



# Cisco RF Gateway 1 Remote Management Utility (RMU) User Guide









# For Your Safety

## Explanation of Warning and Caution Icons

Avoid personal injury and product damage! Do not proceed beyond any symbol until you fully understand the indicated conditions.

The following warning and caution icons alert you to important information about the safe operation of this product:

-  **You may find this symbol in the document that accompanies this product. This symbol indicates important operating or maintenance instructions.**
-  **You may find this symbol affixed to the product. This symbol indicates a live terminal where a dangerous voltage may be present; the tip of the flash points to the terminal device.**
-  **You may find this symbol affixed to the product. This symbol indicates a protective ground terminal.**
-  **You may find this symbol affixed to the product. This symbol indicates a chassis terminal (normally used for equipotential bonding).**
-  **You may find this symbol affixed to the product. This symbol warns of a potentially hot surface.**
-  **You may find this symbol affixed to the product and in this document. This symbol indicates an infrared laser that transmits intensity-modulated light and emits invisible laser radiation or an LED that transmits intensity-modulated light.**

## Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

# Notices

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## Safe Operation for Software Controlling Optical Transmission Equipment

If this manual discusses software, the software described is used to monitor and/or control ours and other vendors' electrical and optical equipment designed to transmit video, voice, or data signals. Certain safety precautions must be observed when operating equipment of this nature.

For equipment specific safety requirements, refer to the appropriate section of the equipment documentation.

For safe operation of this software, refer to the following warnings.

**WARNING:**

- **Ensure that all optical connections are complete or terminated before using this equipment to remotely control a laser device. An optical or laser device can pose a hazard to remotely located personnel when operated without their knowledge.**
- **Allow only personnel trained in laser safety to operate this software. Otherwise, injuries to personnel may occur.**
- **Restrict access of this software to authorized personnel only.**
- **Install this software in equipment that is located in a restricted access area.**





# 1

## Introduction

### Overview

The Cisco RF Gateway 1 Remote Management Utility (RMU) allows the user to perform remote operations such as software upgrade, backup, restore, and others on a group of RF Gateway systems simultaneously. These operations can also be performed on a per QAM basis by accessing the embedded web user interface of the RF Gateway 1.

### Purpose

This user guide provides the necessary information to install, operate, maintain, and upgrade the RMU application.

### Who Should Use This Document

This document is intended for authorized service personnel who have experience working with the RF Gateway 1 or similar equipment.

### Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to install, operate, maintain, and service this product.

**WARNING:**



**Allow only qualified and skilled personnel to install, operate, maintain, and service this product. Personal injury or equipment damage may occur.**

### Document Version

This is the second release of this guide. This document is intended to be used with the Online Help tool.

# In This Chapter

- Features and Benefits ..... 3
- Open Source Technology ..... 5
- Functional Description..... 7

# Features and Benefits

## Primary Benefits

The RMU provides the following benefits for managing installed QAMs:

- Mass software upgrade
- Mass backup and restore
- Group QAMs based on user preference
- Consolidated display of up to 1000 QAM status

## Primary Features

The primary features are as follows:

- Web-based user interface provides access from anywhere the network is accessible
- Easy installation and upgrade
- Runs on any web server that supports PHP and cURL
- Controlled access based on user login

## RMU Installation CD

The RMU installation CD contains the following:

### Documentation

- *Cisco RF Gateway 1 Remote Management Utility (RMU) User Guide, part number 4029541*

