



Installation and Setup Guide for Resource Manager Essentials 4.0 on Solaris

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Preface

This document provides instructions for installing and configuring Resource Manager Essentials 4.0 (RME) on Solaris.

Audience

This document is for anyone who installs, configures and uses RME software. Network administrators and operators should have these skills:

- Basic Solaris system administrator skills
- Basic network management skills

Conventions

This document uses the following conventions:

Item	Convention
Commands and keywords	boldface font
Variables for which you supply values	<i>italic font</i>
Displayed session and system information	screen font
Information you enter	boldface screen font
Variables you enter	<i>italic screen font</i>

Item	Convention
Menu items and button names	boldface font
Selecting a menu item in paragraphs	Option > Network Preferences
Selecting a menu item in tables	Option > Network Preferences

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Product Documentation

The following product documentation is available:

**Note**

Although every effort has been made to validate the accuracy of the information in the printed and electronic documentation, you should also review the Resource Manager Essentials documentation on Cisco.com for any updates.

Release Notes for Resource Manager Essentials

- Release Notes for Resource Manager Essentials on Solaris, Software Release 4.0.
- Release Notes for Resource Manager Essentials on Windows, Software Release 4.0.

These documents are available in the following formats:

- As hard copies with your product.
- PDF on the Resource Manager Essentials CD-ROM.

- On Cisco.com at http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e_4_x/4_0/index.htm

Installation Guide for Resource Manager Essentials

- Installation and Setup Guide for Resource Manager Essentials on Solaris, Software Release 4.0.
- Installation and Setup Guide for Resource Manager Essentials on Windows, Software Release 4.0.

These documents are available in the following formats:

- PDF on the Resource Manager Essentials CD-ROM.
- On Cisco.com at http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e_4_x/4_0/index.htm.
- Printed document available by order.

User Guide for Resource Manager Essentials

This document is available in the following formats:

- PDF on the Resource Manager Essentials CD-ROM.
- From the Resource Manager Essentials online help.
- On Cisco.com at http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e_4_x/4_0/index.htm.
- Printed document available by order.

Supported Devices Table

- Supported Devices for Resource Manager Essentials 4.0
- Supported Devices for Software Management Application
- Supported Devices for Configuration Management Application

These documents are available on Cisco.com at

http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e_4_x/4_0/index.htm.

Context-Sensitive Online Help for Resource Manager Essentials

You can access the online help by selecting an option from the navigation tree, then click **Help** (extreme right corner of your browser window).

The RME device package support for RME 4.0 is available at install time. You can access the device package help from the Online help.

Step 1 Select an option from RME desktop and click **Help**.

The Help launches in a separate browser window.

Step 2 Click **Main** at the extreme right corner of the page.

The Help window is refreshed and you see these nodes in the left navigation pane:

- CiscoWorks Common Services
- Resource Manager Essentials

Step 3 Expand the Resource Manager Essentials node.

The following leaf and node appear in the left navigation pane:

- RME User Guide (leaf)
- Device Packages (node)

Step 4 Expand the Device Packages node to view the help for device packages.

Related Documentation



Note

Although every effort has been made to validate the accuracy of the information in printed and electronic documentation, you should also review Cisco product documentation on Cisco.com for any updates.

The following additional documentation is available:

Quick Start Guide for LAN Management Solution, Release 3.0

This document provides basic requirements for installing, upgrading, and setting up LAN Management Solution (LMS) 3.0 so you can get your server up and running as quickly as possible. In addition, the document also contains an exhaustive list of documentation for LMS 3.0. This document is available in the following formats:

- On Cisco.com at
http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_b/lms/lms25/index.htm
- As hardcopies with your product.

User Guide for CiscoWorks Server

This document describes CiscoWorks Common Services, gives an overview of the applications that make up Common Services, provides conceptual information about network management, and describes common tasks you can accomplish with CiscoWorks Common Services. This document is available in the following formats:

- PDF on the CiscoWorks Common Services CD-ROM and from the CiscoWorks Common Services online help.
Help > Server Configuration > User Guide for Common Services.
- On Cisco.com at
http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser30/usrguide/index.htm
- Printed document available by order.

Installation and Setup Guide for CiscoWorks Common Services

This document describes instructions for installing and configuring CiscoWorks Common Services. This document is available in the following formats:

- On Cisco.com at
http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser30/index.htm
- Printed document available by order.

Additional Information Online

You can download device packages for new devices from Cisco.com and find information about all supported devices by logging into Cisco.com at http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/dev_sup/index.htm.

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation DVD

Cisco documentation and additional literature are available in a Documentation DVD package, which may have shipped with your product. The Documentation DVD is updated regularly and may be more current than printed documentation. The Documentation DVD package is available as a single unit.

Registered Cisco.com users (Cisco direct customers) can order a Cisco Documentation DVD (product number DOC-DOCDVD=) from the Ordering tool or Cisco Marketplace.

Cisco Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/>

Cisco Marketplace:

<http://www.cisco.com/go/marketplace/>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:
<http://www.cisco.com/en/US/partner/ordering/>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

Documentation Feedback

You can send comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com
- Nonemergencies—psirt@cisco.com

**Tip**

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one that has the most recent creation date in this public key server list:

<http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&export=on>

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year, at this URL:

<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

**Note**

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support Website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

<http://www.cisco.com/go/marketplace/>

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

<http://www.cisco.com/packet>

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

<http://www.cisco.com/en/US/learning/index.html>



Installing RME

This chapter describes installing Resource Manager Essentials 4.0 on a Solaris system. It consists of:

- [Product Overview](#)
- [Installation Overview](#)
- [Preparing to Install RME](#)
- [Installing RME](#)
- [Post Installation Checklist](#)
- [Uninstalling RME](#)

After installing RME 4.0, if you want to avail these features and additional device support, you must download Resource Manager Essentials 4.0 Service Pack 1 (RME 4.0 SP 1).

- NetShow
- Contract Connection
- SmartCase
- Support for SSHv2
- Bug fixes on RME 4.0

For more information, see Readme for Resource Manager Essentials 4.0 Service Pack 1.

RME 4.0 SP 1 is available at the location:

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>

Product Overview

Resource Manager Essentials (RME), one of the major components of CiscoWorks, enables the deployment, monitoring, and configuration of devices across your network.

RME is a suite of web-based network management tools integrated into a network desktop that includes web-based tools, and web-browser capability. This product is based on a client/server network architecture that connects multiple web-based clients to a network server.

The RME CD-ROM contains the Resource Manager Essentials 4.0 installable package.

Installation Overview

Table 1-1 is an overview of the RME installation. It contains references to more detailed information about each task.

Table 1-1 *Installing RME Task Overview*

Task	Steps	References
1. Prepare to install RME.	Verify that server requirements are met.	“RME Migration Paths” section on page 1-4 “Server Requirements and Recommendations” section on page 1-5
2. Install RME.	a. Mount the CD-ROM. b. Run the installation program.	“Performing a New Installation” section on page 1-11 or “Data Migration From an Earlier Version” section on page 1-17 and “Validating the Upgrade” section on page 1-20 or “Reinstalling or Upgrading From the Evaluation Version” section on page 1-31

Table 1-1 *Installing RME Task Overview (continued)*

Task	Steps	References
3. Troubleshoot the installation.	Analyze installation error messages.	Appendix A, “Troubleshooting the Installation”
4. Perform post-installation tasks.	Configure the system and set up RME applications.	Chapter 2, “Preparing to Use RME Applications”

Preparing to Install RME

This section describes prerequisites and other factors you should consider before installing RME. This consists of:

- [RME Migration Paths](#)
- [Server Requirements and Recommendations](#)
- [Client Requirements](#)
- [Supported Devices](#)
- [RME Port Usage](#)



Caution

Do not change the system time after installing RME. Such changes may affect the working of some time-dependent features. For more information, see [“Frequently Asked Questions”](#) section on page A-9.

RME Migration Paths

Migration refers to the migration of RME data from an older version of RME to a newer version. Migration from RME 3.4.x or RME 3.5.x is permitted (.x stands for the IDU upgrades). RME 3.4.x or RME 3.5.x backup data is essential for migration.

You can migrate to RME 4.0 from:

RME Releases	Incremental Device Updates (IDU)s / Patches
RME 3.4	<p>You can migrate to RME 4.0 with or without using the following combinations of software releases on RME 3.4:</p> <ul style="list-style-type: none"> • All IDU releases on RME 3.4 • All patches released till date on RME 3.4 except point patches • Data Extracting Engine (DEE) V2
RME 3.5	<p>You can migrate to RME 4.0 with or without using the following combinations of software releases on RME 3.5:</p> <ul style="list-style-type: none"> • All the IDU releases on RME 3.5 • All the patches released till date on RME 3.5 except point patches



Caution

The migration data also includes Netshow data. If you plan to migrate Netshow data later, you must retain a backup of the RME 3.x data. Netshow will be part of a drop-in release.

For more details see, [“Data Migration From an Earlier Version”](#) section on page 1-17.

Server Requirements and Recommendations

This section describes the server requirements and recommendations for CiscoWorks Common Services (Common Services) and RME 4.0.

Minimum Server Requirements

The minimum system requirements for a CiscoWorks Server running the Common Services 3.0 and Resource Manager Essentials 4.0 software are shown in [Table 1-2](#).

Table 1-2 Server System Minimum Requirements

Requirement Type	Minimum Requirements
System hardware	<ul style="list-style-type: none"> • Sun UltraSPARC IIIi¹ • Color monitor. • CD-ROM drive
System software	<p>Solaris 2.8 and Solaris 2.9</p> <p>RME supports only US-English and Japanese versions of Solaris Operating Systems. It does not support any other language version. Set the default locale to US-English for US-English version of RME and Japanese for Japanese version of RME.</p>
Memory (RAM)	1 GB
Available drive space	<ul style="list-style-type: none"> • 4 GB on the partition on which you install the product (the default is /opt)² • Enough space for storing device software image files³ • Swap space must be double the amount of memory (RAM). For example, if your system has 512 MB of RAM, you need 1024 MB of swap space
Additional required software	Common Services must be installed before you install RME. For installation instructions, see <i>Installation and Setup Guide for Common Services 3.0 (Includes Ciscoview) on Solaris</i>
Additional optional software	<ul style="list-style-type: none"> • Netscape Navigator 7.0 (if you are using the desktop on the server system)⁴ • Mozilla 1.7

1. Common Services supports Ultra SPARC III systems such as Sun-Fire-280R, Netra-T4, Sun Blade 1000.
2. RME 4.0 is installed in the same directory as Common Services.
3. For information about downloaded files, see the [“Setting Up Configuration Management” section on page 2-30](#).
4. Use Netscape Navigator downloaded only from the Sun site.

To verify the amount of available disk space in each of the specified partitions and directories, enter:

```
# df -k directory
```

where *directory* is the partition or directory for which you want to check the available disk space.

Server Recommendations

To select or configure a server system that best meets your needs, you must consider the number of managed devices expected in the Inventory, Configuration Management, and Software Management applications.

These factors affect server performance and user report response time.

[Table 1-3](#) shows the recommendations for a server running Common Services and RME. These recommendations produce optimal response time while running user reports.

Table 1-3 Server System Recommendations

Minimum System Configuration	Inventory	Configuration Management	Software Management
UltraSPARC IIIi Memory: 1 GB Swap space: 2 GB Available disk space: 40 GB	0–300 devices	0–300 devices	0–300 devices
Dual Processor UltraSPARC IIIi Memory: 2 GB Swap space: 4 GB Available disk space: 80 GB	Up to 3000 devices	Up to 2000 devices	Up to 1700 devices

Client Requirements

The minimum client system requirements for Common Services and RME are shown in [Table 1-4](#).

Before you access RME from a client system, the system must be properly configured. For more information about configuring clients, see *Installation and Setup Guide for Common Services 3.0 (Includes CiscoView) on Solaris*.

Table 1-4 Client System Requirements Summary

Requirement Type	Minimum Requirement
System Software and Hardware	<ul style="list-style-type: none"> • Client system: <ul style="list-style-type: none"> – IBM PC-compatible system with at least a 300 MHz Pentium processor running Windows 2000 (Professional and Server) with Service Pack 3 or Service Pack 4, Windows XP (SP1 and SP2), Windows Server 2003 (Standard and Enterprise Edition). <p>RME supports only US-English and Japanese versions of Windows OS. Set the default locale to US-English for US-English version of RME and Japanese for Japanese version of RME.</p> <ul style="list-style-type: none"> – Sun UltraSPARC IIIi, running Solaris 2.8 or 2.9. • Color monitor with video card set to 24 bits color depth.
Memory (RAM)	512 MB
Browser	<p>One of these browsers:</p> <ul style="list-style-type: none"> • On Windows 2000 and Windows XP clients: <ul style="list-style-type: none"> – Microsoft Internet Explorer 6.0 (version 6.0.3790.0) in Windows 2003 with SP1 – Microsoft Internet Explorer 6.0.26 and 6.0.28 for Windows 2000 and Windows XP – Netscape Navigator 7.1 – Mozilla 1.7.1. • On Solaris clients: <ul style="list-style-type: none"> – Netscape Navigator 7.0 ¹ for Solaris 2.8 and 2.9 – Mozilla 1.7 for Solaris 2.8 and 2.9

1. Use Netscape Navigator downloaded only from the Sun site.

RME Port Usage

Table 1-5 lists the ports used by RME:

Table 1-5 RME Port Usage

Protocol	Port Number	Service Name	Direction (of Establishment) of Connection
ICMP	–	Ping	Server to Device
TCP	22	Secure Shell (SSH)	Server to Device
TCP	23	Telnet	Server to Device
TCP	25	Simple Mail Transfer Protocol (SMTP)	Server Internal
TCP	514	rsh Daemon	Server to Device
TCP	1742	SSL (HTTPS) For SSL, by default, the port is 443.	Client to Server.
TCP	3333	Syslog Collector Service and Syslog Analyzer Service	Server Internal
TCP	43455	RME Database	Server Internal
TCP	4444	Syslog Collector Service and Syslog Analyzer Service	Server Internal
TCP	47000 - 47020	RME CSTM (Common Services Transport Mechanism) Server. Used for internal application communication.	Server Internal
UDP	69	Trivial File Transfer Protocol (TFTP)	Server to Device Device to Server
UDP	161	Simple Network Management Protocol (SNMP)	Server to Device Device to Server
UDP	162	SNMP Traps (Standard Port)	Device to Server only (nGenius Real-Time Monitor); Server to Device Device to Server (all others)

Table 1-5 RME Port Usage (continued)

Protocol	Port Number	Service Name	Direction (of Establishment) of Connection
UDP	514	Syslog	Device to Server
UDP	42342	OSAGENT	Server Internal (Common Services); RSAC to Server via OSAGENT (RME)

Supported Devices

RME 4.0 supports some of the devices supported in previous versions of RME as well as new devices. Device packages for all supported devices are installed when you install RME. Information about these devices is at:

http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/dev_sup/index.htm

You can login to Cisco.com as a registered user for:

- Downloading device packages.

You can download device packages for RME from:

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>

- More information about new device support

To see a list of the device packages installed in the CiscoWorks homepage, select **Software Center > Resource Manager Essentials**.

Installing RME

This section describes:

- [Performing a New Installation](#)
- [Data Migration From an Earlier Version](#)
- [Reinstalling or Upgrading From the Evaluation Version](#)

While performing RME installation you might be prompted to enter a new RME Database password. For details, see “[Troubleshooting the Installation](#)” section on [page A-1](#).

For more information on creating a new password see the “Password Information” Appendix in *Installation and Setup Guide for Common Services 3.0 (Includes CiscoView) on Solaris*.

Installation Notes

Before you begin your installation, note the following:

- Run the installation from a local CD or a local hard drive to avoid errors caused by network inconsistencies.
- Install CiscoWorks Common Services 3.0 (Common Services) before installing RME 4.0.

For more information, see the *Installation and Setup Guide for Common Services 3.0 (Includes CiscoView) on Solaris*. The install script finds the Common Services directory and installs RME at the same location (/opt/CSCOpX by default). This location is referred to as `$NMSROOT` in this document.

- You can migrate to RME 4.0 only from RME 3.4 and RME 3.5 with Incremental Device Update (IDU) packages for the respective versions. No other migration paths are supported. RME 3.4 or RME 3.5 backup data is essential for migration. For more information, see [RME Migration Paths, page 1-4](#).
- For information on different installation options, see [What are the various installation switches supported?, page A-10](#).

Performing a New Installation

This section describes how to perform a new installation.

If you are upgrading on a system that had a previous version of RME installed, see the [“Data Migration From an Earlier Version” section on page 1-17](#).



Note

To import data from a previous version of RME, after installation follow the procedure in the [“Data Migration From an Earlier Version” section on page 1-17](#).

Running the Installation Program for a New Installation

The RME installation takes approximately 30 minutes.

You can press **Ctrl-C** at any time to cancel the installation. However, any changes to your system (for example, installation of new files or changes to system files) will not be undone.

Hence, we do not recommend ending the installation, using **Ctrl-C**. You will be required to manually cleanup the installation directories. For more information, see [“Frequently Asked Questions” section on page A-9](#).

The installation program installs RME 4.0 in the same location as Common Services 3.0 (/opt/CSCOpX by default) and starts CiscoWorks.

-
- Step 1** As root, mount the RME 4.0 CD-ROM. You can either:
- Mount the CD-ROM on the CiscoWorks Server system. (Direct installation)
 - or
 - Mount the CD-ROM on a remote Solaris system, then access the CD-ROM from the CiscoWorks Server system. (Remote installation)

Run the installation from a local CD or a local hard drive to avoid errors caused by network inconsistencies.

See [Appendix B, “Mounting and Unmounting the CD-ROM,”](#) for detailed mounting instructions.

- Step 2** Start the installation program.
- For a local installation, enter:


```
# cd /cdrom/cdrom0/
# cd RME
# ./setup.sh
```
 - For a remote installation, enter:


```
# cd remotedir
# cd RME
# ./setup.sh
```

where *remotedir* is the remote location where the CD-ROM is mounted.

The installation prompts you to press Enter to display the License Agreement.

- Step 3** Press **Return**.

The License Agreement page appears.

- Step 4** Press **Return** to scroll forward one page, or **q** to quit the License Agreement page.
A message appears:

```
You must accept this License Agreement to proceed with the
installation.
If you enter N/n, the installation will exit.
Do you accept all the terms of the License Agreement? (y/n) [n]
```

- Step 5** Press **y** to accept the agreement, or **n** to quit installation.

A message appears:

```
To ensure full use of the product features, please select one of the
following:
(L) If you have a license file for this product,
you will then be prompted for the license file location.
(S) If you know only the serial number and PIN,
but have not obtained the license file.
(E) To evaluate the product only.
You can provide licensing information later if you want to fully
enable the product.
```

- Step 6** Enter one of these:

- **L** for License File
- **S** for Serial number and PIN
- **E** for Evaluation
- **Q** to quit.

The installation program checks for required patches and other dependencies and displays:

```
1) "Typical installation is recommended for all computers."
2) "Custom installation can be selected if you want to customize the
setup options."
```

```
Select one of the installation modes using its number or enter q to
quit [1]
```

If you choose the Typical installation mode, the RME database password is randomly generated for you. You can view the password at the end of installation. To proceed with a *Typical* installation, go to [“New Installation—Typical” section on page 1-15](#).

If you choose the Custom installation mode, you will be prompted to enter the RME database password. To proceed with a *Custom* installation, go to [“New Installation—Custom”](#) section on page 1-16.

New Installation—Typical

To install RME using the Typical option:

Step 1 Enter **1** (for Typical) and press **Return**.

The installation program checks dependencies and system requirements: For details, see “[Server Requirements and Recommendations](#)” section on page 1-5.

- If your system does not meet the requirements a warning appears:
`System memory is less than the minimum requirement, which may affect performance.`
- If the partition does not have enough space, an error message appears:
`There is not enough space in partition drive name.`

Select another partition, or free some space on partition *drive name*.

The installation proceeds without displaying more prompts. This message appears at the end of installation:

```
Do you want to see the passwords that were entered/randomly
generated ? If yes, please remember that passwords are security
sensitive data and hence make sure they are kept secure. [y/n]
```

- If you enter **y**, the password appears in clear text on the console.



Note Memorize your password displayed on the console. We recommend you do not write it down.

- If you enter **n**, the password does not appear.

The installation completes without displaying more prompts and the system prompt appears.

Step 2 Unmount and eject the CD-ROM. For details, see [Appendix B, “Mounting and Unmounting the CD-ROM”](#).

New Installation—Custom

To install RME using the Custom option:

Step 1 Enter **2** (for Custom) and press **Return**.

The installation program checks dependencies and system requirements: (For details, see [“Server Requirements and Recommendations”](#) section on page 1-5)

- If your system does not meet the requirements a warning appears:
`System memory is less than the minimum requirement, which may affect performance.`
- If the partition does not have enough space, an error message appears:
`There is not enough space in partition drive name.`

Select another partition, or free some space on partition *drive name*.

The installation program displays:

```
Enter RME database password:
```

Step 2 Enter a new password. Password should have minimum five characters.

A message appears:

```
Confirm Password
```

Step 3 Enter the password again to confirm.

The installation completes without displaying more prompts and the system prompt appears.

Step 4 Unmount and eject the CD-ROM. For details, see [Appendix B, “Mounting and Unmounting the CD-ROM”](#)

If the system returned any errors, check the installation log file `/var/tmp/ciscoinstall.log`. For other troubleshooting information, see [Appendix A, “Troubleshooting the Installation”](#).

Data Migration From an Earlier Version

Data Migration refers to the migration of RME data from an older version of RME to a newer version. Migration from RME 3.4.x or RME 3.5.x is permitted. RME 3.4.x or RME 3.5.x backup data is essential for migration.

This section describes how to migrate to RME 4.0, if you have RME 3.4.x or RME 3.5.x installed on the server.

- To migrate RME on the same server see, [“Migrating on the Same Server” section on page 1-17](#).
- To migrate RME on a different server see, [“Migrating on a Different Server” section on page 1-18](#). All data available in the RME 3.x backup is not migrated to RME 4.0. For details see, [“Data Migrated” section on page 1-24](#) and [“Data Not Migrated” section on page 1-27](#).

If you had installed a version of IDU later than 2.0 on a previous version of RME, and then want to migrate to RME 4.0, you will lose support for new devices.

To retain support for those devices, we recommend that you download and install the latest device packages for RME 4.0 after upgrading to RME 4.0.

**Note**

Data migration across operating systems is not supported.

Migrating on the Same Server

To migrate RME on the same server:

-
- Step 1** Upgrade to Common Services 3.0. For more information, see *Installation and Setup Guide for Common Services 3.0 (Includes Ciscoview) on Solaris*.
- The Common Services 3.0 install script ensures that application data is backed up before migration. During backup, you are prompted to enter the backup directory. For more details see, [“Backing Up Your Data” section on page 1-23](#).
- Step 2** Install RME 4.0.
- The RME 4.0 install script uninstalls older versions of RME (3.4.x or 3.5.x) along with dependent applications installed in the system.

For example, consider Access Control List Manager (ACLM) and VPN/Security Management as RME dependant applications. During RME 4.0 installation, ACLM, VPN and the older version of RME (3.x) is uninstalled.

For more details, see the [“Performing a New Installation”](#) section on page 1-11.

- Step 3** Run the migration script to migrate RME 3.4.x or RME 3.5.x data. For more details, see the [“Running the Migration Script”](#) section on page 1-19.
-

Migrating on a Different Server

To migrate RME on a different server:

-
- Step 1** Backup RME 3.4.x or RME 3.5.x data on the system where RME 3.4.x or RME 3.5.x is installed. For more details see, [“Backing Up Your Data”](#) section on page 1-23.
- Step 2** Install Common Services 3.0 on a clean system. For more information, see *Installation and Setup Guide for Common Services 3.0 (Includes Ciscoview) on Solaris*.
- Step 3** Install RME 4.0 on the system where you just installed Common Services 3.0. For details see, [“Performing a New Installation”](#) section on page 1-11.
- Step 4** Transfer the backup data to this server.
- Step 5** Run the migration script to migrate RME 3.4.x or RME 3.5.x data. For more details, see the [“Running the Migration Script”](#) section on page 1-19.
-

Running the Migration Script

The installation program installs RME 4.0 in the same location as Common Services (`/opt/CSCOpX` by default) and starts CiscoWorks.

We recommend that you do not cancel migration to avoid errors.

Step 1 As root, login to the system on which you installed RME 4.0.

Step 2 Shut down the daemon manager. To do this, enter:

```
/etc/init.d/dmgt.d stop
```

Step 3 Run the command:

```
/opt/CSCOpX/bin/perl /opt/CSCOpX/bin/restorebackup.pl -d backup location -gen version -t tempbackup dir
```

Example:

```
/opt/CSCOpX/bin/perl /opt/CSCOpX/bin/restorebackup.pl -d /ciscoworks/rmebackupdata -gen 2 -t /tmp
```

where:

- `/opt/CSCOpX` is the CiscoWorks installation directory.
- `-d backup location` is the location where RME 3.4 or RME 3.5. backup data is available. This is mandatory.
- `-gen version` is the version to be migrated to RME 4.0. This is optional. By default, it will restore the latest backup data.
- `-t tempbackup dir` is used to extract files from the backup into a temporary location. These files are used by the restore backup script. This will be deleted after the data restoration is complete. This is optional. By default, restore backup script uses `/opt/CSCOpX/tempbackupdata` directory.

The migration script checks the details of the applications installed in the system and applications in the backup archive.

You are prompted to migrate syslog information. A message appears:

```
Do you want to migrate syslogs [y / n]? Enter y to continue.
```

If you want to migrate syslog information, choose **y**, otherwise choose **n**.

