal emulation window, type **service portmap stop**.
2. To turn off the service so that it does not start again when the Linux server is restarted, at the command line prompt in the terminal emulation window, type **chkconfig -levels 12345 portmap off**.