### Open Source Supplement

- *Open Source Supplement Cisco RF Gateway 1, part number 7019132*

### Software

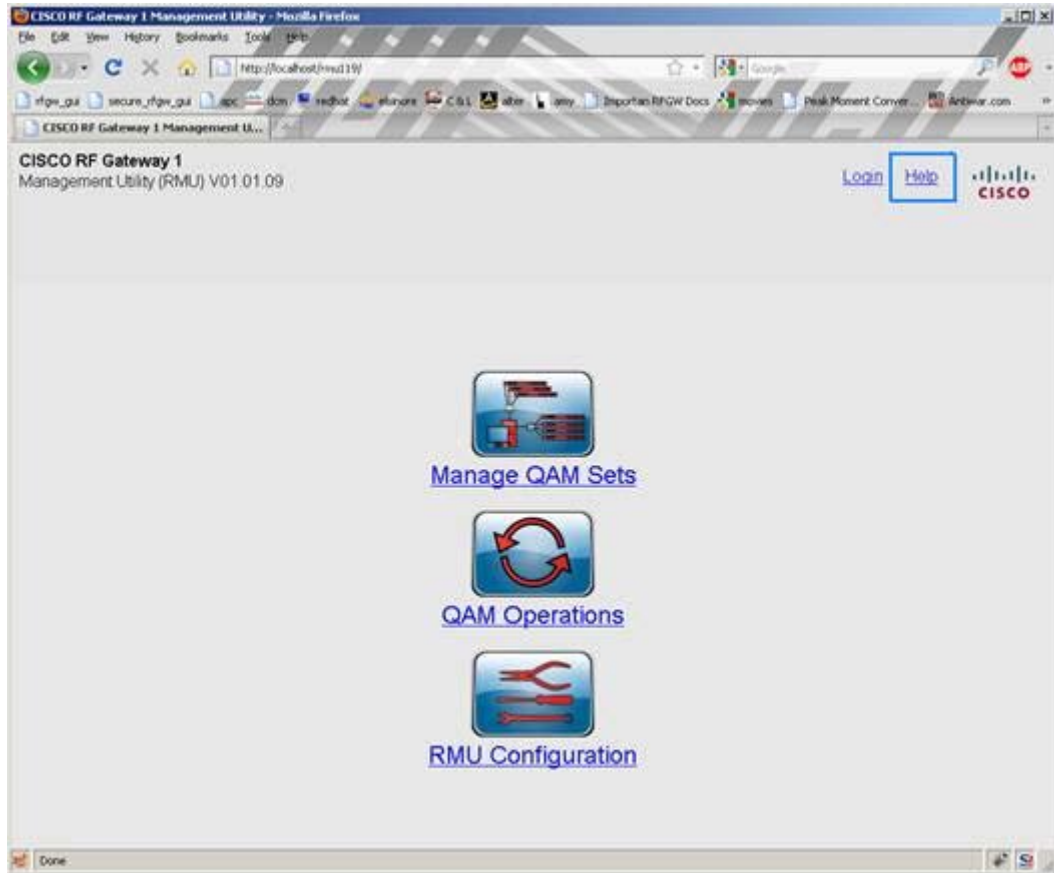
- readme.txt
- setup.txt

### RMU

- 105 files, 1 folder

## Online Help

The RMU Online Help System provides an easy and convenient guide to any RMU feature. Click the **Help** button as shown in the screen below to access RMU features.



## Open Source Technology

The RMU includes open source technologies, such as PHP and cURL. XAMPP is a pre-configured installer from [apachefriends.org](http://www.apachefriends.org) for Apache and PHP and has been designed and tested for use with Microsoft Windows platform. Refer to the End User License Agreement and Open Source Supplement included on the RMU installation CD for further information on open source technologies associated with this product and related licenses.

### Client Software

The recommended RMU client software is Mozilla Firefox 2.0 or Internet Explorer 6.0 browser.

### RMU and Operating System

The RMU installation CD is designed for use in a Microsoft Windows operating system. If your operating system is other than Microsoft windows, you may, at your sole discretion, access the following discretionary open source software.

- XAMPP - <http://www.apachefriends.org/en/xampp.html>
- Libcurl - <http://curl.haxx.se/download.html>
- Apache web server - <http://httpd.apache.org/download.cgi> (not needed if XAMPP is used)
- PHP 5 - <http://www.php.net/downloads.php> (not needed if XAMPP is used)

Component	Windows	Linux	Solaris	Remarks
XAMPP	1.6.6a			
Libcurl	7.16.0			Installed as part of XAMPP
Apache	2.2.8			Installed as part of XAMPP
PHP	5.2.5			Installed as part of XAMPP

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## Chapter 1 Introduction

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## Functional Description

The following table illustrates the functional components of the RMU. As new features are added or bugs found, the QAM software will be updated. Cisco recommends that you backup the QAM configuration periodically to avoid system crashes.