You are prompted to collect inventory data. A message appears:

Do you want to collect Inventory [y/n]?

If you want to collect inventory information during migration, choose **y**, otherwise choose **n**.

Inventory collection during migration is not recommended. Time taken to complete inventory data collection is considerable.

It depends on number of devices, network speed and device response time. Schedule inventory collection after migration using the user interface. From the CiscoWorks homepage, select **RME > Devices > Inventory**.

Step 4 Start daemon manager after the migration is completed. To do this, enter:

```
/etc/init.d/dmgt start
```

You have migrated to RME 4.0.

Validating the Upgrade

If you purchased an upgrade license of RME 4.0, you must validate the upgrade on the system where RME 4.0 is installed.

Proof of Purchase (POP) is required to validate an upgrade license of RME 4.0. You are prompted to run a CLI script to validate this upgrade license. This script is available at this location, `/opt/CSCOpX/bin/validateupgrade`.

- If you plan to use the same machine (that has RME 3.4.x or RME 3.5.x) for RME 4.0 installation, you will not be prompted to run this CLI script.

In this case, Proof of Purchase validation is done automatically.

- If you plan to use a new/different server for RME 4.0 (that has 3.4.x or 3.5.x installed on a different server), a message appears at the end of the RME 4.0 installation to validate the upgrade license.

The product will be in the *nag* mode until POP is validated. This message appears till you complete the upgrade validation:

```
This software installation requires reusing a license provided in
a previous version. If a previous license is not available or
proof of purchase validation was not performed, you may continue
to install in NAG mode, while arranging with your Cisco
representative to return this product and purchase a full licensed
version.
```

To validate the upgrade license:

Step 1 Go to C Shell by running the command `csch`.

Step 2 Set the environment using the command:

```
setenv LD_LIBRARY_PATH
/opt/CSCOpX/objects/db/lib:/opt/CSCOpX/lib:/opt/CSCOpX/MDC/lib
```

Step 3 Change the directory to `/opt/CSCOpX/bin` using the command:

```
cd /opt/CSCOpX/bin
```

Step 4 Run the CLI script:

```
./validateupgrade
```

The following prompt appears:

```
This utility will validate your proof of purchase of the product and
allow you to obtain an upgrade license.
Please enter the CiscoWorks product for the proof of purchase
validation (such as LMS, ITEM, VMS):
```

Step 5 Enter the bundle name and press the Return key.

The following prompt appears:

```
Please select the source for upgrade validation from the following
1. Validate from a CD (older version of RME).
2. Validate from a remote server (where older version of RME is
installed).
Please enter 1 to upgrade from a CD; enter 2 to upgrade from a remote
server [1 / 2] :
```

- If you select 1, a prompt appears:

Please insert the previous versions of RME CD into the CDROM drive and provide the absolute path to the CD drive:

Enter the CDROM drive path. For example, */cdrom/cdrom0*

- If you select 2, a prompt appears:

Please enter the remote CiscoWorks server host name or the IP address :

Please enter the remote CiscoWorks server http or https port number :

Please enter the remote CiscoWorks server login name :

Please enter the remote CiscoWorks server login password :

Please be patient. Upgrade validation is in progress from a remote server.

Enter the following details of the remote CiscoWorks server:

- Host name or the IP address. For example, *ciscoworks-rme*
- http or https port number. For example, *1741*
- Login name. For example, *admin*
- Login password.

This message is appears after you enter the above details:

Please be patient. Upgrade validation is in progress from a remote server.

After the RME upgrade validation completes, this message is appears:

Validation succeeded.

Backing Up Your Data

To backup your data:

-
- Step 1** Access the CiscoWorks Server and log in.
For information, see *Invoking CiscoWorks HomePage* and *Logging in to Common Services* sections in the *User Guide for CiscoWorks Common Services*.
- Step 2** From CiscoWorks Homepage, select **Common Services > Server > Admin > Backup**.
The Backup page appears.
- Step 3** Enter the path name of the target directory in the Set Backup Schedule dialog box.
We recommend that you use a different directory from the directory where CiscoWorks is located, for example, /cw/backups.
- Step 4** Check the Immediate radio button in the Set Backup Schedule dialog box.
- Step 5** Click **Apply** to begin the backup.
This process may take some time to complete. For more information, see the Online help.
-

Backing up Data Using CLI

To backup your data using CLI, run the following command at your command prompt:

```
NMSROOT/bin/backup.pl BackupDirectory LogFile Num_Generations
```

BackupDirectory—Directory that you want to be your Backup directory.

LogFile—Log file name

Num_Generations—Maximum backup generations to be kept in the backup directory.

Before starting migration, all currently scheduled jobs must be suspended.

Data Migrated

The data migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Devices and its credentials are updated in the Device Credential Repository (DCR).
- Device configurations collected from devices using Config Archive.
- Change Audit history of all devices. This includes details changes that each application maintains.
- Images in Software Management repository.
- NetConfig user defined templates and Syslog custom filters.



Caution

The migration data also includes Netshow data. If you plan to migrate Netshow data later, you must retain a backup of the RME 3.x data. Netshow will be part of a drop-in release.

See the following sections for application specific details on data migrated:

- [Device Selector](#)
- [Inventory](#)
- [Config Archive](#)
- [NetConfig](#)
- [Config Editor](#)
- [Software Management](#)
- [Syslog](#)
- [Change Audit](#)

Device Selector

Public and Private Static Device Views

For private views, device groups are created with the RME 3.4 or RME 3.5 username. You may use groups if the same username exists in RME 4.0. If the username does not exist in RME 4.0, the group is assigned to NetAdmin.

Inventory

The inventory data migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Change History
- User defined fields and their display names
- Device attributes and credentials
- RME Device Management Application updates

RME Device Management Application updates DCR with the list of devices and appropriate credentials.

Migration Strategy

All devices in the managed state in RME 3.4.x and RME 3.5.x are migrated to RME 4.0. The migration strategy is:

For the list of devices maintained in RME 3.4 or RME 3.5:

1. Device Management Application is supplied with the list of devices migrated from RME 3.4 or RME 3.5.
2. Device Management Application assigns the device ID to the device. The device ID is the same ID the device used in RME 3.4 or RME 3.5. Device Management Application also marks the state of the devices as normal.
3. You are prompted to initiate inventory collection.

If you choose to collect inventory data during migration, inventory collection is triggered towards the end of migration.

We recommend that you do not perform Inventory collection during migration. This is because it takes a long time to complete inventory data collection. It depends on number of devices, network speed and device response time.

Schedule inventory collection after migration using the user interface. To do this select **RME > Devices > Inventory**. from the CiscoWorks homepage.

For devices in other states in RME 3.4 or RME 3.5 (unreachable, aliased, or suspended):

Credentials are associated. These devices and their associated credentials are migrated to DCR. For details, select **Devices > Device Management > RME Devices**, from the CiscoWorks homepage

Config Archive

The Config Archive data migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Raw Configuration files
All running, startup and VLAN configurations
- Shadow directory.
- ChangeAudit records. This includes Configuration change details.
- Archived configuration versions

NetConfig

The NetConfig data migrated from RME 3.4.x or 3.5.x to RME 4.0:

- User Defined Templates (UDT)
UDT RouterUDT in RME3.5 is migrated as RouterUDTTask with the UDT template, RouterUDT in RME4.0.
- Default Template Usage
All templates are assigned to Admin on migration by default. If your RME 3.4 or RME 3.5 user exists in RME 4.0, the task mappings are migrated. However, device to task mapping is not migrated.

Config Editor

Editing Mode in which the files are opened. It is either 'Raw' or 'Processed'.

Software Management

The Software Management data migrated from RME 3.4.x or 3.5.x to RME 4.0 are Image Libraries.

Exceptions

- Images of device types that do not have device support are not migrated. The corresponding device package may not be installed.
- Images are migrated with default attributes. If you made any changes to the image attributes in RME 3.4 or RME 3.5, you must redo the changes after migrating the image to RME 4.0.

Syslog

The Syslog data migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Automated Actions and Filters

Automated Actions and Filters are migrated. However, the scripts associated with the automated actions are not migrated.

Hence, you must manually copy the scripts from RME 3.4 or RME 3.5 installation to the required location in RME 4.0. Ensure that the scripts are operational on the RME 4.0 system for the automated tasks to function properly.

- Syslog messages

Syslog messages are critical. However, the data volume is huge. Hence, you may choose to migrate the Syslog messages during migration.

- RME 4.0 retains data up to 7 days by default. During migration, if you attempt to restore RME 3.4 or RME 3.5 data older than the configured number of days on RME 4.0, messages are purged when the next Syslog purge job is triggered.
- Custom reports

Change Audit

All change records with the details are migrated.

Data Not Migrated

This section lists the data that is not migrated RME 3.4.x or 3.5.x to RME 4.0. It also states the tasks that you need to recreate.

- Scheduled jobs that are yet to be executed.

These jobs must be recreated with required approvals sought anew.

- Application execution logs.

The structure and components of earlier versions of RME in comparison to RME 4.0 are different. Hence, earlier versions of logs are irrelevant.

- Completed jobs.

Completed jobs cannot be edited or used to create new jobs. However, the details of job execution are available. View the Change Audit reports for details about how devices were affected.

- Admin Settings
RME 4.0 default configuration overrides configurations of earlier versions of RME. For the admin settings of your RME 3.x system, see `AdminSettings.txt` file. The file is usually available in `$NMSROOT`. You may use this file as a baseline to configure your RME 4.0 system, if required.

See the following sections for application specific details on data not migrated:

- [Device Selector](#)
- [Inventory](#)
- [Config Archive](#)
- [NetConfig](#)
- [Config Editor](#)
- [Software Management](#)
- [Syslog](#)
- [Change Audit](#)
- [Jobs](#)

Device Selector

Dynamic Views

RME 3.4 or RME 3.5 dynamic views are not migrated because of the device classification changes to Meta Data Format (MDF) in RME 4.0.

Inventory

The inventory data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Detailed Device Data
Importing a device in RME4.0 fetches device data from the managed device.
- Scan History
This feature is not supported in RME 4.0.

- Collection and Polling Interval
Default system inventory collection and polling job is created.
- Inventory Change Filter
Inventory change filter details are not backed up in RME 3.4 and RME 3.5. This data must be recreated in RME4.0.
- Check device attributes
Check device attribute data is overwritten when invoked.

Config Archive

The Config Archive data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Protocol order and archive location
The RME 4.0 settings take precedence.
- Admin settings
Default update schedule, purge policy and syslog policy.
- Label information.
- Custom queries
- Last Configuration change time for devices.
- Running startup out of synchronized data.

NetConfig

The NetConfig data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Template to Device Type Assignment
In RME 3.4 or RME 3.5, User Defined Templates are associated with a device category, while in RME 4.0 the categorization is based on MDF type. Hence, the translation from RME 3.4 or RME 3.5 categorization to RME 4.0 is not feasible.
- Jobs and details
- User Preferences and Admin Settings

Config Editor

The Config Editor data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Negation rules
In RME 3.4 or RME 3.5, negation rules are maintained in flat files. In RME 4.0, RME device packages handle this task.
- Insertion rules
In RME 4.0, insertion rules are maintained by Config archive.
- User Preferences and Admin Settings

Software Management

The Software Management data not migrated from RME 3.4.x or 3.5.x to RME 4.0 is:

- Admin Settings
Admin settings are stored in a flat file. You may access the file after migration. Refer to your old admin settings from the text file and configure RME 4.0.
- Jobs and details

Syslog

The Syslog data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Admin settings
The devices that are not managed in RME 4.0 and are represented using wildcards, are ignored during migration of automated action, message filters and custom reports.

Change Audit

The Change Audit data not migrated from RME 3.4.x or 3.5.x to RME 4.0:

- Admin settings
- Exception periods

Jobs

In RME 3.x, jobs are serialized objects. You could copy the RME job objects from one 3.x version to another. In RME 4.0, the job data structures are not serialized objects. Hence, you cannot migrate jobs.

Reinstalling or Upgrading From the Evaluation Version

This section explains how to reinstall RME 4.0 or upgrade from an evaluation version of RME 4.0.

The installation program is able to detect whether you have already installed RME 4.0. Your existing database is not affected by the reinstallation. However, you should back up the database before installing to prevent any possible loss of data. Your CiscoWorks Server configuration is also preserved.

Running the Installation Program to Reinstall

The RME installation takes approximately 30 minutes.

You can press **Ctrl-C** at any time to cancel the installation. However, any changes to your system (for example, installation of new files or changes to system files) will not be undone.

Hence, we do not recommend aborting installation using **Ctrl-C**. You will be required to manually cleanup the installation directories. For more information, see the [“Frequently Asked Questions” section on page A-9](#).

The installation program installs RME in the same location as Common Services (/opt/CSCOPx by default) and starts CiscoWorks.

Step 1 As root, mount the RME CD-ROM. You can either:

- Mount the CD-ROM on the CiscoWorks Server system.
or
- Mount the CD-ROM on a remote Solaris system, then access the CD-ROM from the CiscoWorks Server system.

Run the installation from a local CD or a local hard drive to avoid errors due to network inconsistencies.

See [Mounting a Local CD-ROM Drive, page B-1](#) for detailed mounting instructions.

Step 2 Start the installation program.

- For a local installation, enter:

```
# cd /cdrom/cdrom0/
# cd RME
# ./setup.sh
```

- For a remote installation, enter:

```
# cd remotedir
# cd RME
# ./setup.sh
```

where *remotedir* is the remote location where the CD-ROM is mounted.

The installation program displays the License agreement.

Step 3 Select **I Agree**.

The installation options appear:

Choose the type of Setup you prefer.

- 1) "Typical installation is recommended for all computers."
- 2) "Custom installation can be selected if you want to customize the setup options."

Select one of the installation modes using its number or enter q to quit [1]

- If you choose the *Typical* installation mode, the password assigned to the previous installation of RME database will be retained.
- If you choose the *Custom* installation mode, you will be prompted to enter a password for the RME database.

Step 4 Do either of the following:

- To use the Typical reinstallation mode, go to [“Reinstalling RME—Typical” section on page 1-33](#).
- To use the Custom reinstallation mode, go to [“Reinstalling RME—Custom” section on page 1-34](#).

Reinstalling RME—Typical

To use the Typical option:

Step 1 Enter **1** (Typical) and press **Return**.

The installation program checks dependencies and system requirements (For details, see [“Server Requirements and Recommendations”](#) section on page 1-5)

- If your system does not meet the requirements a warning appears:
`System memory is less than the minimum requirement, which may affect performance.`
- If the partition does not have enough space, an error message appears:
`There is not enough space in partition drive name.`

Select another partition, or free some space on partition *drive name*.

The installation program checks dependencies and displays the following:

```
Resource Manager Essentials 4.0 has been detected on your system, are you sure you want to reinstall (y/n):
```

Step 2 Enter **y** to reinstall, or **n** to quit.

The installation completes without displaying more questions and the system prompt appears.

Step 3 Unmount and eject the CD-ROM. For details, see [Appendix B, “Mounting and Unmounting the CD-ROM”](#).

Reinstalling RME—Custom

To use the Custom option:

-
- Step 1** Enter **2** (for Custom) and press **Return**.
- Step 2** The installation program checks dependencies and system requirements: (For details, see [“Server Requirements and Recommendations”](#) section on page 1-5)
- If your system does not meet the requirements a warning appears:


```
System memory is less than the minimum requirement, which may
affect performance.
```
 - If the partition does not have enough space, an error message appears:


```
There is not enough space in partition drive name.
```

Select another partition, or free some space on partition *drive name*.
- The installation program checks dependencies and displays the following:
- ```
Resource Manager Essentials 4.0 has been detected on your system. Are
you sure you want to reinstall this software? (y/n) [n]
```
- Step 3** Enter **y** to reinstall, or **n** to quit.
- The installation program displays:
- ```
Enter RME database password:
```
- Step 4** Enter a new password.
- The following message appears:
- ```
Confirm Password
```
- Step 5** Enter the password again to confirm.
- The installation completes without displaying more prompts and the system prompt appears.
- Step 6** Unmount and eject the CD-ROM. For details, see [Appendix B, “Mounting and Unmounting the CD-ROM”](#)
-

If the system returned any errors, check the installation log file `/var/tmp/ciscoininstall.log`. For other troubleshooting information, see [Appendix A, “Troubleshooting the Installation”](#).

## Post Installation Checklist

[Table 1-6](#) lists the common post-installation that are required to be configured after installing RME. For details, see [Chapter 2, “Preparing to Use RME Applications”](#).

**Table 1-6** *Post Installation Checklist*

| Task                          | How to get there...                                                                                                       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Verifying System Settings     | RME > Administration > System Preferences<br>Or<br>Common Services > Server > Admin > System Preferences                  |
| <b>Job Approval</b>           |                                                                                                                           |
| Creating approver list        | RME > Administration > Approval > Create/Edit                                                                             |
| Enabling job approval         | RME > Administration > Approval > Approval Policies                                                                       |
| <b>Inventory Management</b>   |                                                                                                                           |
| Add Devices                   | RME > Devices > Device Management > RME Devices.                                                                          |
| Checking Add / Import Summary | RME > Devices > Device Management.                                                                                        |
| Checking device attributes    | RME > Devices > Device Management > Device Credential Verification > Select Devices > View Credential Verification Report |
| Changing device attributes    | RME > Devices > Device Management > Device Credential Verification > Select Devices > Edit Device Credentials             |
| Deleting unwanted devices     | RME > Devices > RME Devices > Select Devices > Delete                                                                     |
| Scheduling collection         | RME > Devices > Inventory > Inventory Jobs > Create                                                                       |
| Manually updating inventory   | RME > Devices > Inventory > Inventory Jobs > Create > Choose Immediate Job                                                |

**Table 1-6**      **Post Installation Checklist (continued)**

| <b>Task</b>                                  | <b>How to get there...</b>                                                                                        |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Configuration Management</b>              |                                                                                                                   |
| Performing general setup tasks               | RME > Admin > Config Mgmt                                                                                         |
| Config Editor Administration                 | RME > Admin > Config Mgmt > Config Editor<br>Or<br>RME > Admin > Config Mgmt > Config Job Policies > ConfigEditor |
| NetConfig Administration                     | RME > Admin > Config Mgmt > Config Job Policies > NetConfig                                                       |
| <b>Software Management</b>                   |                                                                                                                   |
| Establishing Software Management Preferences | RME > Administration > Software Management > View/Edit Preferences                                                |
| Importing Baseline of Software Images        | RME > Software Management > Software Repository                                                                   |
| Scheduling Synchronization Job               | RME > Software Management > Software Repository > Software Repository Synchronization                             |
| <b>Change Audit</b>                          |                                                                                                                   |
| Defining Exception Periods                   | RME > Tools > Change Audit > Exception Periods                                                                    |
| Forwarding Traps                             | RME > Tools > Change Audit > Automated Actions                                                                    |
| <b>Syslog Analyzer</b>                       |                                                                                                                   |
| Verifying Storage Options                    | RME > Admin > Syslog > Set Backup Policy                                                                          |
| Defining Message Filters                     | RME > Tools > Syslog > Message Filter                                                                             |
| Defining Automated Actions                   | RME > Tools > Syslog > Automated Action                                                                           |
| Creating Custom Syslog Reports               | RME > Reports > Custom Templates                                                                                  |

# Uninstalling RME

The uninstallation program removes files and settings. Uninstallation allows you to remove the product alone or remove Common Services as well. To remove Common Services, you must first remove RME.

Before removing the RME, you must remove any applications that depend on the product. That is, the applications for which installing RME is a prerequisite.

**Caution**

---

You must use the uninstall program to remove the product. If you try to remove RME manually, CiscoWorks may stop functioning. Uninstalling the product software removes the database as well.

---

Uninstallation takes about 30 minutes.

**Step 1**

---

Enter these commands as root to start the uninstall program:

```
cd /
/opt/CSCOpX/bin/uninstall.sh
```

where */opt/CSCOpX* is the default installation directory. If you specified a different directory when you installed Common Services, use the name of that directory.

**Note**

---

You cannot uninstall Common Services without uninstalling RME.

---

A message similar to the following appears at command prompt:

- 1) CiscoView 6.1
- 2) Integration Utility 1.6
- 3) CiscoWorks Common Services 3.0
- 4) Resource Manager Essentials 4.0
- 5) All of the above

Select one or more of the items using its number separated by comma or enter q to quit [q]

**Note**

---

You cannot uninstall Common Services without uninstalling RME.

---

**Step 2** Enter **1**, **2**, **3** or **4** and press **Return**. The following prompt similar to the following appears:

A prompt similar to the following appears:

```
Are you sure you want to uninstall: CiscoWorks Common Services,
Resource Manager Essentials? (y/n) [n]
```

**Step 3** Enter **y** and press **Return** to remove the applications you selected, or **n** to quit the uninstallation.

The installation program checks for CiscoWorks packages on the system and the following prompt appears:

```
Delete the CiscoWorks packages? (y/n) [n]
```

**Step 4** Enter **y** and press **Return** to remove packages, or **n** to quit.

Messages prompting you to remove packages, may appear. You may ignore them since they are only for information. The installation program does not accept input to these questions.

After the uninstallation program completes, this message appears:

```
All files were deleted successfully.
```

When you remove Common Services or RME, the uninstallation program removes changes made to the `/etc/services` file. The `/etc` directory *still* contains all system file changes. The uninstallation messages are written to the `/var/tmp/ciscouninstall.log` file.

---

To reinstall RME, follow the instructions in the [“Reinstalling or Upgrading From the Evaluation Version”](#) section on page 1-31.



## Preparing to Use RME Applications

---

After installing and setting up Resource Manager Essentials (RME 4.0), you must configure the server for RME and configure the RME applications for use.

This chapter assumes that you have performed the client setup tasks described in *Installation and Setup Guide for Common Services 3.0 (Includes CiscoView) on Solaris*.

This chapter consists of:

- [Preparation Overview](#)
- [Accessing the Server](#)
- [Logging In](#)
- [Configuring the Server](#)
- [Configuring the Proxy Server](#)
- [Setting Device Credentials](#)
- [Setting Up Inventory](#)
- [Setting Up Syslog Analyzer](#)
- [Setting Up Software Management](#)
- [Setting Up Configuration Management](#)

# Preparation Overview

Table 2-1 lists the prerequisite tasks for using RME applications. It contains references to more detailed information about each task.

**Table 2-1** *Preparing To Use RME Applications Task Overview*

| Task                          | Steps                                                                                                                                                                                                                                        | References                                                                                                                                |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Configure the system.      | Enter information about the proxy server, SMTP, and rcp                                                                                                                                                                                      | <a href="#">“Configuring the Server” section on page 2-6.</a>                                                                             |
| 2. Setting device credentials | Configure items on the devices that are to be monitored by RME.                                                                                                                                                                              | <a href="#">“Setting Device Credentials” section on page 2-8</a>                                                                          |
| 3. Set up Inventory.          | a. Create network inventory by adding device information one device at a time.                                                                                                                                                               | <a href="#">“Adding Devices in RME to Collect Inventory Data” section on page 2-9.</a>                                                    |
|                               | b. (Optional) Obtain login privileges to Cisco.com (Cisco.com).                                                                                                                                                                              | If you do not have login privileges, go to the Cisco.com home page, <a href="http://www.cisco.com">www.cisco.com</a> , to obtain a login. |
|                               | c. (Optional) Perform the following Inventory setup tasks: <ul style="list-style-type: none"> <li>• Schedule inventory polling and collection.</li> <li>• Set change report filters.</li> <li>• Display a detailed device report.</li> </ul> | Inventory Online help.                                                                                                                    |
| 4. Set up Syslog Analyzer.    | a. Configure your routers and switches for Syslog Analyzer.                                                                                                                                                                                  | <a href="#">“Configuring Devices for Syslog Analyzer” section on page 2-12.</a>                                                           |
|                               | b. Verify settings in the Syslog configuration file.                                                                                                                                                                                         | <a href="#">“Verifying the Settings in the Syslog Configuration File” section on page 2-16.</a>                                           |
|                               | c. Verify Syslog messages are being processed by Syslog Analyzer.                                                                                                                                                                            | <a href="#">“Verifying the Syslog Collector” section on page 2-17.</a>                                                                    |

Table 2-1 Preparing To Use RME Applications Task Overview (continued)

| Task                           | Steps                                                                                                                                                                                                                                                                                                                                                                                                                  | References                                                                           |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 5. Set up Software Management. | d. Set Software Management preferences.                                                                                                                                                                                                                                                                                                                                                                                | <a href="#">“Setting Software Management Preferences”</a> section on page 2-19.      |
|                                | e. Obtain login privileges to Cisco.com.                                                                                                                                                                                                                                                                                                                                                                               | If you do not have login privileges, go to the Cisco.com, to obtain a login.         |
|                                | f. Set up Trivial File Transfer Protocol (TFTP).                                                                                                                                                                                                                                                                                                                                                                       | <a href="#">“Setting Up TFTP”</a> section on page 2-19.                              |
|                                | g. Set up rcp.                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="#">“Setting Up rcp”</a> section on page 2-22.                               |
|                                | h. Allow user casuser to use <code>at</code> and <code>cron</code> .                                                                                                                                                                                                                                                                                                                                                   | <a href="#">“Allowing the User casuser to Use at and cron”</a> section on page 2-29. |
|                                | i. (Optional) Perform setup tasks: <ul style="list-style-type: none"> <li>• Create a baseline of the devices in your network and populate the software image library.</li> <li>• Schedule the Synchronize Library job to run periodically.</li> <li>• Create one or more approver lists if you want to use the Job Approval option.</li> <li>• Distribute a software image to a device or group of devices.</li> </ul> | Software Management Online help.                                                     |

**Table 2-1** *Preparing To Use RME Applications Task Overview (continued)*

| Task                                | Steps                                                                                                                                                                                                                     | References                                                                             |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 6. Set up Configuration Management. | j. Modify device security.                                                                                                                                                                                                | <a href="#">“Modifying Device Security” section on page 2-34.</a>                      |
|                                     | k. Set up NetConfig: <ul style="list-style-type: none"> <li>• Verify device configurations in configuration archive.</li> <li>• Modify device security.</li> <li>• Verify device prompts.</li> </ul>                      | <a href="#">“Setting Up NetConfig” section on page 2-35</a> and NetConfig online help. |
|                                     | l. (Optional) Perform NetConfig setup tasks: <ul style="list-style-type: none"> <li>• Configure default job properties.</li> <li>• Assign template access privileges to users.</li> <li>• Enable Job Approval.</li> </ul> | NetConfig Online help.                                                                 |

## Accessing the Server

When you access the CiscoWorks Server, the CiscoWorks Login Manager appears.

To access the server from a client system, enter any one of these URLs in your web browser:

- If SSL is disabled and if you installed CiscoWorks Common Services (Common Services) on the default port, and enter:

**`http://server_name:1741`**

- If SSL is enabled, and if you installed CiscoWorks Common Services (Common Services) on the default port, enter:

```
https://server_name:443
```

where *server\_name* is the hostname of the server on which you installed RME. If an alternative port was assigned during Common Services installation, enter:

```
http://server_name:port_number
```

where *server\_name* is the name of the server on which you installed Common Services and RME, and *port\_number* is the alternative port assigned during the installation.

You may enter **http://server\_name:1741** in the SSL mode. The URL gets redirected to https and it still works.

See the *User Guide for CiscoWorks Server* for information about administrator logins.

## Logging In

To perform server setup tasks, you must log in as the system administrator:

- 
- Step 1** Enter the administrator username and password in the Login Manager dialog box:

User Name: **admin**

Password: *password*

- Step 2** Click **Login**.

The CiscoWorks homepage appears.

---

# Configuring the Server

You can configure system-wide information for RME applications using the System Configuration option. You should verify that the defaults are correct, if not enter the corrections.

---

**Step 1** Select **Common Services > Server > Admin > System Preferences**.

The View / Edit System Preferences dialog box appears.

**Step 2** Select one of the following textboxes to enter information or to verify that the configured information is correct:

- SMTP Server
- RCP User
- CiscoWorks Email ID

See [Table 2-2](#) for descriptions of the information in each dialog box tab.

**Step 3** Click **Apply** to save the changes, or click **Defaults** to apply the default.

**Step 4** Repeat Step 2 and Step 3 until you have verified or corrected all the information displayed in the System Configuration dialog box.

The dialog box is displayed until you select another option from the navigation tree.

---

# Configuring the Proxy Server

To configure the proxy server:

---

**Step 1** Select **Common Services > Server > Security > Cisco.com Connection Management > Proxy Server Setup**.

The Proxy Server Setup dialog box appears.

**Step 2** Enter the following information:

- Host name/IP address—Proxy host or IP address.
- Port—Proxy port Number.

- Username—Login ID of the proxy server. This is optional.
- Password—Password of the proxy server. This is optional.
- Verify—Re-enter the same password as in Password, to confirm.

See [Table 2-2](#) for descriptions of the information in each dialog box tab.

**Step 3** Click **Apply** to save the changes.

This dialog box is displayed until you select another option from the navigation tree.

**Table 2-2** System Configuration Dialog Box Information

| Tab Name            | Description                                                                                                                                                                                                                                                                                                                          | Fields—Values to Enter                                                             |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| HTTP Proxy          | Connects to Cisco.com. If server access to the outside world is controlled through a proxy server, you must configure this setting.                                                                                                                                                                                                  | Proxy URL—System-wide proxy URL. There is no default.                              |
| RCP User            | Specifies the user during remote file transfers from devices. Authenticates rcp transfers between devices and server.<br><br>User account must exist on UNIX systems and should also be configured on devices as local user in the ip rcmd configuration command.<br><br>See <a href="#">“Setting Up rcp” section on page 2-22</a> . | User Name—Name used by a network device when it connects to the server to run rcp. |
| SMTP Server         | Sends E-mail.                                                                                                                                                                                                                                                                                                                        | SMTP Server—Server name. Default is localhost.                                     |
| CiscoWorks Email ID | Specifies the E-mail ID of the user.                                                                                                                                                                                                                                                                                                 | Enter the E-mail ID.                                                               |

# Setting Device Credentials

Several important items must be configured correctly on every Cisco device that will be managed and monitored through RME.

Details about each application and the tasks involved in setting the credentials are available later in this document. For details see [Table 2-1 on page 2-2](#).

[Table 2-3](#) lists all the applications and the device credentials required for proper functioning of the applications.

**Table 2-3 Applications and the Device Credentials**

| Application                                               | Telnet Password       | Enable Password       | SNMP Read Only | SNMP Read / Write         |
|-----------------------------------------------------------|-----------------------|-----------------------|----------------|---------------------------|
| NetConfig                                                 | Required              | Required              | Required       | Not required <sup>1</sup> |
| Config Editor                                             | Required              | Required              | Required       | Not required <sup>2</sup> |
| ChangeAudit                                               | Not required          | Not required          | Required       | Not required              |
| Configuration Management (Telnet)                         | Required              | Required              | Required       | Not required              |
| Configuration Management <sup>3</sup> (TFTP) <sup>4</sup> | Not required          | Not required          | Required       | Required                  |
| Inventory                                                 | Not required          | Not required          | Required       | Not required              |
| SWIM                                                      | Required <sup>5</sup> | Required <sup>5</sup> | Required       | Required                  |
| Syslog                                                    | Not required          | Not required          | Required       | Not required              |

1. After execution of a job, NetConfig provides an option to fetch the configuration using TFTP. SNMP Read/Write credentials are required in such cases.
2. After execution of a job, Config Editor provides an option to fetch the configuration using TFTP. SNMP Read/Write credentials are required in such cases.
3. Configuration download also uses TFTP. Hence, SNMP Read/Write credentials are required.
4. The file vlan.dat can be fetched only if telnet password and enable password are supplied.
5. Required in case of few devices like PIX devices, Cisco 2950 series switches.

# Setting Up Inventory

As a network administrator, you need to be able to quickly troubleshoot problems on the network, know the Inventory of the devices RME manages and run various kinds of reports both pre-canned reports and custom reports. The Inventory application in RME caters to these requirements.

This section describes the tasks that you must perform to set up the Inventory application.

For detailed information see *User Guide for Resource Manager Essentials 3.5*.

## Adding Devices in RME to Collect Inventory Data

You must have at least one managed device (a device whose inventory information is tracked by RME) to verify correct RME installation. To manage your network, you need to add the device information for all your managed devices.

You can add devices to RME either manually or automatically.

By default, devices are added to RME from Common Services' Device and Credential Repository automatically.

If you have disabled the option Automatically Manage Devices from Credential Repository using **RME > Admin > Device Mgmt > Device Management Settings**, you have to follow the procedure as described below (step 1 through step 3).

To populate your network inventory:

- 
- Step 1** Select **RME > Devices > Device Management > RME Devices**.
  - Step 2** Select the list of devices that you want RME to manage from the device credential repository.
  - Step 3** Click **Add Devices**.

The Device Management Status Summary dialog box appears.

- Step 4** Use the Device Management Status Summary dialog box to check the status of the device you specified.

The dialog box should contain:

| Device State            | Number of Devices |
|-------------------------|-------------------|
| Normal                  | 0                 |
| Pending                 | 1                 |
| Pre-deployed            | 0                 |
| Suspended               | 0                 |
| Alias                   | 0                 |
| Conflicting             | 0                 |
| Total Number of Devices | 1                 |

If the device responded quickly, the Managed row might already contain one device.

- Step 5** Refresh the screen to update device status.

If the pending count goes from 1 to 0 after you click **Device Management** and the Managed row has one device, RME was installed and configured correctly.

You might need to wait several minutes for the device to become managed.

- Step 6** Click **Device Management** on the Device Management Status Summary dialog box every minute or so to check current device status.

For additional information, see the Online help.

If you added a device and the Device Management Status Summary dialog box shows that the device status has not changed from Pending even after 15 minutes, check the status of all processes to make sure they are running normally.

- To view the latest device status information, select **Resource Manager Essentials > Devices > Device Management**.

- To determine if the ICServer process is running, select **Common services > Server > Admin > Processes**. (The ICServer and Config Management are the processes responsible for validating devices and changing their status from Pending.)

Even if the ICServer process has the state Running Normally, it might be in an error state. You need to stop and restart it.

- To stop the ICServer process:
  - a. Select **Common Services > Server > Admin > Processes**.  
The Process Management dialog box appears.
  - b. Select the process.
  - c. Click **Stop**.
- To restart the ICServer process:
  - a. Select **Common Services > Server > Admin > Processes**.  
The Process Management dialog box appears.
  - b. Select **ICServer** from the list of processes
  - c. Click **Start**.

The device status should change to Managed within a couple of minutes.

---

## Setting Up Syslog Analyzer

Syslog Analyzer lets you centrally log and track messages generated by devices. You can use the logged error message data to analyze device and network performance. You can customize Syslog Analyzer to produce the information and message reports that are important to your operation.

See the Online help for more information about Syslog Analyzer.

Setting up Syslog Analyzer involves:

- [Configuring Devices for Syslog Analyzer](#)
- [Verifying the Syslog Collector](#)

## Configuring Devices for Syslog Analyzer

Before you can use Syslog Analyzer, you must configure your devices to forward messages to RME or to a system on which you have installed the distributed Syslog Analyzer Collector. For more information about setting up devices for message logging, see the online help, the Cisco IOS software documentation on Cisco.com (for Cisco IOS devices), and the appropriate reference guides.

### Configuring Cisco IOS Devices

To configure Cisco IOS devices:

---

**Step 1** Use Telnet to access the device and log in.

The prompt changes to `host>`.

**Step 2** Enter `enable`.

**Step 3** Enter the enable password.

The prompt changes to `host#`.

**Step 4** Enter `configure terminal`.

You are now in configuration mode, and the prompt changes to `host(config)#`.

- To make sure logging is enabled, enter `logging on`.
- To specify the RME server to receive the router syslog messages, enter `logging 123.45.67.89` (where `123.45.67.89` is the IP address of the CiscoWorks server).

**Step 5** Set the logging trap level by entering `logging trap informational`.

Severity level informational means all alert and informational messages will be logged to the server.

**Step 6** Verify that Syslog is running:

- a. From the CiscoWorks desktop, select **Common Services > Server > Admin > Processes**.

The Process Management dialog box appears.

- b. Verify that the entry for Syslog Collector has the status, Running normally. Also, verify the entry for status SyslogCollector, if you are directing syslogs to that server.
  - Step 7** Verify that the Syslog configuration file settings are correct. See the “[Verifying the Settings in the Syslog Configuration File](#)” section on page 2-16 for instructions.
- 

## Configuring Catalyst Devices

To configure Catalyst devices:

- 
- Step 1** Use Telnet to access the device and log in.  
The prompt changes to `host>`.
  - Step 2** Enter `enable` and the enable password.  
The prompt changes to `host(enable)`.
  - Step 3** To make sure logging is enabled, enter `set logging server enable`.
  - Step 4** Enter `set logging server 123.45.67.89` (where `123.45.67.89` is the IP address of the server) to specify the server that is to receive the Catalyst switch syslog messages.
  - Step 5** Set the logging trap level by entering `set logging all level 6 default`.  
Severity level 6 means all messages from levels 0-6 (from alerts to notifications) will be logged to the server.
  - Step 6** Verify that Syslog is running. To do this:
    - a. From the CiscoWorks desktop, select **Common Services > Server > Admin > Processes**.  
The Process Management dialog box appears.
    - b. Verify that the entry for Syslog Analyzer has the status, Running normally.
  - Step 7** Verify that the Syslog configuration file settings are correct. See the “[Verifying the Settings in the Syslog Configuration File](#)” section on page 2-16 for instructions.
-

## Content Service Switches Devices

To configure Content Service Switches (CSS) devices using Telnet:

---

**Step 1** Telnet to the device and enter into the Global Configuration mode.

**Step 2** Run the following commands:

```
logging commands enable
logging host CiscoWorks IP address
logging facility local7
```

---

## Content Engine Devices

To configure Content Engine (CE) devices using Telnet:

---

**Step 1** Telnet to the device and enter into the Global Configuration mode.

**Step 2** Run the following commands:

```
logging host CiscoWorks IP address
logging facility local7
```

---

## NAM Devices

To configure NAM devices using Telnet:

---

**Step 1** Telnet to the device and enter into the Global Configuration mode.

**Step 2** Run the following commands:

```
remote-host CiscoWorks IP address
logging facility local7
```

---

## PIX Devices

To configure PIX devices using Telnet:

---

**Step 1** Telnet to the device and enter into the Global Configuration mode.

**Step 2** Run the following commands:

```
logging host CiscoWorks IP address [in_if_name] CiscoWorks IP address
[protocol /port] [format emblem]
```

```
logging facility local7
```

where,

- *in\_if\_name* is the interface on which the syslog server resides.
- *CiscoWorks IP* address is the address of the CiscoWorks server.
- *protocol* is the protocol over which the syslog message is sent; either tcp or udp. PIX Firewall only sends TCP syslog messages to the PIX Firewall Syslog Server.

You can only view the port and protocol values you previously entered by using the write terminal command and finding the command in the listing—the TCP protocol is listed as 6 and the UDP protocol is listed as 17.

*port* is the port from which the PIX Firewall sends either UDP or TCP syslog messages. This must be same port at which the syslog server listens.

- For the UDP port, the default is 514 and the allowable range for changing the value is 1025 through 65535.
- For the TCP port, the default is 1470, and the allowable range is 1025 through 65535. TCP ports only work with the PIX Firewall Syslog Server.

**format emblem** is the option that enables EMBLEM format logging on a per-syslog-server basis. EMBLEM format logging is available for UDP syslog messages only and is disabled by default.

---



### Note

For details on how to configure devices using the NetConfig Syslog task, refer to the *Configuring the Device Using NetConfig Syslog Task* section in the *User Guide for Resource Manager Essentials 4.0*.

---

## Verifying the Settings in the Syslog Configuration File

To check the path and permissions of the file pointed to by local7.info in the syslog configuration file `/etc/syslog.conf` on the server:

The first occurrence of local7 in the `syslog.conf` file, must contain the path for the Syslog message source.

- 
- Step 1** Make sure the `facility.level` definition is set to `local7.info`, and that the following line is present (note that there must be a tab between `local7.info` and the *path/filename*):

```
local7.info path/filename
```

where *path/filename* is the full path to a file.

- Step 2** Make sure the syslog process (`syslogd`) can both read and write to the file.

If you modified the `/etc/syslog.conf` file, you must restart the syslog process (`syslogd`). Enter the following command to stop and restart `syslogd`:

```
/etc/init.d/syslog start and /etc/init.d/syslog stop
```

If the start and stop command does not work, enter:

```
kill -HUP `cat /etc/syslog.pid`
```

- Step 3** Make sure the Message Source in the CiscoWorks Server is the same as the filename you specified in the `syslog.conf` file.

To check the path for the `syslog.conf`, look for the `SYSLOG_FILES` variable in the `Collector.properties` file available at the following location:

```
$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/csc/data.
```

---

## Verifying the Syslog Collector

To verify that the Syslog Collector is processing syslog messages from the network:

---

**Step 1** Log in to a managed router that is configured to send Syslog messages to the server. You must have appropriate login privileges to make configuration changes.

**Step 2** Make a nondestructive change to the router configuration. For example, to change the contents of the login banner enter:

```
enable
configure terminal
```

The prompt changes to #>.

```
#> banner motd /
This is a test /
#> end
```

**Step 3** Wait approximately 2 minutes for the server to process the Syslog message

**Step 4** Select **RME > Reports > Report Generator**.

The Report Generator dialog box appears.

**Step 5** Select **Syslog** from the Select an Application drop-down menu.

**Step 6** Select Standard Report from the Select a Report drop down menu.

The Standard Reports dialog box appears.

**Step 7** Select the device for which you made a change. For more information, see the Online help.

**Step 8** Click **Finish**.

The Syslog-Standard report appears.

Verify that the report contains the Syslog message that the configuration change generated.

---

# Setting Up Software Management

Cisco is constantly improving the quality and functionality of device software. As a network administrator, you need to know what versions are currently running on your devices, and you must be aware of new software versions available to identify when upgrades are needed.

When software upgrades are required, you must plan for and manage the upgrade to minimize the disruption to the end users. The process of manually upgrading multiple devices on the network can be a very time-consuming and error-prone process.

Software Management application performs system software upgrades, boot loader upgrades, and software configuration operations on groups of routers and switches. For more information about setting up Software Management, see the Online help.

Setting up Software Management involves the following:

- [Verifying Space Requirements for Downloaded Files](#)
- [Setting Software Management Preferences](#)
- [Setting Up TFTP](#)
- [Setting Up rcp](#)
- [Allowing the User casuser to Use at and cron](#)

## Verifying Space Requirements for Downloaded Files

Software Management files downloaded to the server from the Cisco.com or the product CD-ROM are stored in the /var directory or its subdirectories. Make sure there is enough space in the /var directory for all files that you plan to download.

Before you can use Software Management, you must have sufficient space to store the software image files. You should have 4 to 20 MB of space for each IOS and Catalyst image. For, NAM and Content Engine images you must have 150 MB of space.

In addition, you need space for some smaller downloaded files and temporary files. To accommodate these needs, add at least 20% to the space needed for software image files for your final space calculation in the /var directory.

**Note**

---

The space for each image varies according to the device type.

---

## Setting Software Management Preferences

Software Management has many preferences you can set to control how the application behaves. To set preferences:

- 
- Step 1** Select **RME > Admin > Software Mgmt > View/Edit Preferences**.  
The Edit Preferences dialog box appears.
- Step 2** Change preferences as appropriate. For more information, see the Online help.
- Step 3** After you complete the changes:
- Click **Apply** to save your changes.
  - Click **Defaults** to display the default configuration.
- 

## Setting Up TFTP

A file transfer server must be installed on your system. You must enable a Trivial File Transfer Protocol (TFTP) server because it is the default file transfer server type.

During Software Management installation, if the installation tool cannot find a TFTP server, it tries to add one. If the installation tool cannot find or create a TFTP server, install and enable the TFTP server and verify that a /tftpboot directory exists, as explained in the following sections.

## Enabling the TFTP Daemon

If you are using standard Solaris software, you can add and configure the TFTP server (TFTPD).

---

**Step 1** Log in as superuser.

**Step 2** Using a text editor, edit the `/etc/inetd.conf` file.

- a. Look in the file `/etc/inetd.conf` for the line that invokes TFTPD. If the line begins with a pound sign (`#`), remove the pound sign with your text editor. Depending on your system, the line that invokes the TFTP server might look similar to:

```
tftp dgram udp wait root /usr/sbin/in.tftpd in.tftpd -s /tftpboot
```

- b. Save the changes to the edited file and exit your text editor.

**Step 3** At the UNIX prompt, enter the following command to display the process identification number for the `inetd` configuration:

```
/usr/bin/ps -ef | grep -v grep | grep inetd
```

The system response is similar to:

```
root 119 1 0 12:56:14 ? 0:00 /usr/bin/inetd -s
```

The first number in the output (119) is the process identification number of the `inetd` configuration.

**Step 4** To enable your system to read the edited `/etc/inetd.conf` file, enter:

```
kill -HUP 119
```

where `119` is the process identification number identified in Step 3.

**Step 5** Verify that TFTP is enabled by entering either:

```
netstat -a
```

or

```
grep tftp
```

which should return output similar to:

```
*.tftp Idle
```

or enter:

```
/opt/CSCOPx/bin/mping -s tftp localhost_machine_name
```

which returns the number of modules sent and received, for example:

```
sent:5 recvd:5 . . .
```

If the output shows that zero modules were received, TFTP is not enabled. Repeat these steps, beginning with Step 1, to make sure you have enabled TFTP.

---

## Creating the /tftpboot Directory

RME uses the /tftpboot directory when transferring files between the RME server and network devices. The files are removed after the transfer is complete, but multiple jobs (for example, image distribution, image import, or config file scan) could be running at the same time.

Each of these jobs requires its own space. Software image sizes, for example, can be up to 20 MB. To ensure that jobs run successfully, make sure there is sufficient space available in the /tftpboot directory.

If the /tftpboot directory does not exist on your system, you must create it:

---

**Step 1** Enter:

```
mkdir /tftpboot
```

**Step 2** Make sure all users have read, write, and execute permissions to the /tftpboot directory by entering:

```
chmod 777 /tftpboot
```

The /tftpboot directory now exists and has the correct permissions.

---

## Setting Up rcp

You can enable a remote copy (rcp) server on the server and select it as the active file transfer server. If you select rcp as the active server and then try to transfer files to a device that does not support rcp, RME uses TFTP to transfer the files.

### Creating the rcp Remote User Account

To use rcp, you must create a user account on the system to act as the remote user to authenticate the rcp commands issued by devices. This user account must own an empty .rhosts file in its home directory to which the user casuser has write access.

You can choose the name of this user account because you can configure the RME server to use any user account. The default user account name is cwuser. The examples in this procedure use the default name cwuser. If you choose to use a different name, substitute that name for cwuser.

To create and configure the rcp remote user account, follow these steps while logged in as root:

---

**Step 1** To add a user account named cwuser to the system, enter:

```
useradd -m -c "user account to authenticate remote copy operations" \
 \ cwuser
```

**Step 2** Navigate to the cwuser home directory.

- To create the .rhosts file, enter:  

```
touch .rhosts
```
- To change the owner of the .rhosts file, enter:  

```
chown cwuser:casusers .rhosts
```
- To change the permissions of the .rhosts file, enter:  

```
chmod 0664 .rhosts
```

- If you did not use the default user name `cwuser`, use the user account that you created as the `rcp` remote user account.
    - a. Log on to the server as `admin`.
    - b. From the CiscoWorks Homepage, select **Common Services > Server > Admin > System Preferences**.  
The System Preferences dialog box appears.
    - c. In the RCP User field, enter the name of the user account that you just created in the User Name field, then click **Apply**.
- 

## Enabling the `rcp` Daemon

To add and configure standard Solaris `rcp` server software:

---

**Step 1** Log in as superuser.

**Step 2** Using a text editor, edit the `/etc/inetd.conf` file.

- a. Look in the file `/etc/inetd.conf` for the line that invokes `rshd`. If the line begins with a pound sign (`#`), remove the pound sign with a text editor. Depending on your system, the line that invokes the `rshd` server might look similar to:

```
shell stream tcp nowait root /usr/sbin/in.rshd in.rshd
```

- b. Save the changes to the edited file and exit the text editor.

**Step 3** At the UNIX prompt, enter the following to display the process identification number for the `inetd` configuration:

```
/usr/bin/ps -ef | grep -v grep | grep inetd
```

The system response is similar to:

```
root 119 1 0 12:56:14 ? 0:00 /usr/bin/inetd -s
```

The first number in the output (119) is the process identification number of the `inetd` configuration.

**Step 4** To enable your system to read the edited `/etc/inetd.conf` file, enter:

```
kill -HUP 119
```

where `119` is the process identification number identified in Step 3.

**Step 5** Verify that rshd is enabled by entering:

```
netstat -a | grep shell
```

which should return output similar to:

```
*.shell *.* 0 0 0 0 LISTEN
```

---

## Selecting rcp as the Active File Transfer Method

If you have enabled rcp as the file transfer method, RME uses rcp to transfer device software images. For devices that do not support rcp, RME uses TFTP to transfer files.

You can disable rcp if you do not want RME to use it with any devices.

---

**Step 1** Select **RME > Admin > Software Mgmt > View/Edit Preferences**.

**Step 2** Set the protocol order so that RCP is the first protocol in the order.

**Step 3** Click **Apply**.

---

## Setting Up SCP

RME supports the Secure Copy (SCP) file transfer. It is a secure and authenticated method for copying router configuration or router image files. SCP relies on Secure Shell (SSH).

RME uses rcp with devices that support rcp. For other devices, RME uses TFTP.

The devices that support SCP protocol are Cisco 7200 series, Cisco 7500 series, Cisco 12000 series, Cisco 1700 series, Cisco 2600 series, Cisco 3620, Cisco 3640, Cisco 3660.

## Using SCP For File Transfer

SCP is derived from rcp.

The following are the prerequisites for Secure Copy:

- Configure SSH, authentication, and authorization on the router.
- Ensure the router has a Rivest, Shamir, and Adelman (RSA) key pair. SCP relies on SSH for its secure transport.

The behavior of SCP is similar to that of remote copy (rcp), except that SCP relies on SSH for security. In addition, SCP requires that authentication, authorization, and accounting (AAA) authorization be configured so the router can determine whether you have the correct privilege level.

SCP allows anyone who has appropriate authorization to copy any file that exists in the Cisco IOS File System (IFS) to and from a router by using the copy command. An authorized administrator may also perform this action from a workstation.

## Prerequisites for Secure Copy

- Before enabling SCP, you must correctly configure SSH, authentication, and authorization on the router.
- Because SCP relies on SSH for its secure transport, the router must have an Rivest, Shamir, and Adelman (RSA) key pair.

## Information About Secure Copy

To configure Secure Copy feature, you should understand the following concepts.

- [How SCP Works](#)
- [How to Configure SCP](#)

## How SCP Works

The behavior of SCP is similar to that of remote copy (r`cp`), which comes from the Berkeley r-tools suite, except that SCP relies on SSH for security. In addition, SCP requires that authentication, authorization, and accounting (AAA) authorization be configured so the router can determine whether the user has the correct privilege level.