<b>Manage QAM Sets</b> <ul style="list-style-type: none"> <li>■ Create/delete QAM sets</li> <li>■ Add/remove QAMs</li> <li>■ Check active status</li> </ul>	<b>Access Control</b>  <b>login</b>
<b>QAM Operations</b> <ul style="list-style-type: none"> <li>■ Upgrade/backup QAMs</li> <li>■ View QAM status</li> </ul>	<b>Logs</b>
<b>RMU Configuration</b> <ul style="list-style-type: none"> <li>■ FTP settings</li> <li>■ User Ids</li> </ul>	

- The RMU allows logical grouping of a number of QAMs by adding them to a group/set. New groups can be created and existing ones can be modified or deleted using the *Manage QAM Sets* feature. The RMU can hold up to 1000 QAMs in 50 QAM sets. One set can hold a maximum of 100 QAMs.
- Downloading and activating new software, and backing up and restoring the QAM configuration can be done using the *QAM Operations* feature. Initiating a QAM operation causes the action to be performed on all QAMs in the selected set.
- The RMU needs to be configured to talk to the FTP server where the release files are stored. This can be done using the *RMU Configuration* feature. FTP information is also required for backup and restore operations.
- The RMU access is controlled via user login. Login is required for initiating any QAM operation. Administrator login is required to manage user logins.
- The RMU operations are logged in the back-end and are accessible for viewing.





# 2

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## Installation

This chapter provides instructions for installing the RMU.

### In This Chapter

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■ Preparing the Server.....	12
■ Web Server Installation.....	14
■ RMU Installation.....	16

## Before you Begin

Before you begin, make sure your server runs one of the following:

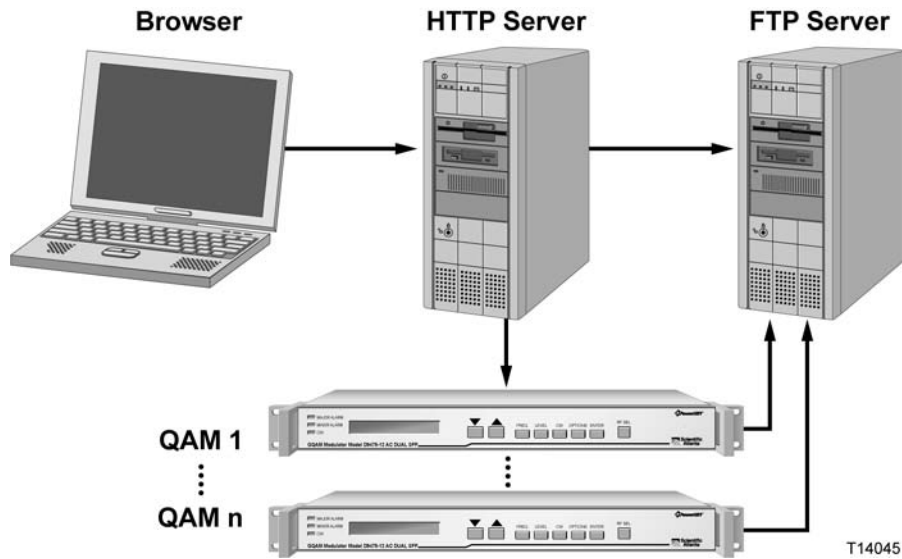
- Windows
- Linux
- Solaris

In addition, make sure to check the following:

- You have the RMU distribution CD.
- You know the login credentials. A password required for configuring the RMU.
- You can connect to the FTP server.

# System Overview

The following diagram provides an overview of the RMU application.



## Preparing the Server

It is recommended that the RMU be installed on a Windows machine that does not have a web server installed. Installing the RMU on a PC not running Windows requires knowledge of XAMPP and Apache. Also, no installation CD is available.

To install the RMU on a PC running Windows with no installed web server:

- 1 Use the installer included on the RMU installation CD.
- 2 Follow the instructions in the readme.txt file and then configure the RMU. Refer to *Configuring the RMU* (on page 17).

To install the RMU on a PC running Windows with an installed web server:

- 1 Copy the RMU folder and all its contents from the RMU installation CD to the proper folder on your web server. Check to make sure that cURL is installed.
- 2 Download XAMPP and cURL library for the given operating system. Refer to Open Source Technology for URL links.
- 3 Install the supporting components as shown in the table below.