SCP allows a user who has appropriate authorization to copy any file that exists in the Cisco IOS File System (IFS) to and from a router by using the copy command. An authorized administrator may also perform this action from a workstation.

## How to Configure SCP

This section contains the following procedures:

- [Configuring SCP](#)
- [Verifying SCP](#)
- [Troubleshooting SCP](#)

### Configuring SCP

To enable and configure a Cisco router for SCP server-side functionality, perform the following steps:

|        | Command                                                                                               | Purpose                                                                      |
|--------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Step 1 | <p><code>enable</code></p> <p>Example:</p> <p><code>Router &gt; enable</code></p>                     | <p>Enables privileged EXEC mode.</p> <p>Enter your password if prompted.</p> |
| Step 2 | <p><code>configure terminal</code></p> <p>Example:</p> <p><code>Router# configure terminal</code></p> | <p>Enters global configuration mode.</p>                                     |

|        | Command                                                                                                                                                                                                                       | Purpose                                                                                                                                                                                                                            |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 3 | <pre>aaa new-model</pre> <p>Example:</p> <pre>Router (config)# aaa new-model</pre>                                                                                                                                            | Enables the AAA access control system.                                                                                                                                                                                             |
| Step 4 | <pre>aaa authentication login {default   list-name} method1 [method2...]</pre> <p>Example:</p> <pre>Router (config)# aaa authentication login default local</pre>                                                             | Sets AAA authentication at login.                                                                                                                                                                                                  |
| Step 5 | <pre>aaa authentication enable {default   list-name} method1 [method2...]</pre> <p>Example:</p> <pre>Router (config)# aaa authentication enable default none</pre>                                                            | Sets AAA authentication at enable.                                                                                                                                                                                                 |
| Step 6 | <pre>aaa authorization {network   exec   commands level   reverse-access   configuration} {default   list-name} [method1 [method2...]]</pre> <p>Example:</p> <pre>Router (config)# aaa authorization exec default local</pre> | <p>Sets parameters that restrict user access to a network.</p> <p><b>Note</b> The exec keyword runs authorization to determine if the user is allowed to run an EXEC shell; therefore, you must use it when you configure SCP.</p> |

## Setting Up Software Management

|        | Command                                                                                                                                                                                       | Purpose                                                                                                                                                                                         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 7 | <pre>username name [privilege level] {password encryption-type encrypted-password}</pre> <p>Example:</p> <pre>Router (config)# username superuser privilege 15 password 0 superpassword</pre> | <p>Establishes a username-based authentication system.</p> <p><b>Note</b> You may skip this step if a network-based authentication mechanism—such as TACACS+ or RADIUS—has been configured.</p> |
| Step 8 | <pre>ip scp server enable</pre> <p>Example:</p> <pre>Router (config)# ip scp server enable</pre>                                                                                              | <p>Enables SCP server-side functionality.</p>                                                                                                                                                   |

### Verifying SCP

To verify SCP server-side functionality, perform the following steps:

|        | Command or Action                                                                     | Purpose                                                                      |
|--------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Step 1 | <pre>enable</pre> <p>Example:</p> <pre>Router&gt; enable</pre>                        | <p>Enables privileged EXEC mode.</p> <p>Enter your password if prompted.</p> |
| Step 2 | <pre>show running-config</pre> <p>Example:</p> <pre>Router# show running-config</pre> | <p>Verifies the SCP server-side functionality.</p>                           |

## Troubleshooting SCP

To troubleshoot SCP authentication problems, perform the following steps.

|        | Command or Action                                                       | Purpose                                                                      |
|--------|-------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Step 1 | <pre>enable</pre> <p>Example:</p> <pre>Router&gt; enable</pre>          | <p>Enables privileged EXEC mode.</p> <p>Enter your password if prompted.</p> |
| Step 2 | <pre>debug ip scp</pre> <p>Example:</p> <pre>Router# debug ip scp</pre> | <p>Troubleshoots SCP authentication problems.</p>                            |

## Allowing the User casuser to Use at and cron

Software Management uses **at** and **cron** to schedule Software Management image transfers to devices. The process that performs the download is executed as casuser, so the user casuser must be allowed to use at and cron.

To allow the user casuser to use **at**:

- If an at.deny file exists in the /usr/lib/cron directory, make sure casuser is not listed in it. If necessary, remove casuser from the at.deny file using a text editor.
- If an at.allow file exists in the /usr/lib/cron directory, make sure casuser is listed in it. If necessary, add casuser to the at.allow file, using a text editor.
- If neither an at.allow nor an at.deny file exist in the directory /usr/lib/cron, create an at.allow file and add casuser to it, using a text editor.

To allow the user `casuser` to use **cron**:

- If a `cron.deny` file exists in the `/usr/lib/cron` directory, make sure `casuser` is not listed in it. If necessary, remove `casuser` from the `cron.deny` file, using a text editor.
- If a `cron.allow` file exists in the `/usr/lib/cron` directory, make sure `casuser` is listed in it. If necessary, add `casuser` to the `cron.allow` file, using a text editor.
- If neither a `cron.allow` nor a `cron.deny` file exists in the `/usr/lib/cron` directory, create a `cron.allow` file and add `casuser` to it, using a text editor.

## Setting Up Configuration Management

One of the most difficult but most important things to manage on network devices is the device configuration. Often a change to the device configuration leads to network performance issues and faults. The device configuration is the key to how a device operates on the network and traffic is passed.

As the network administrator, you need to be able to control and track changes to device configurations in order to minimize errors and assist in troubleshooting problems.

This can be very difficult if several people are making changes to the device configurations. It can also become very repetitive and time-consuming to make the same update to each individual device on the network. Configuration Management application can help simplify and automate these tasks.

Before Configuration Management can gather device configurations, you need to update the RME database with passwords (credentials) and modify device configurations.



---

**Note**

`rcp` and `SSH` are required only if you wish to use them.

---

## Modifying Device Configurations

You need to modify your device configurations so that Configuration Management can gather the configurations. After you perform the following procedures and your devices become managed, the configuration files are collected and stored in the configuration archive.

## Ensuring Devices are rcp-enabled

Make sure the devices are rcp-enabled by logging into each device and entering the following commands in the device configurations:

```
ip rcmd rcp-enable
ip rcmd remote-host local_username 123.45.678.90 remote_username
enable
```

where *123.45.678.90* is the IP address or hostname of the system on which RME is installed. The default *remote\_username* and *local\_username* are casuser.

## Ensuring Devices are SSH-enabled

Make sure the devices are SSH-enabled by logging into each device and entering the commands for the following kinds of devices:

- [For Catalyst Switches Running Cat OS](#)
- [For Cisco IOS Routers](#)

### For Catalyst Switches Running Cat OS

To enable SSH on Catalyst switches:

---

**Step 1** Generate an RSA key, by entering:

```
sec-cat6000> (enable) set crypto key rsa 1024
```

A message similar to the following appears:

```
Generating RSA keys..... [OK]
```

**Step 2** Verify the RSA key, by entering:

```
sec-cat6000> (enable) ssh_key_process: host/server key size: 1024/768
```

**Step 3** Display the RSA key, by entering:

```
sec-cat6000> (enable) show crypto key
```

A message similar to the following appears:

```
RSA keys were generated at: Mon Jul 23 2001, 15:03:30 1024 65537
1514414695360
5773328536717047857098506066347687468697169639403524406206785753387015
50888525
6996914783305378400669569876102078109594986481799653300180108447858634
72773067
6971852564183862430018810088305612411373816928200786743760582755731334
48529332
1996682019301329470978268059063378215479385405498193061651
```

**Step 4** Specify the host or subnets which are allowed to use SSH to communicate with the switch.

For example, to specify that the IP addresses 172.18.124.0 and 255.255.255.0 be allowed to use SSH, enter:

If you do not perform this step, the switch will display the following error:

```
WARNING!! IP permit list has no entries!
```

```
sec-cat6000> set ip permit 172.18.124.0 255.255.255.0
```

A message similar to the following appears:

```
172.18.124.0 with mask 255.255.255.0 added to IP permit list.
```

**Step 5** To enable SSH, enter:

```
sec-cat6000> (enable) set ip permit enable ssh
```

A message similar to the following appears:

```
SSH permit list enabled.
```

**Step 6** Verify the SSH permit list, by entering:

```
sec-cat6000> (enable) sho ip permit
```

A message similar to the following appears:

```
Telnet permit list disabled.
Ssh permit list enabled.
Snmp permit list disabled.
Permit List Mask Access-Type

172.18.124.0 255.255.255.0 telnet ssh snmp

Denied IP Address Last Accessed Time Type

```

---

## For Cisco IOS Routers

To enable SSH on Cisco IOS Routers:

For example, if you want router1 to act as an SSH client to the another router, you can add SSH to a second router, say router2. The routers will then be in a client-server arrangement, with router1 acting as the server and router2 acting as the client.

The IOS SSH client configuration on router2 is the same as required for the SSH server configuration on router1.

---

**Step 1** Configure the hostname for router1, by entering:

```
hostname router1
```

A message similar to the following appears:

```
username username password 0 password
```

**Step 2** Configure the DNS domain on router1, by entering:

```
ip domain-name domain-name
```

**Step 3** Generate the SSH key to be used, by entering:

```
crypto key generate rsa
```

A message similar to the following appears:

```
ip ssh time-out 60
ip ssh authentication-retries 2
```

**Step 4** Enable SSH transport support for vtys:

By default, vtys transport is through Telnet. In this case, Telnet has been disabled and only SSH is supported.

```
line vty 0 4
transport input SSH
```

---

## Configuring Devices for Syslog Analyzer

Configure your devices for Syslog Analyzer if you want the device configurations to be gathered and stored automatically in the configuration archive when syslog messages are received. See the [“Setting Up Syslog Analyzer” section on page 2-11](#) or refer to the online help for more information.

## Modifying Device Security

Configuration Management must be able to run certain commands on devices to archive their configurations. You must disable the security on devices that prevents Configuration Management from running the commands shown in [Table 2-4](#).

**Table 2-4 Required Configuration Management Commands**

| Command Type      | Command     | Description                              |
|-------------------|-------------|------------------------------------------|
| Catalyst commands | set len 0   | Turns paging off for the Telnet session. |
|                   | write term  | Gets the running configuration.          |
| IOS commands      | term len 0  | Turns paging off for the Telnet session. |
|                   | show run    | Gets the running configuration.          |
|                   | show config | Gets the startup configuration.          |

## Setting Up NetConfig

The NetConfig function provides wizard-based templates to simplify and reduce the time it takes to roll out global changes to network devices. These templates can be used to execute one or more configuration commands on multiple devices at the same time.

For example, if you want to change passwords on a regular basis to increase security on devices, you can use the appropriate password template to update passwords on all devices at once. A copy of all updated configurations will be stored in the configuration archive.

This section describes how to set up NetConfig. This involves:

- [Verifying Device Configurations](#)
- [Modifying Device Security](#)
- [Verify Device Prompts](#)
- [Transport Settings Setup](#)

## Verifying Device Configurations

NetConfig can configure devices that do not have archived configurations. However, rollback command generation may be faulty if the archived configuration is not present. Use the Configuration Archival Summary to:

- Verify that devices you want to configure have an archived configuration.
- Troubleshoot the devices that do not have an archived configuration.

To verify configuration archive status:

---

**Step 1** Select **RME > Config Mgmt > Archive Mgmt**.

The Configuration Archival Summary dialog box appears with the archival status.

**Step 2** Click on a device status to view details:

- Click **Successful** to display information on archived configurations.
- Click **Failed** to display information on configurations that could not be obtained. To update the archive for failed devices.
- Click **Partially Successful** to display the Catalyst 5000 devices whose submodules were not pulled into the archive.

**Step 3** Click **Sync Archive**.

For more information, see the Configuration Management Online help

---

## Modifying Device Security

In addition to running the configuration commands that you assign to each job, NetConfig must be able to run certain commands on devices to configure them. You must disable the security on devices that prevents NetConfig from running the commands listed in [Table 2-5](#).

**Table 2-5 Required NetConfig Commands**

| Command Type                           | Command             | Description                                            |
|----------------------------------------|---------------------|--------------------------------------------------------|
| <b>IOS Commands</b>                    | term len 0          | Turns paging off for Telnet session                    |
|                                        | write term          | Gets running configuration                             |
|                                        | show config         | Gets startup configuration                             |
|                                        | write mem           | Writes running configuration to startup configuration  |
|                                        | config t            | Enters config mode                                     |
|                                        | exit                | Exits config mode                                      |
| <b>Catalyst Commands</b>               | set len 0           | Turns paging off for Telnet session                    |
|                                        | write term          | Gets running configuration                             |
| <b>Content Service Switch Commands</b> | no terminal more    | Disables support for more functions with the terminal. |
|                                        | show running-config | Gets all components of the running configuration.      |
|                                        | show startup-config | Gets the CSS startup configuration (startup-config).   |
| <b>Content Engine Commands</b>         | term len 0          | Turns paging off for Telnet session.                   |
|                                        | show run            | Gets running configuration.                            |
|                                        | show config         | Gets startup configuration.                            |

## Verify Device Prompts

NetConfig requires particular CLI prompt formats:

If the Telnet transport mechanism is used, the following prompts are applicable.

- For IOS-based devices, Content Engine devices, and Content Service Switch devices:
  - The login prompt must end with a greater-than symbol (>).
  - The enable prompt must end with a pound sign (#).
- For Catalyst devices:
  - The login prompt must end with a greater-than symbol (>).
  - The enable prompt must end with the text (enable).

If the secure shell (SSH) transport mechanism is used, the following prompts are applicable.

- For IOS-based devices, Content Engine devices, and Content Service Switch devices:
  - The login prompt may end with any one of the following: (>), (#), (:), (%).
  - The login prompt may end with any one of the following: (>), (#), (:), enable prompt must end with a pound sign (#).
- For Catalyst devices:
  - The login prompt may end with any one of the following: (>), (#), (:), (%).
  - The enable prompt must end with the text (enable).

Default prompts use this formatting. If you have changed your defaults, verify that the prompts meet these requirements, and change them if they do not.

## Transport Settings Setup

Transport Settings Setup Window allows you to setup:

- [Transport Protocol Order for NetConfig, Archive Management and Config Editor Jobs](#)
- [Password Policy for NetConfig, Archive Management and Config Editor Jobs](#)

### Transport Protocol Order for NetConfig, Archive Management and Config Editor Jobs

You can set the protocol order for NetConfig, Config Editor and Config Archive Jobs to download configurations and for NetConfig and Config Editor to fetch configurations.

This setup provides the flexibility of using your preferred protocol order for fetching and downloading the configuration.

---

**Step 1** Select **Resource Manager Essentials > Admin > Config Mgmt**

The Transport Settings page appears.

**Step 2** Select the **Application Name** from the drop down menu.

- Step 3** Select a protocol from the Available Protocols pane and click **Add**. Then do the following:
- If you want to remove a protocol or change the protocol order, you can remove the protocol using the Remove button and re-add the protocol, again.
- The list of protocols that you have selected appears in the Selected Protocol Order pane.
- If a configuration fetch or update operation fails, an error message appears. This message gives details only about the supported protocol for the particular device.
- For the list of supported protocols, see Supported Device Table for Configuration Management application on Cisco.com.
- Step 4** Click **Apply**.
- A confirmation message appears.
- Step 5** Click **OK**.
- For more information, see Configuring Transport Protocols online help.
- 

## Password Policy for NetConfig, Archive Management and Config Editor Jobs

You have the option of entering your user name and password for job execution.

- If you enter your username and password, RME ignores the username and password in the database and uses the newly entered username and password, instead.
- If you do not enter your username and password, RME uses the username and password in its database.

This option of entering the username and password for job execution helps in high security installations where device passwords are changed at frequent intervals. In such instances, the passwords may be changed every 60-90 seconds.

---

- Step 1** Select **RME > Admin > Config Mgmt > Config Job Policies**.
- The Config Job Policies dialog box appears.
- Step 2** Select **Enable Job Password** check box.

**Step 3** Click **Apply**.

A confirmation message appears.

**Step 4** Click **OK**.

For more information, see the Configuring Default Job Policies online help.

---

## Logging Out

To end your administrator tasks, you must log out of CiscoWorks.

---

**Step 1** Close all secondary browser windows. You should have only one browser window opened, displaying the CiscoWorks interface.

**Step 2** Click **Logout**.

The Login Manager dialog box replaces the CiscoWorks homepage.

---



# Licensing

---

This chapter provides Licensing information for Resource Manager Essentials 4.0. This appendix contains these sections:

- [Licensing Overview](#)
- [Licensing for a Fresh Installation](#)
- [Registering Your License](#)

## Licensing Overview

To install this application you must have a registered and a licensed copy of RME 4.0. You can select either of these two versions of the RME license:

- Enterprise Restricted: Allows you to manage upto 300 devices.
- Large Enterprise Unrestricted: There is no limit on the number of managed devices.

The installation script prompts for the *first* application that you install on Common Services 3.0 to enter licensing information.

[Table 3-1](#) describes PAK, PIN, License file and their usage:

**Table 3-1**      **Understanding PAK, PIN and License file**

| Field                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Identification Number (PIN) | <p>The PIN is printed on the software claim certificate. The RME installation program prompts you to enter the PIN during installation.</p> <p>If you cannot get an authenticated license during installation, use the PIN to proceed with the installation.</p> <p>If you enter only a PIN, RME will run normally, but you will be periodically reminded to complete the licensing process.</p>                                                                                                                                                                                                                                                                                                                                                  |
| Product Authorization Key (PAK)     | <p>The PAK is printed on the software claim certificate. Use the PAK to get your license file from Cisco.com.</p> <p>PAK is used to register RME 4.0 on Cisco.com. You may obtain and install your license file at any time while you are working on RME, not necessarily when you install the product.</p> <p>We recommend that you complete the RME license registration and receive the product license before installing RME 4.0.</p> <p>If the person installing RME is not authorized to obtain the license on behalf of the administrator, the product can be successfully installed for a period of time using only the PIN. In this case, the product will automatically remind the administrator to complete the licensing process.</p> |
| License file                        | <p>When you register your RME purchase on the product licensing area of Cisco.com, you will receive a license file. You must provide your PAK to receive a license file.</p> <p>If you are a registered user of Cisco.com, get your license file from:<br/> <a href="http://www.cisco.com/go/license">http://www.cisco.com/go/license</a></p> <p>If you are not a registered user of Cisco.com, use this site to get your license file:<br/> <a href="http://www.cisco.com/go/license/public">http://www.cisco.com/go/license/public</a></p> <p>When you log into Cisco.com, it allows your Cisco user profile information to auto-populate many of the product registration fields. Login is case sensitive.</p>                                 |

# Licensing for a Fresh Installation

When you install RME 4.0 over CiscoWorks Common Services 3.0, the installer checks whether the system already has the PIN, PAK and license file details.

These details are available if the information was provided earlier using another CiscoWorks application such as, DFM, IPM and so on.

During RME 4.0 installation, if PIN, PAK and licence details are not available in the system, the installer prompts you enter the licence file location.

For details see, “[Registering Your License](#)” section on page 3-3.

## Registering Your License

We recommend that before you install RME, you must register the product and receive a permanent license.

To license RME, you must:

---

**Step 1** Register RME using the PAK with Cisco.com to get your license file.

The PAK is printed on the software claim certificate.

- If you are a registered user of Cisco.com, get your license file from: <http://www.cisco.com/go/license>
- If you are not a registered user of Cisco.com, use this site to get your license file: <http://www.cisco.com/go/license/public>

When you log into Cisco.com, it allows your Cisco user profile information to auto-populate many of the product registration fields. Login is case sensitive.

**Step 2** After you install Common Services 3.0, copy the new license file to the CiscoWorks Common Services server into a directory. This directory must have read permissions for the user name *casuser* or the user group *casusers*.

**Step 3** Install the license file.

- If you have got the RME license before installation, select **L** for License File after you accept the Licensing Agreement and continue installing RME.
- If you have completed RME installation by entering the PAK and PIN, or if you want to convert an evaluation copy to a licensed copy:
  - a. From the CiscoWorks Homepage, select **Common Services > Server > Admin > Licensing**.

The License Administration page appears.

**b.** Click **Update**.

A file browser dialog box appears.

**c.** Enter the path to the new license file in the License field, or click **Browse** to locate the license file you copied to the server in step 2.

**d.** Click **OK**.

The system verifies whether the license file is valid, and updates the license.

The updated licensing information appears in the License Information page. If you encounter errors, repeat all of the steps.

---

## Upgrading Your Evaluation License

For an evaluation copy of Resource Manager Essentials 4.0, licensing details are not required. Select **E** for Evaluation copy after you accept the Licensing Agreement to get an evaluation copy of RME 4.0.

If you choose to run RME in evaluation mode, RME will not function after 90 days. The evaluation period cannot be extended.

If you have a purchased copy and you decide to install it in evaluation mode, please use your PAK to register the product on the Cisco online licensing site to receive a valid license.

If you have not purchased the product, you can reactivate the CiscoWorks evaluation server by purchasing the product from your authorized Cisco reseller. License the product using the PAK and PIN provided with the product.

For details see, [“Registering Your License” section on page 3-3](#).

## Validating Your Upgrade License

Proof of Purchase (POP) is required to validate an upgrade license of RME 4.0. If you purchased an upgrade license, at the end of the RME installation, you are prompted to run a CLI script to validate the upgrade license.

This script prompts you to do either of these:

- Insert the original CD containing RME 3.4 or RME 3.5.
- Enter the login information for a remote server where the earlier version of RME is running.

To run the script, see [“Validating the Upgrade” section on page 1-20](#)

If you do not run the script or if upgrade validation fails, RME is licensed for evaluation only and operates in *nag* mode for only 90 days. After that period RME stops running. See [“Upgrading Your Evaluation License” section on page 3-4](#).

## Licensing Reminders

RME 4.0 displays licensing reminders in the following circumstances:

- [Evaluation Version—Before Expiry](#)
- [Purchased Version—No License File](#)
- [Device Limit—Approaching the Actual Limit](#)
- [Device Limit—Number of Devices Exceeded](#)

### Evaluation Version—Before Expiry

If you have installed the evaluation version of RME, you must obtain the license file from Cisco.com before the evaluation license expires.

During the evaluation period, RME will remind to purchase a licence. The reminder will appear from the first day.

Ten days before the evaluation license expires, you are prompted with a message that the evaluation licence is about to expire. The prompted message is,

This software is provided for evaluation purposes only and will expire in *number of days*. If this is not an evaluation copy, click this link for information about obtaining a valid purchase license or click here for current licensing information. Otherwise, please contact your Cisco representative for purchasing information.

Where *number of days* is the total number of days available before the license expire.

If you fail to upgrade your evaluation license, all RME process will run but access to RME functionality will be denied. After license expiry, this message is prompted,

This software is provided for evaluation purposes only and had expired. If this is not an evaluation copy, click this link for information about obtaining a valid purchase license or click here for current licensing information. Otherwise, please contact your Cisco representative for purchasing information.

## Purchased Version—No License File

If you have installed a purchased version of RME, you must register RME using the PAK number.

For details see, [“Registering Your License” section on page 3-3](#).

You must register RME within 90 days of installation. If you fail to register RME, a message appears from the first day, prompting you to register it.

RME 4.0 is fully functional. However, you will be prompted with a message reminding you to register RME:

This software is provided for evaluation purposes only and will be operational for 90 days. If this is not an evaluation copy, click this link for information about obtaining a valid purchase license or click here for current licensing information. Otherwise, please contact your Cisco representative for purchasing information.

Register your license to avoid these messages.

## Device Limit—Approaching the Actual Limit

While you add devices to RME, if you are approaching the actual device limit, this message appears:

Total devices approaching the actual limit. Devices selected will be added to RME. Click on Pending Devices to verify the progress.

Contact your Cisco representative to determine if additional licenses can be purchased for this server.

## Device Limit—Number of Devices Exceeded

While you add devices to RME, you are allowed to exceed the device limit either by 10% of your existing limit or by 100 devices (whichever is less).

For instance, if you have a license for 5000 devices, you are allowed to manage upto 5100 devices only. This is because 10% of 5000 devices is 500 devices which is greater than 100 devices. After reaching this limit (5100), you cannot add another device into RME. When you try to add another device, RME displays a warning message,

Total devices crossed the actual limit. Devices selected will be added to RME. Click on Pending Devices to verify the progress.

During migration, if you have RME 3.5, managing 400 devices and have upgraded to RME 4.0, but purchased a license for 300 devices, all 400 devices are managed in RME 4.0. However, you cannot add a new device or delete and add the device once again to RME.

Similarly, when you run a backup of a Unrestricted licensed server (for example, with 1000 devices) and try to restore the backed-up data on another server with Enterprise Restricted device limit (for example, with 300 devices), all device data is restored.

If you have exceeded the device limit, you will be prompted with a message, reminding you to apply for an additional licence,

```
This software has a RESTRICTED license for managing a limited number
of devices. Click here for current licensing information. Please
contact your Cisco representative to determine if additional licenses
can be purchased for this server.
```



## Installing the Remote Syslog Collector

---

This chapter provides general information on how to install the Remote Syslog Collector (RSC) on a remote Windows system to process syslog messages. If necessary, it can also filter the Syslog messages before forwarding them to the Analyzer process on the RME server. If you do not want to run it on the remote UNIX or Windows system, you can uninstall the Remote Syslog Collector later.



### Note

---

Do not install Remote Syslog Collector on a system that has CiscoWorks and Resource Manager Essentials already installed.

---

The Remote Syslog Collector and Syslog Analyzer Service on the RME server uses SSL sockets to communicate with each other.

It functions as follows:

1. At startup, the Remote Syslog Collector looks for Syslog Analyzers already subscribed on the RME Server and requests for the latest filter definitions.
- If the Syslog Analyzer is not reachable when queried, the Remote Syslog Collector logs all emblem compliant syslogs in the specified *downtime file* after filtering. This file can be configured at:

The Syslog Collector Properties file is available at this location:

On Solaris:

```
$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/csc/data/Collector.properties
```

On Windows:

```
%NMSROOT%\MDC\tomcat\webapps\rme\WEB-INF\classes\com\cisco\nm
\rmeng\csc\data\Collector.properties
```

- If the Syslog Analyzer responds with the latest filters, the Remote Syslog Collector forwards only the filtered syslog to the Syslog Analyzer.
2. At startup, the Syslog Analyzer tries to connect to all the subscribed Remote Syslog Collectors by passing the latest filters.

To subscribe or unsubscribe from a Remote Syslog Collector, select **RME > Tools > Syslog > Syslog Collector Status > Subscribe** using the RME user interface.

After the Remote Syslog Collector and Syslog Analyzer connect to the RME Server, the Remote Syslog Collector entry is added to the Collector Status window of the Syslog Analyzer.

To view the status of the Common Syslog Collector to which the Syslog Collector is subscribed to, select **Resource Manager Essentials > Tools > Syslog > Syslog Collector Status**.

The connection to the RME server is lost, when the connection between the Remote Syslog Collector and Syslog Analyzer is broken.

This may be because either the Remote Syslog Collector, or the Syslog Analyzer, or both of them were shutdown. The connection is automatically restored when both the services are functional.

This section describes how to set up Syslog. This involves:

- [Verifying RSC Server Requirement](#)
- [Installing the Remote Syslog Collector](#)
- [Starting the Remote Syslog Collector](#)
- [Stopping the Remote Syslog Collector](#)
- [Uninstalling the Remote Syslog Collector](#)

## Verifying RSC Server Requirement

Table 4-1 provides the server requirements for RSC:

**Table 4-1** RSC Server Minimum Requirements

| Requirement Type                                                                                            | Minimum Requirements                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hardware                                                                                                    | Sun Sparc Ultra 10                                                                                                                                                                                                                                                         |
| Memory (RAM)                                                                                                | 512 MB                                                                                                                                                                                                                                                                     |
| Available disk drive space                                                                                  | <ul style="list-style-type: none"> <li>• 2 GB on the partition on which you install RSC (the default is /opt).</li> <li>• Swap space equal to double the amount of memory (RAM). For example, if your system has 512 MB of RAM, you need 1024 MB of swap space.</li> </ul> |
| Software                                                                                                    | Solaris 2.8 and 2.9                                                                                                                                                                                                                                                        |
| Browser<br>(You need a browser only if you download the RSC installation files from the Essentials server.) | <ul style="list-style-type: none"> <li>• Netscape Navigator 7.0 (if you are using the desktop on the server system).</li> <li>• Mozilla 1.7</li> </ul>                                                                                                                     |



### Note

RSAC 3.x does not work with RME 4.0.  
 RME 3.x does not work with the new Remote Syslog Collector (RSC) 4.0.  
 You cannot upgrade RSAC 3.x to RSC 4.0.  
 You must uninstall the previous version of RSAC before installing the new RSC 4.0 which is provided with RME 4.0. To install RSC 4.0, see [“Installing the Remote Syslog Collector”](#).

## Installing the Remote Syslog Collector

Prerequisites for installing a Remote Syslog Collector:

- Common Services 3.0 should be installed.

- RME should not be installed on the server where the Remote Syslog Collector is to be installed. (If RME is installed, the Syslog Collector is installed by default)

To install the Remote Syslog Collector:

---

**Step 1** Mount the RME 4.0 CD-ROM. See [Appendix B, “Mounting and Unmounting the CD-ROM,”](#) for detailed mounting instructions.

The RSC installables are available in the RSC directory on RME 4.0 CD-ROM.

**Step 2** To start the installation, enter:

```
cd RSC
./setup.sh
```

**Step 3** Follow the wizard instructions to install the product.

---

After Installation, you need to configure the collector.properties file if required. If not, you can use the defaults. See [“Understanding the Syslog Collector Properties File”](#).

## Subscribing to a Common Syslog Collector

---

**Step 1** Download the Peer certificate from the system where Remote Syslog Collector is running.

**Step 2** Upload the Peer certificate to the system where Remote Syslog Collector is running.

**Step 3** Select **Resource Manager Essentials > Tools > Syslog > Syslog Collector Status**.

The Collector Status dialog box appears with this information:

| Column      | Description                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name        | Hostname or the IP address of the host on which the Collector is installed.                                                                                                      |
| Update Time | Date and time of the last update. By default, this dialog box is updated every 5 minutes.<br>Time and time zone are those of the CiscoWorks Server.                              |
| Uptime      | Time duration for which the Syslog Collector has been up.                                                                                                                        |
| Forwarded   | Number of forwarded Syslog messages.                                                                                                                                             |
| Dropped     | Number of unsend Syslog messages.                                                                                                                                                |
| Invalid     | Number of invalid Syslog messages.                                                                                                                                               |
| Filtered    | Number of filtered messages. Filters are defined with the Define Message Filter option (For details about defining filters, see the User Guide for Resource Manager Essentials). |
| Received    | Number of Syslog messages received.                                                                                                                                              |

**Step 4** Click **Subscribe**.

The Subscribe Collector dialog box appears.

**Step 5** Enter the address of the Common Syslog Collector to which you want to subscribe to.

**Step 6** Click **OK**.

The Syslog Analyzer is subscribed the Syslog Collector that you specified. This can be either the Syslog Collector on the RME server, or a remotely installed Syslog Collector.

## Starting the Remote Syslog Collector

To start the Remote Syslog Collector, enter `pdexec SyslogCollector` at the command prompt on the system where Syslog Collector is installed.

## Stopping the Remote Syslog Collector

To stop the Remote Syslog Collector, enter `pdterm SyslogCollector` at the command prompt on the system where Syslog Collector is installed.

## Uninstalling the Remote Syslog Collector

---

**Step 1** Enter these commands as root to start the uninstall program:

```
cd /
$NMSROOT/bin/uninstall.sh
```

A message similar to the following appears at command prompt:

```
1) CiscoView 6.1
2) Integration Utility 1.6
3) CiscoWorks Common Services 3.0
4) Resource Manager Essentials 4.0
5) Remote Syslog Collector
6) All of the above
```

Select one or more of the items using its number separated by comma or enter q to quit [q]

**Step 2** Enter **1, 2, 3, 4, 5** or **6** and press **Return**.

**Step 3** Follow the prompts from the uninstallation wizard.

---

## Understanding the Syslog Collector Properties File

After installing the Syslog Collector on a remote system, you need to check the Syslog Collector Properties file to ensure that the Collector is configured properly.

The Syslog Collector Properties file is available at this location:

On Solaris:

```
$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng
/csc/data/Collector.properties
```

On Windows:

```
%NMSROOT%\MDC\tomcat\webapps\rme\WEB-INF\classes\com\cisco\nm\rmeng\csc\data\Collector.properties
```

The following table describes the Syslog Collector Properties file:

| Timezone-Related Properties | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIMEZONE                    | <p>The timezone of the system where the Syslog Collector is running. Enter the correct abbreviation for the timezone. For example, the time zone for India is IST.</p> <p>For the correct Timezone abbreviation, see the Timezone file in the following location:</p> <p><code>\$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/fcss/data/TimeZone.lst</code></p>                                                         |
| COUNTRY_CODE                | <p>Country code for the Syslog Collector.</p> <p>We recommend that you set the country code variable with the appropriate country code, to make sure that the Syslog timestamp conversion works correctly.</p> <p>For example, if you are in Singapore, you must set the country code variable as <b>COUNTRY=sgp</b>.</p>                                                                                                                    |
| TIMEZONE_FILE               | <p>The path of the Timezone file. This file contains the offsets for the time zones.</p> <p>After installing the Syslog Collector, ensure that the offset specified in this file is as expected. If it is not present or is incorrect, you can add the Timezone offset as per the convention.</p> <p>The default path is:</p> <p><code>\$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/fcss/data/TimeZone.lst</code></p> |
| <b>General Properties</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SYSLOG_FILES                | <p>Filename and location of the file from which syslog messages are read.</p> <p>The default location is:</p> <p>On Solaris:</p> <p><code>/var/log/syslog_info</code></p> <p>On Windows:</p> <p><code>\$NMSROOT/log/syslog.log</code></p>                                                                                                                                                                                                    |

| Timezone-Related Properties | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEBUG_CATEGORY_NAME         | <p>Name Syslog Collector uses for printed ERROR or DEBUG messages.</p> <p>The default category name is SyslogCollector.</p> <p>We recommend that you do not change the default value.</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| DEBUG_FILE                  | <p>Filename and location of the Syslog Collector log file containing debug information:</p> <p>The default location is:</p> <p>On Solaris,<br/>/var/adm/CSCOpX/log/CollectorDebug.log</p> <p>On Windows,<br/>\$NMSROOT/log/CollectorDebug.log</p>                                                                                                                                                                                                                                                                                                                                      |
| DEBUG_LEVEL                 | <p>Debug levels in which you run the Syslog Collector.</p> <p>We recommend that you retain the default INFO, which reports informational messages. Setting it to any other value might result in a large number of debug messages being reported.</p> <p>If you change the debug level, you must restart the Syslog Collector.</p> <p>The values for the Debug levels are:</p> <ul style="list-style-type: none"> <li>• Warning</li> <li>• Debug</li> <li>• Error</li> <li>• Info</li> </ul>                                                                                           |
| DEBUG_MAX_FILE_SIZE         | <p>The maximum size of the log file containing the debug information.</p> <p>The default is set to 5 MB.</p> <p>If the file size exceeds the limit that you have set, Syslog Collector writes to another file, based on the number of backup files that you have specified for the DEBUG_MAX_BACKUPS property.</p> <p>For example, if you have specified the number of backups as 2, besides the current log file, there will be two backup files, each 5MB in size. When the current file exceeds the 5 MB limit, Syslog Collector overwrites the oldest of the two backup files.</p> |

| <b>Timezone-Related Properties</b> | <b>Description</b>                                                                                                                                                                                                                                                               |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DEBUG_MAX_BACKUPS                  | The number of backup files that you require. The size of these will be the value that you have specified for the DEBUG_MAX_FILE_SIZE property.                                                                                                                                   |
| <b>Miscellaneous Properties</b>    |                                                                                                                                                                                                                                                                                  |
| READ_INTERVAL_IN_SECS              | The interval at which the Collector polls the syslog file.<br>The default is set to 1 second.                                                                                                                                                                                    |
| QUEUE_CAPACITY                     | The size of the internal buffer, for queuing syslog messages.<br>The default is set to 100000                                                                                                                                                                                    |
| PARSER_FILE                        | The file that contains the list of parsers used while parsing syslog messages.<br>The default path of the parser file:<br><code>\$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/fcss/data/FormatParsers.lst</code>                                           |
| SUBSCRIPTION_DATA_FILE             | The Syslog Collector data file that contains the information about the Syslog Analyzers that are subscribed to the Collector.<br>The default path of the data file:<br><code>\$NMSROOT/MDC/tomcat/webapps/rme/WEB-INF/classes/com/cisco/nm/rmeng/csc/data/Subscribers.dat</code> |
| FILTER_THREADS                     | The number of threads that operate at a time for filtering syslog messages. The default is set to 1.                                                                                                                                                                             |
| COLLECTOR_PORT                     | The default port of the Syslog Collector. The default is set to 4444.<br>The port where the collector listens for registration requests from Syslog Analyzers.                                                                                                                   |



# Configuring RME with Cisco Secure ACS

---

This chapter describes how RME is configured with Cisco Secure ACS:

- [CiscoWorks Login Module](#)
- [CiscoWorks Server Authentication Roles](#)
- [Integration Notes](#)
- [Configuring RME on Cisco Secure ACS](#)
- [Verifying the RME and the Cisco Secure ACS Configuration](#)

## CiscoWorks Login Module

The CiscoWorks Server provides the mechanism used to authenticate users for CiscoWorks applications. CiscoWorks Common Services supports two modes of user authentication and authorization:

- **ACS**—In this mode authentication and authorization services are provided by an Access Control Server. To use this mode, you must have a Cisco Secure ACS (Access Control Server) installed on your network.

The supported Cisco Secure ACS for Windows are:

- Cisco Secure ACS 3.2
- Cisco Secure ACS 3.2.3
- Cisco Secure ACS 3.3.2

- Non ACS—In this mode authentication and authorization services are provided by CiscoWorks Server.

Fallback option in ACS mode is different from non-ACS mode. Here, fallback is provided only for authentication.

- If the user authentication with ACS fails, the authentication is tried with CiscoWorks local mode.
- If it succeeds, the user is allowed to change the login module to non-ACS mode, provided the user has permission to do that operation in non-ACS mode.

For more information, see *User Guide for CiscoWorks Common Services 3.0* and *CiscoWorks Common Services 3.0 Online Help*.

## CiscoWorks Server Authentication Roles

By default, the CiscoWorks server authentication provides five roles in the ACS mode. They are listed here from least privileged to most privileged:

1. Help Desk—User with this role has the privileges to access network status information from the persisted data. User does not have the privilege to contact any device or schedule a job that will reach the network.  
For example: Inventory data, configuration archives, reports, Syslog messages, jobs status, etc.
2. Approver—User with this role has the privileges to approve all RME tasks.
3. Network Operator—User with this role has the privileges to perform all tasks that involve collecting data from the network. User does not have write access on the network. User can also perform all the Help Desk tasks.

For example: Scheduling jobs for inventory, configuration collection, etc.

4. Network Administrator—User with this role has the privilege to change the network. User can also perform the Network Operator tasks.

For example: Software Management tasks such as image distribution, NetConfig tasks such as changing the device passwords, configuration downloads etc.

5. System Administrator—User with this role has privilege to perform all CiscoWorks system administration tasks. See Permissions Report on CiscoWorks server (Common Services > Server > Reports > Permission Report).

For example: Changing the RME Administration setting, defining the purge policy, etc.

We recommend that you do not modify the default CiscoWorks roles.

You can create your own custom roles on Cisco Secure ACS. See User Guide for CiscoWorks Common Services 3.0 and CiscoWorks Common Services 3.0 Online Help for further details.

## Integration Notes

This section contains notes that you should read before you begin Cisco Secure ACS and CiscoWorks server integration:

- We recommend that you integrate CiscoWorks server and Cisco Secure ACS after installing all LAN Management Solution applications.
- For RME, you must ensure that the CiscoWorks server System Identity Setup user has the privilege to perform all RME tasks on Cisco Secure ACS.
- If you have installed your application after configuring the CiscoWorks Login Module to ACS mode then the application users are not granted any permission.

However, the application is registered to the Cisco Secure ACS. On the Cisco Secure ACS server, you must assign the appropriate permissions to the application.

See Configuring RME server with Cisco Secure ACS.

- Multiple instances of same application using same Cisco Secure ACS will share settings. Any changes will affect all instances of that application.
- If application is configured with Cisco Secure ACS and then application is reinstalled, the application will inherit the old settings.

This is applicable if you are using Cisco Secure ACS version 3.2.3.

- The role which you create is not shared across all the LAN Management Solution applications. The role which you create is shared across all CiscoWorks server that is configured to that particular Cisco Secure ACS.

You have to create new roles for each of the LAN Management Solution applications that are running on the CiscoWorks server.

For example, if you have configured 10 CiscoWorks servers with an Cisco Secure ACS. You have created a role in RME (For instance, RMESU). This role is shared for RME application that is running in all 10 CiscoWorks server.

This role is not shared for any other LAN Management Solution applications that is running on the CiscoWorks server.

- You can have different users having different access privileges to the CiscoWorks applications.

For example, you have a user CWSU, this user can be System Administrator in Common Services, Approver in RME, Network Operator for Campus, Network Administrator for DFM, and Help Desk for IPM.

- For details on configuring CiscoWorks Server in ACS mode, see chapter, Configuring the Server in the *User Guide for Common Services*.

## Configuring RME on Cisco Secure ACS

After registering the CiscoWorks Server with Cisco Secure ACS perform the following on Cisco Secure ACS:

1. Click **Shared Profile Components** to view the Resource Manager Essentials application entry is present.
2. Based on your authentication setting (per user or per group) on Cisco Secure ACS, click either User Setup or Group Setup.

On Cisco Secure ACS, you can verify the per user or per group setting for Resource Manager Essentials using Interface **Configuration > TACACS + (Cisco IOS)**.

3. Assign the appropriate privileges to the User/Group to use the Resource Manager Essentials.

For RME, you must ensure that the CiscoWorks server System Identity Setup user has the privilege to perform all RME tasks on Cisco Secure ACS.

# Verifying the RME and the Cisco Secure ACS Configuration

After performing the above mentioned tasks on Cisco Secure ACS server,

1. Login to CiscoWorks with the username as defined in the Cisco Secure ACS.
2. Based on your privilege on the Cisco Secure ACS, you can perform only certain tasks on the CiscoWorks server.

For example: If your privilege is of Help Desk, then you can only View the Device Summary.

3. Based on the Network Device setting for the User/Group on the Cisco Secure ACS, you can view only certain devices in the CiscoWorks server.





# Troubleshooting the Installation

---

This appendix provides troubleshooting information for Resource Manager Essentials (RME 4.0) installation and setup. It contains these sections:

- [Logging In After Upgrading](#)
- [Understanding Installation Messages](#)
- [Installing Syslog Analyzer](#)
- [Failure to Delete a Package During Uninstallation](#)
- [CiscoWorks Server Access Problems](#)
- [Viewing Process Status](#)
- [Browser Problems](#)
- [Improving Server Performance](#)
- [Frequently Asked Questions](#)
- [Troubleshooting Tips](#)

## Logging In After Upgrading

If the Login Manager dialog box on the CiscoWorks desktop does not appear correctly when you try to log in for the first time after upgrading, clear your browser cache as follows, then reenter the server URL in your browser.

Wait for a few seconds after the server starts before logging in. If you have trouble logging in, use the Reload button on your browser.

## Clearing the Cache in Microsoft Internet Explorer

---

- Step 1** Select **Tools > Internet Options**.  
The Internet Options dialog box appears.
- Step 2** Select the **General** tab.
- Step 3** Click **Delete Files**, then click **OK** in the Delete Files dialog box.
- 

## Clearing the Cache in Netscape Navigator

---

- Step 1** Select **Edit > Preferences**.  
The Preferences dialog box appears.
- Step 2** Select **Advanced > Cache**.
- Step 3** Click **Clear Memory Cache**, then click **OK** in the Memory Cache dialog box.
- Step 4** Click **Clear Disk Cache**, then click **OK** in the Disk Cache dialog box.
- 

## Understanding Installation Messages

The messages that might appear during installation are:

- Information messages, which give you important details
- Warning messages, which tell you that something might be wrong with a particular process, but the process will complete
- Error messages, which tell you that a particular process could not complete

All messages that appear during installation are logged in the `/var/tmp/ciscoininstall.log` file.

[Table A-1](#) shows messages that might occur during installation and describes their reasons.

Table A-1 Installation Messages

| Message                                              | Reason for Message                                                                                      | User Action                                                                                                                          |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Base package did not install. Exiting.               | Installation program cannot install a required package.                                                 | Contact your technical support representative.                                                                                       |
| Cannot backup /etc/services, no change will be made. | Installation program cannot make a copy of /etc/services before modifying it.                           | Make sure there is enough space in /tmp.                                                                                             |
| Cannot change ownership of library. Exiting.         | Installation program cannot write to product root directory.                                            | Check the permissions on the directory you specified.                                                                                |
| Cannot create <i>directory</i> .                     | Installation program cannot write to the directory you specified.                                       | Check the permissions on the directory you specified.                                                                                |
| Cannot create symlink: ln -s root /opt/CSCOpX.       | Installation program cannot create a link from /opt/CSCOpX to the product root directory you specified. | Contact your technical support representative.                                                                                       |
| Cannot determine the RME version.                    | Installation disk is corrupted.                                                                         | Contact your technical support representative.                                                                                       |
| Cannot determine the version of <i>product</i> .     | Installation program cannot determine product version.                                                  | Contact your technical support representative.                                                                                       |
| Cannot make list of packages for installation.       | Installation suffered a major failure.                                                                  | Contact your technical support representative.                                                                                       |
| Copy <i>setupdir</i> to <i>nmsroot</i> failed.       | Installation program could not write to product root directory.                                         | Check the permissions on the root.                                                                                                   |
| Installation in progress                             | You are already running an installation on this machine.                                                | Run only one installation program at a time.<br><br>For more information, see <a href="#">Frequently Asked Questions, page A-9</a> . |
| Missing file <i>file</i> .                           | Installation program cannot find a file.                                                                | Contact your technical support representative.                                                                                       |
| No Syslog facility is available.                     | No available Syslog facilities.                                                                         | Make one of the facilities available.                                                                                                |

**Table A-1**      **Installation Messages (continued)**

| Message                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Reason for Message                                                                                      | User Action                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Not enough disk space: <i>root</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | File system has insufficient space to load RME.                                                         | Make at least 4 GB of disk space available on the partition on which you install RME.                                                                                                                                  |
| Package verification failed: <i>pkg</i> aborting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | While loading packages, one loaded incorrectly.                                                         | Contact your technical support representative.                                                                                                                                                                         |
| Syslog is not running.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Installation program cannot start <i>syslogd</i> on this machine.                                       | Restart <i>syslogd</i> .                                                                                                                                                                                               |
| The components have dependency errors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Installation program suffered a major failure.                                                          | Contact your technical support representative.                                                                                                                                                                         |
| User must be root.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | You must be root to install.                                                                            | Log in as root and enter the correct password.                                                                                                                                                                         |
| User <i>casuser</i> appears in <i>/usr/lib/cron/at.deny</i> . Software Image Manager requires <i>casuser</i> to be able to run <i>at</i> . Contact your local technical support representative to edit the file <i>/usr/lib/cron/at.deny</i> and remove the entry for <i>casuser</i> .<br><br>User <i>casuser</i> appears in <i>/usr/lib/cron/cron.deny</i> . Software Image Manager requires <i>casuser</i> to be able to run <i>crontab</i> . Contact your local technical support representative to edit the file <i>/usr/lib/cron/cron.deny</i> and remove the entry for <i>casuser</i> . | Software Management requires that the user <i>casuser</i> be allowed to use <i>at</i> and <i>cron</i> . | Edit the relevant files to allow the user <i>casuser</i> to use <i>at</i> and <i>cron</i> . For details, see <a href="#">“Allowing the User <i>casuser</i> to Use <i>at</i> and <i>cron</i>”</a> section on page 2-29. |
| Wrong OS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Operating system is not Solaris or not a supported version of Solaris.                                  | Make sure you are running Solaris 2.8 or 2.9.                                                                                                                                                                          |

# Installing Syslog Analyzer

If the RME installation fails during Syslog Analyzer installation, make sure you do not have the Cisco DNS/DHCP Manager (CDDM) installed on the same machine as RME. CDDM provides syslog and TFTP daemons as part of its product. CDDM can be downloaded from Cisco.com.

You cannot run CDDM Syslog or TFTP on the same machine as RME because they are not compatible. Make sure the server on which you install RME is not running CDDM Syslog or TFTP.

**Caution**

---

The tftp directory *'/tftpboot'* appears to be NFS mounted. Using NFS directories often increases the software transfer time and may cause a failure during distribution of the software to the device. Contact your local technical support representative to make *'/tftpboot'* a local directory.

---

## Failure to Delete a Package During Uninstallation

If you try to remove RME but the uninstallation program fails to delete a package, try running the uninstall program again. Several circumstances can cause a package to remain after uninstallation. Usually, running the uninstall program again, removes the package.

## CiscoWorks Server Access Problems

The CiscoWorks Server uses port 1741 by default. This port is normally used by web servers. If you receive an error message that an existing web server is already configured to run on port 1741, and the alternative port is used instead, verify that you entered the correct URL for the server:

`http://server_name:port_number`

where *server\_name* is the name of the machine where CiscoWorks was installed, and *port\_number* is the alternative port on which CiscoWorks is installed if port 1741 is in use.

- If SSL is enabled using the default port, enter:

```
https://server_name:443
```

where *server\_name* is the name of the machine where CiscoWorks was installed.

- If SSL is enabled using the custom port, enter:

```
https://server_name:customport
```

where *server\_name* is the name of the machine where CiscoWorks was installed.

## Verify Server Status

To make sure your server is running, enter:

```
ping server_name
```

where *server\_name* is the name of the machine where CiscoWorks was installed.

## Proxy Server Problems

If you get a message that the server is “alive,” and get a proxy error when you try to connect to the server, make sure the proxy is set up correctly.

You will get proxy errors if both these conditions are true:

- Your server is configured to use a proxy server outside the firewall.
- You configured the proxy to ignore requests to a certain machine, set of machines, or domain.

You should specify a proxy server in Netscape Navigator under **Edit > Preferences > Advanced > Proxies** and in Internet Explorer under **Tools > Internet Options > Connections > LAN Settings**.

Your proxy is set up incorrectly if:

- You receive an error message that you are using a proxy outside the firewall.
- The proxy server recognizes www-int as an internal server, so it does not proxy requests to that server.
- You set up a new internal server, www-nms, but when you make a request to the proxy server, it does not recognize www-nms as an internal server and proxies the request.
- The proxy server outside the firewall tries to request data from a server inside the firewall, and the request is blocked.
- You get a `Connection Refused` error from the proxy server.

## Daemon Manager Not Running

You can use the following command to verify whether the daemon manager is running:

```
/opt/CSCOpX/bin/pdshow
```

If the daemon manager is not running, following error message is displayed:

```
connect to dmgttd process on "127.0.0.1" on port 42340 failed:
```

If the Daemon Manager is not running, CiscoWorks cannot run. When you install or uninstall CiscoWorks, the Daemon Manager is temporarily stopped and then restarted. If the install or uninstall process is interrupted, the Daemon Manager might remain in the stopped state.



---

**Note**

Wait a few seconds after the server starts before logging in. If you have trouble logging in, use the “Reload” button on your browser.

---

To start or stop the Daemon Manager:

---

**Step 1** Log in as root.

**Step 2** Open a shell window.

**Step 3** Start the server by entering:

```
/etc/init.d/dmgttd start
```

**Step 4** Stop the server by entering:

```
/etc/init.d/dmgttd stop
```

---

## Viewing Process Status

You can check back-end server process failures by selecting **Common Services > Server > Admin > Processes**. Only users with administrator privileges can start and stop processes. For details, refer to *User Guide for CiscoWorks Server*.

## Browser Problems

If the desktop buttons do not work, Java and JavaScript are not enabled. Make sure you enable Java and JavaScript.

Make sure the browser cache is not set to zero.

Do not resize the browser window while the desktop main page is loading. This can cause a Java error.

For more information about setting up browsers, refer to *Installation and Setup Guide for Common Services 3.0 (Includes Ciscoview) on Solaris*.

## Improving Server Performance

To improve system performance for RME:

- Reduce the number of syslog messages saved to the CiscoWorks database.
- Increase the interval used by Configuration Management to collect information about managed devices.

- While using CMF Syslog Service, you can turn off DNS lookup to improve performance of Syslog Collector.

To turn off, set the registry key **HKEY\_LOCAL\_MACHINE > System > CurrentControlSet > Services > crmlog > Parameters > CrmDnsResolution** to 0.

## Frequently Asked Questions

- [What are the various installation switches supported?](#)
- [I modified the date and time on the CiscoWorks Server, but RME does not reflect the change. What should I do?](#)
- [Can I use RME within a network containing firewalls? If so, what are special configurations I need to take care of?](#)
- [Can I change the RME Database password? If so, how?](#)
- [When I perform a backup of the RME database, what data is backed up?](#)
- [I performed a fresh installation of RME 4.0 on a machine. I also reinstalled RME 4.0 on another machine. Why did the installation prompt me for new a password in the latter scenario?](#)
- [Where are the RME installation logs?](#)
- [How can I tell which version of Internet Information Server/Service Pack \(IIS/SP\) is installed?](#)
- [How do I cleanup my system after an aborted installation of RME?](#)
- [How do I change the Hostname of the CiscoWorks Solaris Server after installing it, or after running it for a while?](#)

- Q.** What are the various installation switches supported?
- A.** The following options are supported during installation:

| Command     | What it does                            |
|-------------|-----------------------------------------|
| setup.sh -d | Running installation in the debug mode. |

- Q.** I modified the date and time on the CiscoWorks Server, but RME does not reflect the change. What should I do?
- A.** Time related functions may not work if the system date is changed after RME is installed. You must stop and restart the CiscoWorks Daemon Manager for RME to reflect the changes in date, time or timezone.
- For more information on stopping and starting the Daemon Manager, see [“Daemon Manager Not Running” section on page A-7](#).
- Q.** How do I re-initialize the RME database on a Solaris system, if the RME database is corrupted and the database restore operation has failed?
- A.** You can use the dbRestoreOrig.pl utility to re-initialize the RME database. To reinitialize the database, follow this procedure:

---

**Step 1** Stop the daemon manager by entering:

```
/etc/init.d/dmgttd stop
```

**Step 2** At the prompt, run the PERL script dbRestoreOrig.pl:

```
/opt/CSCOpX/bin/perl /opt/CSCOpX/bin/dbRestoreOrig.pl
```

The usage details for dbRestoreOrig.pl appear.

**Step 3** Enter the required variable parameters and the corresponding values based on your application (see [Table A-2](#)).



**Caution**

All the user configurable variable parameters are case-sensitive. Ensure that you enter the exact value as mentioned in the table—if not, the database will get corrupted.

---

We recommend that you reinitialize the database for both the applications—Common Services and RME. Else, the database may become inconsistent. You can follow any order for reinitialization.

**Table A-2** Variable Parameters

| Variable Parameter                                                                                                                                         | For Common Services enter | For RME enter            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|
| <code>dsn</code>                                                                                                                                           | <code>cmf</code>          | <code>rmeng</code>       |
| <code>dmprefix</code>                                                                                                                                      | <code>Cmf</code>          | <code>RME</code>         |
| <code>npwd</code><br><br>It is optional to enter a new password for this variable. Enter a new password only if you want to change your database password. | <i>Your new password</i>  | <i>Your new password</i> |

A message appears that the initialization is complete.

**Step 4** Restart the daemon manager by entering:

```
/etc/init.d/dmgttd start
```

**Q.** Can I use RME within a network containing firewalls? If so, what are special configurations I need to take care of?

**A.** Yes, you can use RME in a network containing firewalls.

Let us consider a few scenarios here:

**Your server is behind a firewalled network, while your clients are outside the firewall.**

In this scenario, you have to open ports on the firewall for your clients.

- If you are interested in only RME, you must open TCP 1741 (or whichever port `cscoweb` is set to) as well as all established TCP connections.
- If you require client support for Campus Manager, ACLM, or IPM, you have to take into account CORBA which requires you to open all TCP ports above 1023 on your firewall. In such a case, a better solution would be to create VPN tunnels for your clients.

**You want to manage devices outside a firewall.**

In this scenario, you need to open a few ports. For maximum manageability, ensure that the ports listed in [Table A-3](#) are open.

**Table A-3** *Devices Outside Firewall*

| Path                       | Ports                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| From RME server to device. | <ul style="list-style-type: none"> <li>• UDP 161,</li> <li>• TCP 80,</li> <li>• TCP 23 (and/or 22 (SSH) and/or 514 (RCP))</li> </ul>                                     |
| From device to RME server. | <ul style="list-style-type: none"> <li>• UDP sourced from 161,</li> <li>• UDP 69 (TFTP),</li> <li>• UDP 514 (syslog),</li> <li>• All established TCP sessions</li> </ul> |

**Your firewall is engaged in NAT (Network Address Translation).**

In this scenario, if you need to manage devices outside the NAT boundary,

---

**Step 1** Select **Admin > System Preferences > RME Device Attributes**

**Step 2** Enter the public address of the server in the NAT ID field.

Consequently, when you perform Software Image Management operations, and configuration TFTP operations, this IP address will be used as the TFTP server address. Note, you must still open all the ports listed in [Table A-3](#).

---

**Q.** Can I change the RME Database password? If so, how?

**A.** Yes, you can change the RME Database password. To do so:

---

**Step 1** On the CiscoWorks Server, using a CLI, enter:

```
/etc/init.d/dmgttd stop
```

This stops the daemon manager.

**Step 2** Enter:

```
cd /opt/CSCOpX/bin
./dbpasswd.pl dsn=rmeng
```

For detailed usage information, you can enter the following:

```
./dbpasswd.pl
```

The following message appears:

```
Please enter the new password for database rme:
```

**Step 3** Enter the new password.

The following message appears:

```
Please enter the new password again for verification:
```

**Step 4** Enter the password again for verification. The following message appears:

```
Do you want to encrypt the database username and password, YES[Y] or
keep the encryption mode as it is [N]:
```

**Step 5** Enter **Y** to encrypt.

**Step 6** Start the daemon manager. Enter:

```
/etc/init.d/dmgttd start
```

---

**Q.** When I perform a backup of the RME database, what data is backed up?

**A.** The following data files are backed up:

- Properties file for performing Configuration Management.
- Directory containing Device Configurations
- Configuration Jobs and NetConfig Templates
- Software Image Management image repository
- Properties file for syslog collector and the list of TimeZones
- All admin settings
- All jobs, those that have been executed and those that have been scheduled
- All change audit records

## Frequently Asked Questions

- Q.** I performed a fresh installation of RME 4.0 on a machine. I also reinstalled RME 4.0 on another machine. Why did the installation prompt me for new a password in the latter scenario?
- A.** When you perform an installation of RME 4.0 and choose the typical installation mode, the installation will generate a random password for the RME database. In the second scenario, you might have opted for a custom installation.

For more information see the table below:

| Installation Type | Typical Mode                                                                                                            | Custom Mode                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| New installation  | Installation generates a random password. You are prompted to view the generated password after installation completes. | You are prompted to enter a new password. |
| Reinstallation    | Password from previous installation of RME is restored.                                                                 | You are prompted to enter a new password. |

- Q.** Where are the RME installation logs?
- A.** On Solaris RME installation logs are located here:

```
/var/tmp/ciscoinstall.log
/var/tmp/ciscouninstall.log
```

For a product upgrade, the database upgrade log information appears in the installation log file and in `/var/adm/CSCOpX/log/migration.log`.

- Q.** How can I tell which version of Internet Information Server/Service Pack (IIS/SP) is installed?
- A.** The following server software installation verification acronyms are used in this answer:
- IE - Internet Explorer
  - IIS- Internet Information Server
  - ISM - Internet Service Manager
  - MMC - Microsoft Management Console
  - SP *n* - Service Pack *n*

To verify the Windows 2000 SP4 install:

Select **Start > Programs > Administrative Tools > Computer Management > System Tools > System Information > System Summary**.

You should see:

```
Version 5.0.2195 Service Pack 4 Build 2195
```

To verify the IE 6.0.2800 SP1 installation:

Select **Internet Explorer > Help > About Internet Explorer**

You should see:

```
Microsoft Internet Explorer
Version: 6.0.2800.1106CO
Update versions:;SP1;
```

To verify Windows Scripting Host (WSH):

- a. Select **Start > Programs > Accessories > Command Prompt** to open a DOS window.
- b. Type the command script **cscript.exe**

The following will appear if WSH is installed:

```
Microsoft (R) Windows Scripting Host Version 5.1 for Windows
```

- Q.** How do I cleanup my system after an aborted installation of RME?
- A.** To revert your system back to its pre-install state, you might have to cleanup your machine after:

- An aborted installation of RME, as a result of pressing **Ctrl-C**.

Or

- A corrupted installation of RME.

Use the procedure below only as a last resort after exhausting all other options, like reinstalling RME.



---

**Caution**

The script will remove all the files installed by CiscoWorks applications.

---

**Step 1**

Copy the following lines into a text editor:

## Frequently Asked Questions

```

BEGIN COPY

#!/usr/bin/sh

PromptResponse ()
{
 RESPONSE=""
 VALID_RES=""
 if [-n "$2"] ; then VALID_RES="$2" ; fi
 DEF_ARG=""
 if [-n "$3"] ; then DEF_ARG="$3" ; fi

 until ["${RESPONSE}" != ""];
 do
 if ["${DEF_ARG}" = ""] ; then
 echo "$1 \c"
 else
 echo "$1 [${DEF_ARG}] \c"
 fi

 read RESPONSE

 if ["$VALID_RES" = "1"] ; then
 case "${RESPONSE}" in
 "")
 RESPONSE="${DEF_ARG}"
 ;;
 [Yy] | [Yy][Ee][Ss])
 RESPONSE="y"
 ;;
 [Nn] | [Nn][Oo])
 RESPONSE="n"
 ;;
 *)
 RESPONSE=""
 ;;
 esac
 else
 case "${RESPONSE}" in
 "")
 RESPONSE="${DEF_ARG}"
 ;;
 1)
 RESPONSE="1"
 ;;
 2)
 RESPONSE="2"
 ;;
 esac
 fi
 done
}

```

```

3)
 RESPONSE="3"
 ;;
*)
 RESPONSE=""
 ;;
esac
fi

done

unset DEF_ARG
return 0
}

Main

if ["`uname`" != "SunOS"]; then
 echo "This script can only run on Solaris."
 exit 0
fi

if [` /bin/id | sed -e 's/(.*$//' -e 's/^.*=//'` != 0] ; then
 echo "ERROR: You must be logged in as root to run this script."
 exit 0
fi

echo "\nThis script will try to remove CiscoWorks from the system.\n
It is kind of risky to do it especially when you have bundles installed.\n
Please make sure you already tried any of these TWICE:"
echo "\n\t* /opt/CSCOpX/bin/uninstall.sh"
echo "\t* pkgrm CSCOxxx"
echo "\t (CSCOxxx is one of CiscoWorks packages)"
echo "\nWARNING: Don't try this script unless the system"
echo "WARNING: contents file corrupted (bad or garble"
echo "WARNING: entry) which makes above commands failed.\n"

PromptResponse "Do you want to continue (y/n)?" 1 n
if ["$RESPONSE" != "y"]; then
 exit 0
fi

Backup_c=0
Backup_s=0

echo "\nStop daemon manager ..."
if [-x /etc/init.d/dmgttd]; then
 /etc/init.d/dmgttd stop 2> /dev/null

```

## Frequently Asked Questions

```

sleep 10
fi

echo "\nChecking CSCO packages installed ... \c"
csco_pkgs=`ls -d /var/sadm/pkg/CSCO* 2> /dev/null |sed -e 's#/var/sadm/pkg/##' -e 's#/##'\`
if ["$csco_pkgs" = ""]; then
 csco_pkgs=`grep " CSCO" /var/sadm/install/contents |awk '{print $NF}' |grep CSCO |sort
-u`
fi

if ["$csco_pkgs" = ""]; then
 echo "No"
else
 echo "Yes\n"

 for pkg in `echo $csco_pkgs`; do echo "\t$pkg"; done
 echo "\nAbove packages found in the system. Some of them might not belong\
to CiscoWorks when you have other Cisco product installed. If you are\
not sure about this, verify these packages with Cisco TAC before go ahead."
 echo "\nt1. Clean them all in one step."
 echo "\t2. Clean them one by one. (later you can select to skip any of them)"
 echo "\t3. Quit.\n"

 PromptResponse "Please input your decision -->" 2
 if ["$RESPONSE" != "1" -a "$RESPONSE" != "2"]; then
 exit 0
 fi
 METHOD=$RESPONSE

 echo "\nBackup contents file in /var/sadm/install/contents.save.$$"
 cp /var/sadm/install/contents /var/sadm/install/contents.save.$$
 Backup_c=1
 echo "\nCleaning packages from system registry ..."
 cp /var/sadm/install/contents /tmp/contents
 for pkg in `echo $csco_pkgs`;
 do
 if ["$METHOD" = 2]; then
 PromptResponse "Clean $pkg ?" 1
 if ["$RESPONSE" != "y"]; then continue; fi
 fi
 grep -v $pkg /tmp/contents > /tmp/contents.tmp
 mv /tmp/contents.tmp /tmp/contents
 rm -rf /var/sadm/pkg/$pkg
 echo "$pkg cleaned"
 done
 mv /tmp/contents /var/sadm/install/contents
fi

```

```

if ["`grep CSCO /etc/services`" != ""]; then
 echo "\nBackup system services file in /etc/services.save.$$"
 cp /etc/services /etc/services.save.$$
 Backup_s=1
 echo "Cleaning system services file ..."
 grep -v CSCO /etc/services > /tmp/remove.tmp
 mv /tmp/remove.tmp /etc/services
fi

echo "\nCleaning CiscoWorks runtime trees ..."

if [-d /opt/CSCOpX -o -h /opt/CSCOpX]; then
 PromptResponse "Remove /opt/CSCOpX ?" 1
 if ["$RESPONSE" = "y"]; then
 rm -rf /opt/CSCOpX/*
 rm -rf /opt/CSCOpX
 fi
fi

if [-d /var/adm/CSCOpX]; then
 PromptResponse "Remove log directory /var/adm/CSCOpX ?" 1
 if ["$RESPONSE" = "y"]; then
 rm -rf /var/adm/CSCOpX
 fi
fi

if [-d /tmp/cscotmp -o -f /tmp/cscop*]; then
 PromptResponse "Remove temp files /tmp/cscop* ?" 1
 if ["$RESPONSE" = "y"]; then
 rm -rf /tmp/cscop*
 fi
fi

echo
if ["$Backup_c" = "1"]; then
 echo "INFO: Original contents file saved in /var/sadm/install/contents.save.$$"
fi
if ["$Backup_s" = "1"]; then
 echo "INFO: Original system services file saved in /etc/services.save.$$"
fi

echo "\nCleaning is done."

END COPY

```

- Step 2** Save the text in the text editor as a shell script, with a .sh extension. For example, you can save the file as cleanup.sh.

**Step 3** Using a CLI, modify the permissions on the file to allow script execution.

For example if you saved the file as `cleanup.sh`, enter:

```
chmod 750 cleanup.sh
```

**Step 4** Navigate to the directory where you saved the file, and enter:

```
./cleanup.sh
```

The script removes files installed by all CiscoWorks applications.

---

**Q.** How do I change the Hostname of the CiscoWorks Solaris Server after installing it, or after running it for a while?

**A.** Follow the procedure as described in the CiscoWorks Common Services User Guide:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000\\_d/comser30/usrguide/diagnos.htm#wp1078582](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser30/usrguide/diagnos.htm#wp1078582)

In addition to that, before rebooting the CiscoWorks server, you must change the hostname for CTMJrmServer daemon registration.

- a. Go to `/opt/CSCOpX/objects/dmgt/dmgt.d.conf`
- b. Search for CTMJrmServer and change the old hostname to new hostname.

After making the changes in the CTMJrmServer, the new hostname entry appears as follows,

```
CTMJrmServer y y 120000
RMEDbMonitor, jrm, TomcatMonitor, RMECSTMServer
/opt/CSCOpX/bin/cwjava -cw /opt/CSCOpX -cw:jre lib/jre -server
-cp:p
MDC/tomcat/webapps/rme/WEB-INF/classes:MDC/tomcat/webapps/rme
/WEB-INF/lib/ctm.jar:MDC/tomcat/webapps/rme/WEB-INF/lib/log4j
.jar com.cisco.nm.rmeng.jrmwrapper.server.CTMJobManagerServer
CW-Server1
```

Where, *CW-Server1* is the new hostname.

# Troubleshooting Tips

| Message ID | Error Message                                               | Probable Cause                                                                     | Possible Action                                                                                     |
|------------|-------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| INST0001   | File [\$1] does not exist                                   | Not applicable since this is a generic file.                                       |                                                                                                     |
| INST0002   | Error reading file [\$1].                                   | Cannot read the file/directory.                                                    | Ensure that file/directory has appropriate permissions.                                             |
| INST0003   | Error writing file [\$1].                                   | Cannot write into the file/directory.                                              | Ensure that file/directory has appropriate permissions.                                             |
| INST0004   | Syntax error in line [\$1]                                  | Syntax of the CCR input file is not proper. The ccrInput.txt may have been edited. | Contact your Cisco representative to get the proper file.                                           |
| INST0005   | Unable to fetch CCR (Core Client Registry) entry for [\$1]. | Reported entry is missing in CCR.                                                  | Check the restorebackup.log under /var/adm/CSCOpX/log for SOL and nmsroot/log for more information. |

■ Troubleshooting Tips



# Mounting and Unmounting the CD-ROM

---

This appendix gives general information on how to mount the Resource Manager Essentials (RME) CD-ROM on a Solaris 2.8 or 2.9 system. For more detailed instructions, consult your Sun documentation.

You can install RME from a CD-ROM mounted on the CiscoWorks Server system or from a CD-ROM mounted on a remote Solaris system.

This appendix contains these sections:

- [Mounting a Local CD-ROM Drive](#)
- [Mounting a Remote CD-ROM Drive](#)
- [Unmounting the CD-ROM Drive](#)

## Mounting a Local CD-ROM Drive

Insert the RME CD-ROM into the CD-ROM drive and:

---

**Step 1** Become the superuser by entering the command `su` and the root password at the command prompt, or log in as root.

The command prompt changes to the pound sign (#).

**Step 2** If the `/cdrom` directory does not already exist, enter the following command to create it:

```
mkdir /cdrom
```

**Step 3** Mount the CD-ROM drive.




---

**Note** The vold process manages the CD-ROM device and performs the mounting. The CD-ROM might automatically mount onto the /cdrom/cdrom0 directory.

---

- If you are running File Manager, a separate File Manager window displays the contents of the CD-ROM.
  - a. From the File Manager, double click on setup.sh file.
 

The Action: Run box appears.
  - b. Click **OK** to continue installation.

- If the /cdrom/cdrom0 directory is empty because the CD-ROM was not mounted, or if File Manager did not open a window displaying the contents of the CD-ROM, verify the vold daemon is running by entering:

```
ps -e | grep vold | grep -v grep
```

- If vold is running, the system displays the process identification number of vold. If the system does not display anything, restart the daemon by entering:

```
/usr/sbin/vold &
```

- If the vold daemon is running but did not mount the CD-ROM, stop the vold daemon and then restart it.

To stop the vold process, you must know the process identification number. If you do not know the process identification number, you can get it by entering:

```
ps -ef | grep vold | grep -v grep
```

**Step 4** Stop the vold process by entering:

```
kill -15 process_ID_number
```

**Step 5** Restart the vold process by entering:

```
/usr/sbin/vold &
```

If you encounter problems using the vold daemon, enter the following command to mount the CD-ROM:

```
mount -F hsfs -r ro /dev/dsk/cxyd0sz /cdrom/cdrom0
```

where *x* is the CD-ROM drive controller number, *y* is the CD-ROM drive SCSI ID number, and *z* is the slice of the partition on which the CD-ROM is located.

You have now mounted the CD-ROM drive. See [Chapter 1, “Installing RME”](#), for instructions on installation.

---

## Mounting a Remote CD-ROM Drive

Insert the RME CD-ROM into the CD-ROM drive of the remote machine and perform Step 1 through Step 12 on the remote machine.

---

**Step 1** Become the superuser by entering the command **su** and the root password at the command prompt, or log in as root.

The command prompt changes to the pound sign (#). If the /cdrom directory does not already exist, enter:

```
mkdir /cdrom
```

**Step 2** Mount the CD-ROM drive.



**Note** The vold daemon process manages the CD-ROM device and performs the mounting. The CD-ROM might automatically mount onto the /cdrom/cdrom0 directory.

---

- If you are running File Manager, a separate File Manager window displays the contents of the CD-ROM.
  - a. From the File Manager, double click on setup.sh file.  
The Action: Run box appears.
  - b. Click **OK** to continue installation.
- If the /cdrom/cdrom0 directory is empty because the CD-ROM was not mounted, or if File Manager did not open a window displaying the contents of the CD-ROM, verify that the vold daemon is running by entering:

```
ps -e | grep vold | grep -v grep
```

- If vold is running, the system displays /usr/sbin/vold. If the system does not display anything, restart the daemon by entering:

```
/usr/sbin/vold &
```

- If the vold daemon is running but did not mount the CD-ROM, stop the vold daemon and then restart it. To stop the vold process, you must know the process identification number. If you do not know the process identification number, you can get it by entering:

```
ps -ef | grep vold | grep -v grep
```

**Step 3** Stop the vold process by entering:

```
kill -15 process_ID_number
```

**Step 4** Restart the vold process by entering:

```
/usr/sbin/vold &
```

**Step 5** If you encounter problems using the vold daemon, enter the following to mount the CD-ROM:

```
mount -F hsfs -r ro /dev/dsk/cxt y d0s z /cdrom/cdrom0
```

where  $x$  is the CD-ROM drive controller number,  $y$  is the CD-ROM drive SCSI ID number, and  $z$  is the slice of the partition on which the CD-ROM is located.

**Step 6** Use a text editor to create an /etc/dfs/dfstab file, if one does not exist.

**Step 7** Add the following line to the /etc/dfs/dfstab file:

```
share -F nfs -o ro /cdrom/cdrom0
```

**Step 8** Make sure your remote machine is enabled as an NFS server by entering:

```
ps -ef | grep nfs | grep -v grep
```

The output of this command indicates whether the `/usr/lib/nfs/nfsd` and `/usr/lib/nfs/mountd` daemons are running. If they are not running, enable your machine as an NFS server by entering:

```
/etc/init.d/nfs.server start
```

If your machine is enabled as an NFS server, enter one of the following:

- `# share`

Or

- `# shareall`

**Step 9** Go to the machine on which you want to install RME.

**Step 10** Log on as superuser by entering the command `su` and the root password, or log in as root.

**Step 11** Create a `/cdrom` directory, if one does not already exist, by entering:

```
mkdir -p /cdrom/rme40
```

**Step 12** To mount the CD-ROM drive, enter:

```
/usr/sbin/mount -r remote_machine_name:/cdrom/cdrom0 /cdrom/rme40
```

---

You have now mounted the CD-ROM drive. See [Chapter 1, “Installation Overview”](#) for instructions on installation.

# Unmounting the CD-ROM Drive

After you complete the RME installation, you need to unmount the CD-ROM drive and eject the CD-ROM.

To unmount a local CD-ROM drive, as root, enter:

```
cd
umount /cdrom/cdrom0
eject
```

To unmount a remote CD-ROM drive:

---

**Step 1** As root, enter the following on the local machine:

```
umount /cdrom/rme40
```

**Step 2** As root, enter the following on the remote machine:

```
umount /cdrom/cdrom0
eject
```

---



**Note**

Instead of using the eject command, you can select **File > Eject** from the File Manager.

---



## Changes from RME 3.x to RME 4.0

---

This section provides information about the changes in RME 4.0 compared to RME 3.5.

The following describes the major changes in RME 4.0:

- To add devices in RME, you have to first add the devices in Common Services and then add the devices to RME from Common Services.

The workflow for adding the devices in RME is:

- a. Add devices to Common Services using **Common Services > Device and Credentials > Device Management**.
- b. Devices get automatically added to RME.

If you have disabled the Automatically Manage Devices from Credential Repository option in the Device Management Settings window (**Resource Manager Essentials > Admin > Device Mgmt > Device Management Settings**), you can add devices manually to RME using the RME Devices window (**Resource Manager Essentials > Devices > Device Management > RME Devices**).

- You can select the check device credentials at time of adding devices to RME using Device Management Settings window (**Resource Manager Essentials > Admin > Device Mgmt > Device Management Settings**) and select Verify Device Credentials During Import.

You can set the device credentials that need to be verified at the time of adding devices to RME using **Resource Manager Essentials > Admin > Device Mgmt > Device Credential Verification Settings**.

The supported device credentials in Common Services 3.0 is:

**Table C-1 RME 3.5 Device Credentials Mapped to CS 3.0 Device Credentials**

| <b>RME 3.5</b>         | <b>Common Services 3.0</b> |
|------------------------|----------------------------|
| RO community string    | snmp_v2_ro_comm_string     |
| RW community string    | snmp_v2_rw_comm_string     |
| Serial Number          | Not used in CSV 3.0        |
| Telnet password        | primary_password           |
| Enable password        | primary_enable_password    |
| Enable secret          | primary_enable_password    |
| Tacacs user            | primary_username           |
| Tacacs password        | primary_password           |
| Tacacs enable user     | Not used in CSV 3.0        |
| Tacacs enable password | primary_enable_password    |
| Local user             | primary_username           |
| Local password         | primary_password           |
| rcp user               | Not used in CSV 3.0        |
| rcp password           | Not used in CSV 3.0        |

The order of preference used to set these values in CSV 3.0 is:

- If Tacacs username, password, enable password is set, then these values will be set as primary\_username, primary\_password and primary\_enable\_password.
- If Local username and password is set, then the values will be set as primary\_username and primary\_password.
- If Telnet password, Enable Password, and Enable Secret are set, then the values will be set as primary\_password, and primary\_enable\_password (for both Enable Password, and Enable Secret).
- The Software Management tasks Browse bugs by device and Locate devices by bugs is now part of Bug Toolkit application. You can generate these reports using **Resource Manager Essentials > Reports > Generator**.

- You can generate various reports for these applications in a centralized location using Reports tab:
  - Audit Trail (New for RME 4.0)
  - Bug Toolkit (Moved from Software Management application)
  - Change Audit
  - Inventory
  - Syslog
- In Config Editor, earlier you had to checkout files and lock them for editing. In RME 4.0 editing of configuration files simultaneously is supported. You do not have to check out files. Also, there is no locking of config files.
- In RME 4.0, the following config editor labels are changed:
  - Diffis-only is known as Overwrite
  - Download is known as Deploy
- The syntax for handling interactive commands has changed from:

```
CLI Command<R>command response 1 <R>command response 2
```

to

```
#INTERACTIVE
command1<R>response1<R>response2
command2<R>response1<R>response2<R>response3
command3<R>response1
command4<R>response1<R>response2
#ENDS_INTERACTIVE
```

- In 3.x you could view the list of checked out files by selecting **Resource Manager Essentials > Configuration Management > Config Editor > Tools > List Checked Out Files**. In RME 4.0, the checked out files are referred to as private files. You can view private files using **RME > Config Mgmt > Config Editor**.
- The Data Extracting Engine (DEE) is now part of common CWCLI framework. You can use the `cwcli export` command to generate the Inventory and Configuration data in XML format. In addition to this, you can also export Change Audit data.
- You can set the HTTP Proxy, SMTP Server, CiscoWorks E-mail ID, and RCP User using **Common Services > Server > Admin > System Preferences**.

- These applications are not supported in RME 4.0, However they will be supported in RME 4.0 drop-in release.
  - Case Management (to open a TAC case)
  - Contract Connection
  - Network Show Commands
- Availability application is not supported in RME 4.0.

For the RME 4.0 new features, see this URL:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e\\_4\\_x/4\\_0/rmeapp.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000e/e_4_x/4_0/rmeapp.htm)

The changes in the navigation for all RME applications are described in the following tables:

- [Inventory Tasks](#)
- [Device View Tasks](#)
- [Configuration Management Archive-Specific Tasks](#)
- [NetConfig Tasks](#)
- [Config Editor Tasks](#)
- [Data Extracting Engine \(DEE\)](#)
- [Software Management Tasks](#)
- [Syslog Tasks](#)
- [Change Audit Tasks](#)
- [Job Approval Tasks](#)
- [System Configuration Tasks](#)

To avail these features, you must download Resource Manager Essentials 4.0 Service Pack 1. This is available at the location,

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>

The Readme for Resource Manager Essentials 4.0 Service Pack 1 is also available at the same location.

- [Network Show Commands Tasks](#)
- [Contract Connection Tasks](#)
- [Case Management Tasks \(SmartCase\)](#)



**Note** [Availability Tasks](#)—This feature is not supported in RME 4.0 and in RME 4.0 SP1 releases.

**Table C-2** *Inventory Tasks*

| <b>Task</b>                 | <b>RME 3.5 Navigation</b>                                             | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| List managed devices.       | Resource Manager RME > Administration > Inventory > List Devices.     | Resource Manager Essentials > Devices > Device Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Add devices.                | Resource Manager RME > Administration > Inventory > Add Devices.      | <p>You have to add devices to Common Services (Common Services &gt; Device and Credentials &gt; Device Management).</p> <p>Devices gets automatically added to RME.</p> <p>If you have disabled the Automatically Manage Devices from Credential Repository option in the Device Management Settings window (Resource Manager Essentials &gt; Admin &gt; Device Mgmt &gt; Device Management Settings), then you can add devices manually to RME using the RME Devices window (Resource Manager Essentials &gt; Devices &gt; Device Management &gt; RME Devices).</p> <p>You can set the verify device credentials while adding devices to RME using Resource Manager Essentials &gt; Admin &gt; Device Mgmt &gt; Device Management Settings</p> |
| Import devices from a file. | Resource Manager RME > Administration > Inventory > Import from File. | Common Services > Device and Credentials > Device Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Table C-2** *Inventory Tasks (continued)*

| <b>Task</b>                                                   | <b>RME 3.5 Navigation</b>                                                   | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                   |
|---------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Import device data from a local host.                         | Resource Manager RME > Administration > Inventory > Import from Local NMS.  | Common Services > Device and Credentials > Device Management                                                                                                                                                                |
| Import device data from a remote host.                        | Resource Manager RME > Administration > Inventory > Import from Remote NMS. | Common Services > Device and Credentials > Device Management                                                                                                                                                                |
| Proxy Management                                              | Resource Manager RME > Administration > Inventory > Proxy Management.       | Common Services > Device and Credentials > Device Management<br>Click Add and select Auto Update.                                                                                                                           |
| Check status of import from local host, remote host, or file. | Resource Manager RME > Administration > Inventory > Import Status.          | Resource Manager Essentials > Devices > Device Management                                                                                                                                                                   |
| Delete managed devices.                                       | Resource Manager RME > Administration > Inventory > Delete Devices.         | You can delete RME devices using Resource Manager Essentials > Devices Device Management > RME Devices.<br>You can delete devices from CiscoWorks server using Common Services > Device and Credentials > Device Management |
| Delete devices from a file.                                   | Resource Manager RME > Administration > Inventory > Delete from File.       | You can delete RME devices using the command line tool,<br><b>cwcli inventory deletedevice</b>                                                                                                                              |
| View status of deleted devices.                               | Resource Manager RME > Administration > Inventory > Delete Device Status.   | Not available.                                                                                                                                                                                                              |

**Table C-2** *Inventory Tasks (continued)*

| <b>Task</b>                   | <b>RME 3.5 Navigation</b>                                                              | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change device attributes.     | Resource Manager RME > Administration > Inventory > Change Device Attributes.          | You can edit RME device attributes using Resource Manager Essentials > Devices Device Management > RME Devices<br><br>You can edit the RME device credentials using<br><br>Common Services > Device and Credentials > Device Management > Edit<br><br>or<br><br>Resource Manager Essentials > Devices > Device Management > Device Credential Verification > Edit Device Credentials |
| Export devices to a file.     | Resource Manager RME > Administration > Inventory > Export to File.                    | You can export RME devices using Resource Manager Essentials > Devices Device Management > RME Devices                                                                                                                                                                                                                                                                               |
| Exporting Data for AVVID Tool | Resource Manager Essentials > Administration > Inventory > Export Data for AVVID Tool. | Not available.                                                                                                                                                                                                                                                                                                                                                                       |

**Table C-2** *Inventory Tasks (continued)*

| <b>Task</b>                               | <b>RME 3.5 Navigation</b>                                                                                                                                                               | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Create and view inventory custom reports. | Resource Manager Essentials > Administration > Inventory > Custom Reports.<br><br>To view a previously-created report, select Resource Manager Essentials > Inventory > Custom Reports. | Resource Manager Essentials > Reports > Custom Report Templates. The Custom templates dialog box appears. Click Create. The Application Selection dialog box appears. Select Inventory and click Next.<br><br>To view previously created custom reports:<br><br><ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Reports &gt; Report Generator.</li> <li>2. Select the Inventory option from the Application drop-down list.</li> <li>3. Select the required custom report from the Report drop-down list. Custom reports appear separated by a line from standard reports.</li> </ol> |
| Define filters for change reports.        | Resource Manager Essentials > Administration > Inventory > Inventory Change Filter.                                                                                                     | Resource Manager Essentials > Admin > Inventory > Inventory Change Filter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Schedule inventory collection             | Resource Manager Essentials > Administration > Inventory > Schedule Collection.                                                                                                         | Resource Manager Essentials > Admin > Inventory > System Job Schedule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Update inventory collection.              | Resource Manager Essentials > Administration > Inventory > Update Inventory.                                                                                                            | You can schedule a job to update Inventory (Resource Manager Essentials > Devices > Inventory > Inventory Jobs and then click Create.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Schedule device polling.                  | Resource Manager Essentials > Administration > Inventory > Inventory Poller.                                                                                                            | Resource Manager Essentials > Admin > Inventory > System Job Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Table C-2** *Inventory Tasks (continued)*

| <b>Task</b>                          | <b>RME 3.5 Navigation</b>                                                | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                                         |
|--------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Run an inventory 24-hour report.     | Resource Manager Essentials > 24-Hour Reports > Inventory Change Report. | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select 24 Hour Reports Inventory Change Report from the Report drop-down list.</li> </ol> |
| View a hardware report.              | Resource Manager Essentials > Inventory > Hardware Report.               | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Hardware Report from the Report drop-down list.</li> </ol>                         |
| View a software report.              | Resource Manager Essentials > Inventory > Software Report.               | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Software Report from the Report drop-down list.</li> </ol>                         |
| View information about devices.      | Resource Manager Essentials > Inventory > Detailed Device Report.        | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Detailed Device Report from the Report drop-down list.</li> </ol>                  |
| View a device Y2K compliance report. | Resource Manager Essentials > Inventory > Year 2000 Report.              | Not Available.                                                                                                                                                                                                                                                                    |

**Table C-2** *Inventory Tasks (continued)*

| <b>Task</b>                                      | <b>RME 3.5 Navigation</b>                                         | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                        |
|--------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| View device information within device classes.   | Resource Manager Essentials > Inventory > Hardware Summary Graph. | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Hardware Summary Graph from the Report drop-down list.</li> </ol> |
| View the software versions in each device class. | Resource Manager Essentials > Inventory > Software Version Graph. | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Software Version Graph from the Report drop-down list.</li> </ol> |
| View device information in each device class.    | Resource Manager Essentials > Inventory > Chassis Summary Graph.  | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Chassis Summary Graph from the Report drop-down list.</li> </ol>  |
| View a summary of chassis slots.                 | Resource Manager Essentials > Inventory > Chassis Slot Summary.   | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Chassis Slot Summary from the Report drop-down list.</li> </ol>   |
| View the chassis slot details.                   | Resource Manager Essentials > Inventory > Chassis Slot Details.   | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select Chassis Slot Details from the Report drop-down list.</li> </ol>   |

Table C-2 Inventory Tasks (continued)

| Task                                                | RME 3.5 Navigation                                                                                                   | RME 4.0 Navigation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| View details on multiservice ports.                 | Resource Manager Essentials > Inventory > MultiService Port Details.                                                 | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select MultiService Port Details from the Report drop-down list.</li> </ol>                                                                                                                                                                                                                                                                                                                            |
| Verify community strings, usernames, and passwords. | Resource Manager Essentials > Administration > Inventory > Check Device Attributes.                                  | Resource Manager Essentials > Devices > Device Management > Device Credential Verification > Check Device Credential                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| View attribute check results.                       | Resource Manager Essentials > Administration > Inventory > View Check Results.                                       | Resource Manager Essentials > Devices > Device Management > Device Credential Verification > View Credential Verification Report                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| View historical data.                               | Resource Manager Essentials > Inventory > Scan History.                                                              | Available as a part of job details.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Command line utilities                              | Command line utilities for Inventory applications such as, <code>crmimport</code> , <code>deletedevice</code> , etc. | <ul style="list-style-type: none"> <li>• You can check the specified device credentials for the RME devices using <code>cwcli inventory cda</code>.</li> <li>• You can export device credentials of one or more RME devices in clear text using <code>cwcli inventory crmexport</code>.</li> <li>• You can delete the specified RME devices using <code>cwcli inventory deletedevice</code>.</li> <li>• You can view the RME devices state using <code>cwcli inventory getdevicestate</code>.</li> <li>• You can import device using Common Services CLI tool, <code>dcrccli</code></li> </ul> |

**Table C-2** *Inventory Tasks (continued)*

| Task                             | RME 3.5 Navigation                                                                                                                                                                                                                                                  | RME 4.0 Navigation                                                                                                                                                                                                                |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Running CLI Custom Reports       | <code>cwinvcreport</code>                                                                                                                                                                                                                                           | <code>cwcli invreport</code>                                                                                                                                                                                                      |
| Device List Manipulation Service | <ul style="list-style-type: none"> <li>List managed and unmanaged devices and their status</li> <li>Add managed devices and update unmanaged device information and credentials</li> <li>Get and set device credentials</li> <li>Get device IP addresses</li> </ul> | <ul style="list-style-type: none"> <li>Add devices</li> <li>List the RME devices and their status</li> <li>Get the device credentials data</li> <li>Set the device credentials data</li> <li>Get the device IP address</li> </ul> |

**Table C-3** *Device View Tasks*

| Task                 | RME 3.5 Navigation                                                                        | RME 4.0 Navigation                                                                                                                      |
|----------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Add static views.    | Select Resource Manager Essentials > Administration > Device Views > Add Static Views.    | Resource Manager Essentials > Devices > Group Administration > Create<br>Select <b>Only upon user request</b> as the Membership Update. |
| Add dynamic views.   | Select Resource Manager Essentials > Administration > Device Views > Add Dynamic Views.   | Resource Manager Essentials > Devices > Group Administration > Create<br>Select <b>Automatic</b> as the Membership Update.              |
| Change static views. | Select Resource Manager Essentials > Administration > Device Views > Change Static Views. | Resource Manager Essentials > Devices > Group Administration > Edit                                                                     |
| Delete views.        | Select Resource Manager Essentials > Administration > Device Views > Delete Views.        | Resource Manager Essentials > Devices > Group Administration > Delete                                                                   |

**Table C-3**      **Device View Tasks (continued)**

| <b>Task</b>               | <b>RME 3.5 Navigation</b>                                                                      | <b>RME 4.0 Navigation</b>                                                                                                                       |
|---------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Browse dynamic views.     | Select Resource Manager Essentials > Administration > Device Views> Browse Dynamic Views.      | Resource Manager Essentials > Devices > Group Administration > Details<br><br>In the Property Details window, click <b>Membership Details</b> . |
| Browse device membership. | Select Resource Manager Essentials > Administration > Device Views > Browse Device Membership. | Resource Manager Essentials > Devices > Group Administration > Details                                                                          |

**Table C-4**      **Configuration Management Archive-Specific Tasks**

| <b>Task</b>                                     | <b>RME 3.5 Navigation</b>                                                                                                                                                        | <b>RME 4.0 Navigation</b>                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Search for configuration files.                 | Configuration > Management > Search Archive by Device.<br><br>or<br><br>Resource Manager Essentials > Configuration Management > Search Archive by Pattern.                      | Resource Manager Essentials > Config Mgmt > Archive Mgmt > Search Archive                  |
| Create, run, modify, and delete custom reports. | Resource Manager Essentials > Configuration Management > Custom Reports.                                                                                                         | Resource Manager Essentials > Config Mgmt > Archive Mgmt > Search Archive > Custom Queries |
| Compare device configuration files.             | Resource Manager Essentials > Configuration Management > Compare Configurations.                                                                                                 | Resource Manager Essentials > Config Mgmt > Archive Mgmt > Compare Configs                 |
| Find out-of-sync configurations.                | Resource Manager RME > Configuration Management > Startup/Running Out of Sync Report<br><br>or<br><br>Select Resource Manager RME > 24 Hour Reports > Configuration Sync Report. | Resource Manager RME > Config Mgmt > Archive Mgmt > Out-of-Sync Summary                    |

**Table C-4 Configuration Management Archive-Specific Tasks (continued)**

| <b>Task</b>                                                            | <b>RME 3.5 Navigation</b>                                                                                                        | <b>RME 4.0 Navigation</b>                                                                                                              |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Move the Configuration Archive.                                        | Resource Manager Essentials > Administration > Configuration Management > General Setup, then select the Archive Setup tab.      | Resource Manager Essentials > Admin Config Mgmt > Archive Mgmt                                                                         |
| Specify criteria for purging the archive.                              | Resource Manager Essentials > Administration > Configuration Management > General Setup, then select the Archive Setup tab.      | Resource Manager Essentials > Admin > Config Mgmt > Archive Mgmt > Purge Settings                                                      |
| Modify Configuration Archive retrieval.                                | Resource Manager Essentials > Administration > Configuration Management > General Setup, then select the Change Probe Setup tab. | Resource Manager Essentials > Admin > Config Mgmt > Archive Mgmt > Collection Settings                                                 |
| Change the transport protocol order used by the Configuration Archive. | Resource Manager Essentials > Administration > Configuration Management > General Setup, then select the Transport Setup tab.    | Resource Manager Essentials > Admin > Config Mgmt and select <b>Archive Mgmt</b> from the drop-down list.                              |
| Configure Job Policies for Config Archive                              | Select Configuration Management > Administration > Configuration Job Setup                                                       | Select Resource Manager Essentials > Admin > Config Mgmt > Config Job Policies and select <b>Archive Mgmt</b> from the drop-down list. |
| Update the Configuration Archive.                                      | Resource Manager Essentials > Configuration Management > Update Archive.                                                         | Resource Manager Essentials > Config Mgmt > Archive Mgmt > Sync Archive.                                                               |
| Check the archive status.                                              | Resource Manager Essentials > Administration > Configuration Management > Archive Status.                                        | Resource Manager Essentials > Config Mgmt > Archive Mgmt.                                                                              |
| Configure labels.                                                      | Resource Manager Essentials > Administration > Configuration Management > Label Configuration.                                   | Resource Manager Essentials > Config Mgmt > Archive Mgmt > Label Configs                                                               |

**Table C-4 Configuration Management Archive-Specific Tasks (continued)**

| Task                                                 | RME 3.5 Navigation                                                                                                                                                                                                                                                                                        | RME 4.0 Navigation                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use the <b>cwconfig</b> command at the command line. | This command cannot be entered from the desktop; use the command line.                                                                                                                                                                                                                                    | Use the <code>cwcli config</code> command.                                                                                                                                                                                                                                                            |
| Locate the Configuration Archive shadow directory.   | <p>The shadow directories cannot be accessed from the desktop.</p> <ul style="list-style-type: none"> <li>On Solaris, as root or casuser, enter:<br/><code>/var/adm/CSCOpX/files/rme/archive shadow</code></li> <li>On Windows, as admin, enter:<br/><code>NMSROOT\files\archive\shadow</code></li> </ul> | <p>The shadow directories cannot be accessed from the desktop.</p> <ul style="list-style-type: none"> <li>On Solaris, as root or casuser, enter<br/><code>/var/adm/csopx/files/rme/dcma/shadow</code></li> <li>On Windows, as admin, enter:<br/><code>NMSROOT/files/rme/dcma/shadow</code></li> </ul> |

**Table C-5 NetConfig Tasks**

| Task                                 | RME 3.5 Navigation                                                                                                                                                                                                                                                                                                   | RME 4.0 Navigation                                                                                                       |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Define and schedule a NetConfig job. | <ol style="list-style-type: none"> <li>Select Resource Manager Essentials &gt; Configuration Management &gt; NetConfig &gt; Jobs &gt; New Job.<br/>or<br/>Click the New Job button.</li> <li>Complete the job definition wizard.</li> </ol>                                                                          | <p>Resource Manager Essentials &gt; Config Mgmt &gt; NetConfig &gt; NetConfig Jobs.</p> <p>Select the Create button.</p> |
| Browse and edit NetConfig jobs.      | <ol style="list-style-type: none"> <li>Select Resource Manager Essentials &gt; Configuration Management &gt; NetConfig &gt; Jobs &gt; Job Browser.<br/>or<br/>Click the Job Browser button.</li> <li>Select a job record.</li> <li>Click <b>Edit Job, Copy Job, Remove Job, Stop Job, or Job Details</b>.</li> </ol> | <p>Resource Manager Essentials &gt; Config Mgmt &gt; NetConfig &gt; NetConfig Jobs.</p> <p>Select <b>Edit</b>.</p>       |

**Table C-5**      **NetConfig Tasks (continued)**

| <b>Task</b>                                               | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                                                                                                                                                                                       | <b>RME 4.0 Navigation</b>                                                                                                        |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| View NetConfig job details.                               | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Configuration Management &gt; NetConfig &gt; Jobs &gt; Job Browser.<br/><br/>or<br/>Click the Job Browser button.</li> <li>2. Select a job record.</li> <li>3. Click Job Details.</li> <li>4. Click <b>Edit Job, Copy Job, Remove Job, Stop Job, Retry Job</b> (for failed jobs), or <b>Print</b>.</li> </ol> | Resource Manager Essentials > Config Mgmt > NetConfig > NetConfig Jobs.<br><br>Click on the Job ID hyperlink in the Job Browser. |
| Launch RME.                                               | Select Resource Manager Essentials > Configuration Management > NetConfig > Tools > Launch RME.<br><br>or<br>Click the Launch RME button.                                                                                                                                                                                                                                                       | Not Available.                                                                                                                   |
| Create and edit user-defined configuration templates.     | Select Resource Manager Essentials > Configuration Management > NetConfig > Admin > Create/Edit User Templates.                                                                                                                                                                                                                                                                                 | Resource Manager Essentials > Config Mgmt > NetConfig > User-defined Tasks.                                                      |
| Assign configuration template access privileges to users. | Select Resource Manager Essentials > Configuration Management > NetConfig > Admin > Assign Template Users.                                                                                                                                                                                                                                                                                      | Resource Manager Essentials > Config Mgmt > NetConfig > Assigning Tasks                                                          |

**Table C-5** *NetConfig Tasks (continued)*

| <b>Task</b>                                                    | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                                                                     | <b>RME 4.0 Navigation</b>                                                                                                    |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Set default template policies.                                 | Select Resource Manager Essentials > Configuration Management > NetConfig > Admin > Set Template Policies.                                                                                                                                                                    | Select Resource Manager Essentials > Admin > Config Mgmt > Config Job Policies and select NetConfig from the drop-down list. |
| Use the NetConfig command to make batch configuration changes. | Enter the NetConfig command at the command line with the appropriate syntax.<br><br>For more information, see the online help and the netconfig man page.<br><br>To view the man page, add the path <code>install_dir/CSCOpX/man</code> to the <code>MANPATH</code> variable. | Command line tool: <code>cwcli netconfig</code>                                                                              |

**Table C-6** *Config Editor Tasks*

| <b>Task</b>                                 | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                      | <b>RME 4.0 Navigation</b>                                                                                 |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Open a configuration file.                  | <ol style="list-style-type: none"> <li>From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>Select File &gt; Open</li> </ol>                             | Select Resource Manager Essentials > Config Mgmt > Config Editor                                          |
| Edit configuration files from the archives. | <ol style="list-style-type: none"> <li>From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>Select File &gt; Open &gt; By Device and Version.</li> </ol> | Select Resource Manager Essentials > Config Mgmt > Config Editor > Config Files > Device and Version > Go |
| Edit a configuration file by pattern        | <ol style="list-style-type: none"> <li>From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>Select File &gt; Open &gt; By Pattern Search.</li> </ol>     | Resource Manager Essentials > Config Mgmt > Config Editor > Config Files > Pattern Search > Go            |

**Table C-6**      **Config Editor Tasks (continued)**

| Task                                                                   | RME 3.5 Navigation                                                                                                                                                                                        | RME 4.0 Navigation                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remove configuration file                                              | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > List Checked Out files> Undo Checkout                                                        | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor &gt; Private Configs/User Archive</li> <li>2. Select the configuration file(s) that needs to be removed.</li> <li>3. Click <b>Delete</b>.</li> </ol>                                                             |
| Save configuration File in public (config archive) work area.          | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select File &gt; Save.</li> </ol> | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>2. Select the configuration file and click Edit.</li> <li>3. Edit the configuration file.</li> <li>4. Click <b>Save</b>.</li> <li>5. Select public (config archive) location to save file.</li> </ol>  |
| Save modified configuration file in private (config editor) work area. | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select File &gt; Save.</li> </ol> | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>2. Select the configuration file and click Edit.</li> <li>3. Edit the configuration file.</li> <li>4. Click <b>Save</b>.</li> <li>5. Select private (config archive) location to save file.</li> </ol> |

Table C-6 Config Editor Tasks (continued)

| Task                           | RME 3.5 Navigation                                                                                                                                                                                                        | RME 4.0 Navigation                                                                                                                                                                                                                                                        |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Undo editing or typing changes | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Edit &gt; Undo.</li> </ol>                 | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>2. Select the configuration file and click <b>Edit</b>.</li> <li>3. Edit the configuration file.</li> <li>4. Click <b>Undo All</b>.</li> </ol> |
| Inserting Comment Lines        | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Tools &gt; Insert Comment Line.</li> </ol> | Not available.                                                                                                                                                                                                                                                            |
| Find and replace text          | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Edit &gt; Find.</li> </ol>                 | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>2. Select the configuration file and click <b>Edit</b>.</li> <li>3. Click <b>Replace All</b>.</li> </ol>                                       |
| Close Configuration File       | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select File &gt; Close.</li> </ol>                | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>2. Select the configuration file and click <b>Edit</b>.</li> <li>3. Click <b>Close</b>.</li> </ol>                                             |
| Configure Job Policies.        | Select Configuration Management > Administration > Configuration Job Setup                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Select Resource Manager Essentials &gt; Admin &gt; Config Mgmt &gt; Config Job Policies</li> <li>2. Select Config Editor</li> </ol>                                                                                             |

**Table C-6 Config Editor Tasks (continued)**

| <b>Task</b>                                  | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                    | <b>RME 4.0 Navigation</b>                                                                                                                                               |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Set up default editing mode.                 | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Edit &gt; Preferences.</li> </ol>             | Resource Manager Essentials > Admin > Config Mgmt > Config Editor                                                                                                       |
| View changes.                                | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Tools &gt; Show changes made.</li> </ol>      | Resource Manager Essentials > Config Mgmt > Config Editor> Device and Version > Edit > Tools >View Changes                                                              |
| Compare versions of the configuration files. | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Tools &gt; Compare.</li> </ol>                | Resource Manager Essentials > Config Mgmt > Config Editor> Device and Version > Edit > Tools > Compare Config                                                           |
| List of opened files.                        | <ol style="list-style-type: none"> <li>1. From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>2. Select Tools &gt; List Checked Out Files.</li> </ol> | Not available.                                                                                                                                                          |
| Browse and edit Config Editor jobs.          | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > Tools > Job Browser > Edit Job                                                                                  | Resource Manager Essentials > Config Mgmt > Config Editor > Config Editor Jobs > Edit                                                                                   |
| View job details.                            | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > Tools > Job Browser > Job Details                                                                               | <ol style="list-style-type: none"> <li>1. Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor &gt; Config Editor Jobs</li> <li>2. Click a Job ID</li> </ol> |

Table C-6 Config Editor Tasks (continued)

| Task                                 | RME 3.5 Navigation                                                                                                                                                                                      | RME 4.0 Navigation                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Create a job                         | <ol style="list-style-type: none"> <li>From the CiscoWorks desktop, select Resource Manager Essentials &gt; Configuration Management &gt; Config Editor.</li> <li>Select File &gt; Download.</li> </ol> | Resource Manager Essentials > Config Mgmt > Config Editor > Config Editor Jobs > Create                                                                                                                                                                                                                                               |
| Copy a job                           | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > Tools > Job Browser > Copy Job                                                             | Resource Manager Essentials > Config Mgmt > Config Editor > Config Editor Jobs > Copy                                                                                                                                                                                                                                                 |
| Delete a job                         | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > Tools > Job Browser > Remove Job                                                           | Resource Manager Essentials > Config Mgmt > Config Editor > Config Editor Jobs > Delete                                                                                                                                                                                                                                               |
| Stop a job                           | From the CiscoWorks desktop, select Resource Manager Essentials > Configuration Management > Config Editor > Tools > Job Browser > Stop Job                                                             | Resource Manager Essentials > Config Mgmt > Config Editor > Config Editor Jobs > Stop                                                                                                                                                                                                                                                 |
| Check the configuration file syntax. | Not applicable.                                                                                                                                                                                         | <ol style="list-style-type: none"> <li>Select Resource Manager Essentials &gt; Config Mgmt &gt; Config Editor.</li> <li>Select the configuration file and click <b>Edit</b>.</li> <li>Edit the configuration file.</li> <li>Click <b>Save</b>.</li> <li>Click <b>Tools</b>.</li> <li>Click <b>External Syntax Checker</b>.</li> </ol> |

**Table C-7 Data Extracting Engine (DEE)**

| Task                                        | RME 3.5 Navigation              | RME 4.0 Navigation                                                                                                                      |
|---------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Generating inventory data in XML format     | <code>cwexport inventory</code> | <code>cwcli export config</code>                                                                                                        |
| Generating configuration data in XML format | <code>cwexport config</code>    | <code>cwcli export inventory</code><br>In RME 4.0, you can also export Change Audit data using<br><code>cwcli export changeaudit</code> |

**Table C-8 Software Management Tasks**

| Task                                         | RME 3.5 Navigation                                                                     | RME 4.0 Navigation                                                                                                                                                                                                                                            |
|----------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Set up your Software Management preferences. | Resource Manager Essentials > Administration > Software Management > Edit Preferences. | Resource Manager Essentials > Admin Software Mgmt > View/Edit Preferences                                                                                                                                                                                     |
| Add images to the library                    | Resource Manager Essentials > Software Management > Library > Add Images.              | Resource Manager Essentials > Software Mgmt > Software Repository.<br>You can add devices through: <ul style="list-style-type: none"> <li>• Cisco.com</li> <li>• Device</li> <li>• File System</li> <li>• URL — New for RME 4.0</li> <li>• Network</li> </ul> |
| Browse the library.                          | Resource Manager Essentials > Software Management > Library > Browse Images.           | Resource Manager Essentials > Software Mgmt > Software Repository.                                                                                                                                                                                            |
| Search the library.                          | Resource Manager Essentials > Software Management > Library > Search for Images.       | Resource Manager Essentials > Software Mgmt > Software Repository and use the Filter button.                                                                                                                                                                  |

**Table C-8 Software Management Tasks (continued)**

| <b>Task</b>                               | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                                                                                      | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                        |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| View a synchronization report.            | Resource Manager Essentials > Software Management > Library > Synchronization Report.                                                                                                                                                                                                          | Select Resource Manager Essentials > Software Mgmt > Software Repository > Software Repository Synchronization.                                                                                                                                  |
| Schedule a synchronization job.           | Resource Manager Essentials > Administration > Software Management > Schedule Synchronization Job.                                                                                                                                                                                             | Resource Manager Essentials > Software Mgmt > Software Repository > Software Repository Synchronization.                                                                                                                                         |
| Schedule image upgrade jobs.              | Resource Manager Essentials > Software Management > Distribution > Distribute by Devices.<br>Resource Manager Essentials > Software Management > Distribution > Distribute by Images.<br>Resource Manager Essentials > Software Management > Remote Staging > Remote Staging and Distribution. | Resource Manager Essentials > Software Mgmt > Software Distribution. <ul style="list-style-type: none"> <li>• By devices [Basic]</li> <li>• By devices [Advanced] — New for RME 4.0</li> <li>• By image</li> <li>• Use remote staging</li> </ul> |
| View the upgrade jobs                     | Resource Manager Essentials > Software Management > Job Management > Browse Jobs.                                                                                                                                                                                                              | Resource Manager Essentials > Software Mgmt > Software Mgmt Jobs                                                                                                                                                                                 |
| Plan an upgrade from Cisco.com.           | Resource Manager Essentials > Software Management > Distribution > CCO Upgrade Analysis.                                                                                                                                                                                                       | Resource Manager Essentials > Software Mgmt > Software Distribution > Upgrade Analysis                                                                                                                                                           |
| Plan an upgrade from the library.         | Resource Manager Essentials > Software Management > Distribution > Library Upgrade Analysis.                                                                                                                                                                                                   | Resource Manager Essentials > Software Mgmt > Software Distribution > Upgrade Analysis                                                                                                                                                           |
| Review scheduled jobs or undo an upgrade. | Resource Manager Essentials > Software Management > Job Management > Browse Jobs.                                                                                                                                                                                                              | Resource Manager Essentials > Software Mgmt > Software Mgmt Jobs                                                                                                                                                                                 |
| View consolidated job information.        | Resource Manager Essentials > Software Management > Job Management > Consolidated Job Report.                                                                                                                                                                                                  | Resource Manager Essentials > Software Mgmt > Software Mgmt Jobs                                                                                                                                                                                 |

**Table C-8 Software Management Tasks (continued)**

| <b>Task</b>                           | <b>RME 3.5 Navigation</b>                                                                      | <b>RME 4.0 Navigation</b>                                                                    |
|---------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Update upgrade information.           | Resource Manager Essentials > Administration > Software Management > Update Upgrade Info.      | Resource Manager Essentials > Admin Software Mgmt > Update Upgrade Information               |
| View recent software upgrade results. | Resource Manager Essentials > 24-Hour Reports > Software Upgrade Report.                       | Not available.                                                                               |
| Mail or copy log files.               | Resource Manager Essentials > Software Management > Job Management > Mail or Copy Log File.    | Not available.                                                                               |
| Browse history.                       | Resource Manager Essentials > Software Management > History > Browse History.                  | Not available.                                                                               |
| Search history by device.             | Resource Manager Essentials > Software Management > History > Search History by Device.        | Not available.                                                                               |
| Search history by user.               | Resource Manager Essentials > Software Management > History > Search History by User.          | Not available.                                                                               |
| Browse bugs.                          | Resource Manager Essentials > Software Management > Bug Reports > Browse Bugs.                 | Moved to Bug Toolkit application<br>Resource Manager Essentials > Reports > Report Generator |
| Schedule a Browse Bugs job.           | Resource Manager Essentials > Administration > Software Management > Schedule Browse Bugs Job. | Moved to Bug Toolkit application<br>Resource Manager Essentials > Reports > Report Generator |
| Browse bugs by device.                | Resource Manager Essentials > Software Management > Bug Report > Browse Bugs by Device.        | Moved to Bug Toolkit application<br>Resource Manager Essentials > Reports > Report Generator |
| Locate devices by bugs.               | Resource Manager Essentials > Software Management > Bug Report > Locate Devices by Bugs.       | Moved to Bug Toolkit application<br>Resource Manager Essentials > Reports > Report Generator |

Syslog Analysis module of RME 3.5 is termed Syslog. The following table maps the RME 3.5 Syslog option to the ones in RME 4.0:

**Table C-9 Syslog Tasks**

| Task                               | RME 3.5 Navigation                                                     | RME 4.0 Navigation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Generate a severity level summary. | Resource Manager Essentials > Syslog Analysis > Severity Level Summary | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Syslog option from the Application drop-down list.</li> <li>2. Select Severity Level Summary Report from the Report drop-down list.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Generate a standard report.        | Resource Manager Essentials > Syslog Analysis > Standard Reports       | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Syslog option from the Application drop-down list.</li> <li>2. Select Standard Report from the Report drop-down list.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Generate a custom report.          | Resource Manager Essentials > Syslog Analysis > Custom Reports         | Resource Manager Essentials > Reports > Custom Report Templates. The Custom templates dialog box appears.<br><br><ol style="list-style-type: none"> <li>1. Click <b>Create</b>.</li> </ol> <p>The Application Selection dialog box appears.</p> <ol style="list-style-type: none"> <li>2. Select Syslog and click <b>Next</b>.</li> </ol> <p>To view previously created custom reports, select Resource Manager Essentials &gt; Reports &gt; Report Generator.</p> <ol style="list-style-type: none"> <li>1. Select the Inventory option from the Application drop-down list.</li> <li>2. Select the required custom report from the Report drop-down list. Custom reports appear separated by a line from standard reports.</li> </ol> |

Table C-9 Syslog Tasks (continued)

| Task                                     | RME 3.5 Navigation                                                                       | RME 4.0 Navigation                                                                                                                                                                                                                                                                        |
|------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Generate a custom report summary.        | Resource Manager Essentials > Syslog Analysis > Custom Report Summary                    | Resource Manager Essentials > Reports > Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Syslog option from the Application drop-down list.</li> <li>2. Select Custom Report Summary from the Report drop-down list.</li> </ol>                                     |
| Generate a report for unmanaged devices. | Resource Manager Essentials > Syslog Analysis > Unexpected Device Reports                | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Syslog option from the Application drop-down list.</li> <li>2. Select Unexpected Device Report from the Report drop-down list.</li> </ol>                           |
| Generate a report for workflow devices.  | Resource Manager Essentials > Syslog Analysis > Workflow Report                          | Not available.                                                                                                                                                                                                                                                                            |
| View status                              | Resource Manager Essentials > Administration > Syslog Analysis > Syslog Collector Status | Resource Manager Essentials > Tools Syslog > Syslog Collector Status                                                                                                                                                                                                                      |
| Set up data storage options.             | Resource Manager Essentials > Administration > Syslog Analysis > Change Storage Options  | Set the backup policy using Resource Manager Essentials > Admin > Syslog > Set Backup Policy<br><br>Set the purge policy using Resource Manager Essentials > Admin > Syslog > Set Purge Policy                                                                                            |
| Define custom reports.                   | Resource Manager Essentials > Administration > Syslog Analysis > Define Custom Reports   | Resource Manager Essentials > Reports > Custom Report Templates. The Custom templates dialog box appears.<br><br><ol style="list-style-type: none"> <li>1. Click <b>Create</b>. The Application Selection dialog box appears.</li> <li>2. Select Syslog and click <b>Next</b>.</li> </ol> |

**Table C-9 Syslog Tasks (continued)**

| <b>Task</b>               | <b>RME 3.5 Navigation</b>                                                                | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                       |
|---------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Define message filters.   | Resource Manager Essentials > Administration > Syslog Analysis > Define Message Filter   | Resource Manager Essentials > Tools > Syslog > Message Filters                                                                                                                                                                                  |
| Define automated actions. | Resource Manager Essentials > Administration > Syslog Analysis > Define Automated Action | Resource Manager Essentials > Tools > Syslog > Automated Actions                                                                                                                                                                                |
| Change URL.               | Resource Manager Essentials > Administration > Syslog Analysis > Change User URL         | Not available.                                                                                                                                                                                                                                  |
| Generate 24 hour reports. | Resource Manager Essentials > 24-Hour Reports > Syslog Messages                          | Resource Manager Essentials > Reports > Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Syslog option from the Application drop-down list.</li> <li>2. Select 24 Hour Reports from the Report drop-down list.</li> </ol> |

**Table C-10 Change Audit Tasks**

| <b>Task</b>                           | <b>RME 3.5 Navigation</b>                                                                | <b>RME 4.0 Navigation</b>                                                               |
|---------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Delete records from the log.          | Resource Manager Essentials > Administration > Change Audit > Delete Change History.     | Admin > Change Audit > Set Purge Policy<br><br>or<br>Admin > Change Audit > Force Purge |
| Convert change records to SNMP traps. | Resource Manager Essentials > Administration > Change Audit > Administer Trap Generator. | Resource Manager Essentials > Tools > Change Audit > Automated Action                   |
| Define an exceptions period.          | Resource Manager Essentials > Administration > Change Audit > Define Exceptions Summary. | Resource Manager Essentials > Tools > Change Audit > Exception Periods                  |
| Set up filtering options.             | Resource Manager Essentials > Change Audit > Search Change Audit.                        | Not available.                                                                          |

**Table C-10**      **Change Audit Tasks (continued)**

| <b>Task</b>                                          | <b>RME 3.5 Navigation</b>                                            | <b>RME 4.0 Navigation</b>                                                                                                                                                                                                                                            |
|------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| View changes in an exception period.                 | Resource Manager Essentials > Change Audit > Exceptions Summary.     | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Change Audit option from the Application drop-down list.</li> <li>2. Select Exception Period Report from the Report drop-down list.</li> </ol> |
| View all change records.                             | Resource Manager Essentials > Change Audit > All Changes.            | Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select the Change Audit option from the Application drop-down list.</li> <li>2. Select Standard Report from the Report drop-down list.</li> </ol>         |
| View a summary of changes made in the last 24-hours. | Resource Manager Essentials > 24-Hour Reports > Change Audit Report. | Resource Manager Essentials > Reports > Report Generator<br><br><ol style="list-style-type: none"> <li>1. Select the Change Audit option from the Application drop-down list.</li> <li>2. Select 24 Hour Report from the Report drop-down list.</li> </ol>           |

**Table C-11**      **Job Approval Tasks**

| <b>Task</b>              | <b>RME 3.5 Navigation</b>                                                             | <b>RME 4.0 Navigation</b>                                                        |
|--------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Approve or reject jobs.  | Resource Manager Essentials > Administration > Job Approval > Approve or Reject Jobs. | Resource Manager Essentials > Job Mgmt > Job Approval.                           |
| Set up Job Approval.     | Resource Manager Essentials > Administration > Job Approval > Edit Preferences.       | Resource Manager Essentials > Admin > Approval > Approval Policies.              |
| Create an approver list. | Resource Manager Essentials > Administration > Job Approval > Create Approver List.   | Resource Manager Essentials > Admin > Job Approval > Create/Edit Approver Lists. |

**Table C-11**      **Job Approval Tasks (continued)**

| <b>Task</b>            | <b>RME 3.5 Navigation</b>                                                         | <b>RME 4.0 Navigation</b>                                                        |
|------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Edit an approver list. | Resource Manager Essentials > Administration > Job Approval > Edit Approver List. | Resource Manager Essentials > Admin > Job Approval > Create/Edit Approver Lists. |
| Enable jobs            | Resource Manager Essentials > Administration > Job Approval > Enable Jobs.        | Not available. You cannot migrate the RME 3.x jobs.                              |

**Table C-12**      **System Configuration Tasks**

| <b>Task</b>                       | <b>RME 3.5 Navigation</b>                                                                              | <b>RME 4.0 Navigation</b>                                                                  |
|-----------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Set up a proxy URL.               | Select Resource Manager Essentials > Administration > System Configuration, then select the Proxy tab. | Common Services > Server > Security > Cisco.com Connection Management > Proxy Server Setup |
| Define SNMP timeouts and retries. | Select Resource Manager Essentials > Administration > System Configuration, then select the SNMP tab.  | Resource Manager Essentials > Admin > System Preferences > RME Device Attributes           |
| Define the SMTP server name.      | Select Resource Manager Essentials > Administration > System Configuration, then select the SMTP tab.  | Common Services > Server > Admin > System Preferences                                      |
| Define rcp usernames.             | Select Resource Manager Essentials > Administration > System Configuration, then select the rcp tab.   | Common Services > Server > Admin > System Preferences                                      |

**Table C-13 Network Show Commands Tasks<sup>1</sup>**

| <b>Task</b>           | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                                                                         | <b>RME 4.0</b>                                                                                                                                                                                              |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Browse NetShow Jobs   | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br><ol style="list-style-type: none"> <li>1. Select a job record.</li> <li>2. Click Edit Job, Stop Job, Remove Job, Copy Job, or Job Details.</li> </ol> | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.                                                                                                                                        |
| NetShow Batch Reports | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports.                                                                                                                                                                            | Associating Devices and Command Sets can be done in the Job flow. There is no Batch Reports in 4.0 SP1.                                                                                                     |
| View Job Details      | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br><ol style="list-style-type: none"> <li>1. Select a job record.</li> <li>2. Click Job Details.</li> </ol>                                              | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br>Click the Job ID hyperlink of the job whose details you want to see.                                                            |
| Create NetShow Jobs   | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Schedule Reports.<br><br>Or<br><br>Select Resource Manager Essentials > Configuration Management > Network Show Commands > Immediate Execution.                           | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br>Click Create in the NetShow Job Browser.                                                                                        |
| Edit NetShow Jobs     | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br><ol style="list-style-type: none"> <li>1. Select a job record.</li> <li>2. Click Edit Job.</li> </ol>                                                 | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br><ol style="list-style-type: none"> <li>1. Select a scheduled job.</li> <li>2. Click Edit in the NetShow Job Browser.</li> </ol> |

**Table C-13 Network Show Commands Tasks<sup>1</sup> (continued)**

| <b>Task</b>              | <b>RME 3.5 Navigation</b>                                                                                                                                                   | <b>RME 4.0</b>                                                                                                                                                                          |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copy NetShow Jobs        | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br>1. Select a job record.<br>2. Click Copy Job.   | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br>1. Select the job you want to create a copy of.<br>2. Click Copy.                                           |
| Stop NetShow Jobs        | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br>1. Select a job record.<br>2. Click Stop Job.   | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br>1. Select the job you want to stop.<br>2. Click Stop.                                                       |
| Delete NetShow Jobs      | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Job Browser.<br><br>1. Select a job record.<br>2. Click Remove Job. | Select Resource Manager Essentials > Tools > NetShow > NetShow Jobs.<br><br>1. Select a job or a number of jobs that you want to delete.<br>2. Click Delete in the NetShow Job Browser. |
| View NetShow Output      | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > View Report Output.                                                 | Select Resource Manager Essentials > Tools > NetShow > Output Archive.<br><br>1. Select an Archive ID.<br>2. Click View.                                                                |
| View Command Set Details | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.                                                         | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br>Click the name of a Command Set in the List of Command Sets.                                                |
| Create Command Sets      | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.                                                         | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br>Click Create in the Command Sets window.                                                                    |

**Table C-13 Network Show Commands Tasks<sup>1</sup> (continued)**

| <b>Task</b>                | <b>RME 3.5 Navigation</b>                                                                                                                                                                                                                                                                              | <b>RME 4.0</b>                                                                                                                                                                                                                       |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Edit Command Sets          | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.                                                                                                                                                                                    | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Select the name of the Command Set in the List of Command Sets.</li> <li>2. Click Edit.</li> </ol>             |
| Delete Command Sets        | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.                                                                                                                                                                                    | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Select the Command Set(s) you want to delete in the List of Command Sets.</li> <li>2. Click Delete.</li> </ol> |
| Add Adhoc Commands         | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.<br><br>Enter adhoc commands in the Custom Command Definition field.                                                                                                                | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Enter the adhoc commands in the Adhoc Commands text box.</li> <li>2. Click Add Adhoc.</li> </ol>               |
| Delete Adhoc Commands      | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Define Command Set.<br><br><ol style="list-style-type: none"> <li>1. Select the custom command in the column on the right.</li> <li>2. Click Delete in the Custom Command Definition field.</li> </ol> | Select Resource Manager Essentials > Tools > NetShow > Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Enter the adhoc commands in the Adhoc Commands text box.</li> <li>2. Click Delete Adhoc.</li> </ol>            |
| Show Assigned Command Sets | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Assign Users.                                                                                                                                                                                          | Select Resource Manager Essentials > Tools > NetShow > Assigning Command Sets.<br><br>Enter the username in the Username field and click Show Assigned.                                                                              |

Table C-13 Network Show Commands Tasks<sup>1</sup> (continued)

| Task                                      | RME 3.5 Navigation                                                                                                        | RME 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assign Command Sets                       | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Assign Users.             | Select Resource Manager Essentials > Tools > NetShow > Assigning Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Enter the username in the Username field.</li> <li>2. Select the Command Sets that you want to allocate to the user from the Available User-Defined Command Sets list.</li> <li>3. Click Add.</li> <li>4. After you have added all the required Command Sets to the Selected User-Defined Command Sets list box, click Assign to assign the Command Sets access privileges to the specified user.</li> </ol> |
| Assign Custom Command Execution Privilege | Select Resource Manager Essentials > Administration > Configuration Management > Network Show > Assign Users.             | Select Resource Manager Essentials > Tools > NetShow > Assigning Command Sets.<br><br><ol style="list-style-type: none"> <li>1. Enter the username in the Username field.</li> <li>2. Check the Custom Command Execution check box to assign custom command execution privilege to the user.</li> </ol>                                                                                                                                                                                                                                      |
| NetShow command line execution            | Use the <code>cwconfig netshowbatch</code> command.                                                                       | Use the <code>cwcli netshow</code> command.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Configure Job Policies                    | Select Resource Manager Essentials > Configuration Management > Network Show Commands > Batch Reports > Set Job Policies. | Select Resource Manager Essentials > Admin > Config Mgmt > Config Job Policies and select <b>NetShow</b> from the drop-down list.                                                                                                                                                                                                                                                                                                                                                                                                            |

1. NetShow tasks will be available after you install RME 4.0 SP1. RME 4.0 SP1 is available at <http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>. The Readme for Resource Manager Essentials 4.0 Service Pack 1 is also available at the same location.

**Table C-14 Contract Connection Tasks<sup>1</sup>**

| Task                               | RME 3.5 Navigation                                                                | RME 4.0                                                                                                                                                                                                                                                                                |
|------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Access and use Contract Connection | Select Resource Manager Essentials > Contract Connection > Check Contract Status. | Select Resource Manager Essentials > Reports > Report Generator.<br><br><ol style="list-style-type: none"> <li>1. Select Contract Connection from the drop-down list box on the left.</li> <li>2. Select Report Based on Contract from the drop-down list box on the right.</li> </ol> |

1. Contract Connection tasks will be available after you install RME 4.0 SP1. RME 4.0 SP1 is available at <http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>. The Readme for Resource Manager Essentials 4.0 Service Pack 1 is also available at the same location.

**Table C-15 Case Management Tasks (SmartCase)<sup>1</sup>**

| Task                                     | RME 3.5 Navigation                                                                                                                                  | RME 4.0                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Open/Query or Update a case on Cisco.com | Select Management Connection > Case Management > Open Case.<br><br>or<br><br>Select Management Connection > Case Management > Query or Update Case. | Select Resource Manager Essentials > Tools > SmartCase. |

1. Case Management tasks will be available after you install RME 4.0 SP1. RME 4.0 SP1 is available at <http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-rme>. The Readme for Resource Manager Essentials 4.0 Service Pack 1 is also available at the same location.

**Table C-16 Availability Tasks**

| Task                   | RME 4.0                             |
|------------------------|-------------------------------------|
| All Availability tasks | These are not supported in RME 4.0. |



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