Component	Notes
XAMPP	Install XAMPP  <b>Example:</b> c:\xampp
cURL	Copy the downloaded cURL library module to a sub-folder under XAMPP installation.  <b>Example:</b> c:\xampp\libcurl
PHP	PHP is installed as part of XAMPP. Follow the instructions below to configure cURL. <ul style="list-style-type: none"> <li>■ Open php.ini in a text editor</li> <li>■ Search for the string curl in php.ini</li> <li>■ Enable cURL by removing the comment. The line containing the curl setting should look like the following:  extension=php_curl.dll</li> </ul> <p><b>Note:</b> Modify all php.ini files if your installation contains more than one php.ini file (you may find them in multiple folders).</p> <p><b>Example:</b> c:\xampp\apache\bin and c:\xampp\php</p>

**Result:** After the components have installed successfully, the following folder structure appears. The libcurl folder under xampp is manually created.



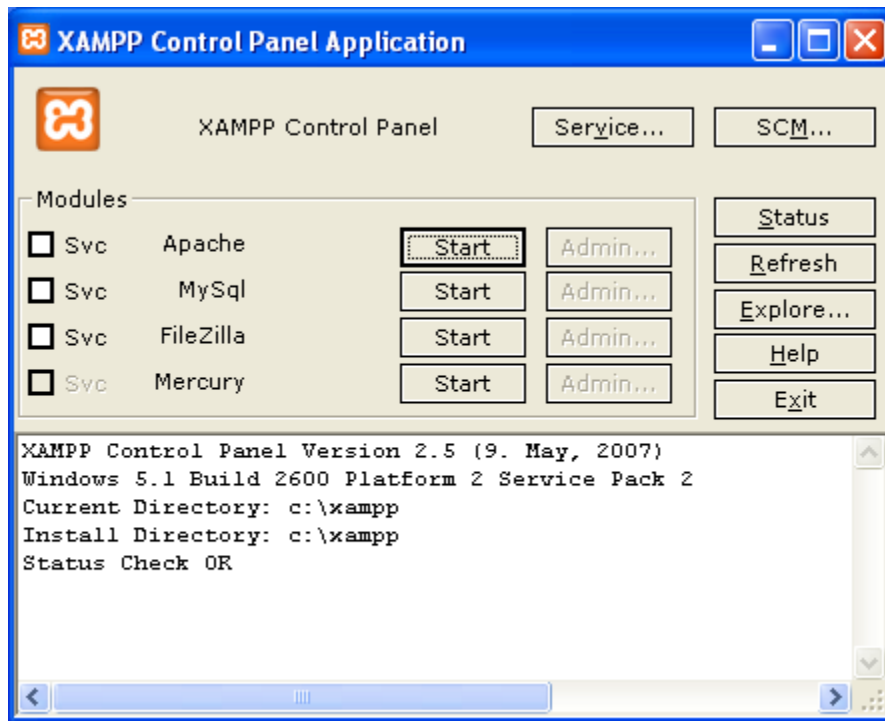
## Web Server Installation

To install the XAMPP web server application, follow the instructions below.

- 1 Double-click the following Windows icon.



**Result:** The following screen appears.



TP558

- 2 Click the **Start** button next to **Apache**.
- 3 Once Apache starts, click the **Exit** button to close the control panel window.
- 4 Open a web browser on the same machine.
- 5 Enter the URL **http://localhost/**.

**Result:** The following window appears:



TP559

- 6 Click the **phpinfo()** link located on the left side of the window.
- 7 Scroll down until you see the following information.



**curl**

<b>cURL support</b>	enabled
<b>cURL Information</b>	libcurl/7.16.0 OpenSSL/0.9.8g zlib/1.2.3

TP560

- 8 Make sure **cURL support** is set to enabled as shown.

**Note:** For additional information on installing and configuring Apache, PHP and cURL, refer to pertinent websites.

## RMU Installation

Obtain RMU scripts from the distribution CD's RMU folder.

Follow the steps below to install the RMU scripts.

- 1 Create an RMU folder under the htdocs folder of your web server installation.

**Example:** c:\xampp\htdocs\rmu

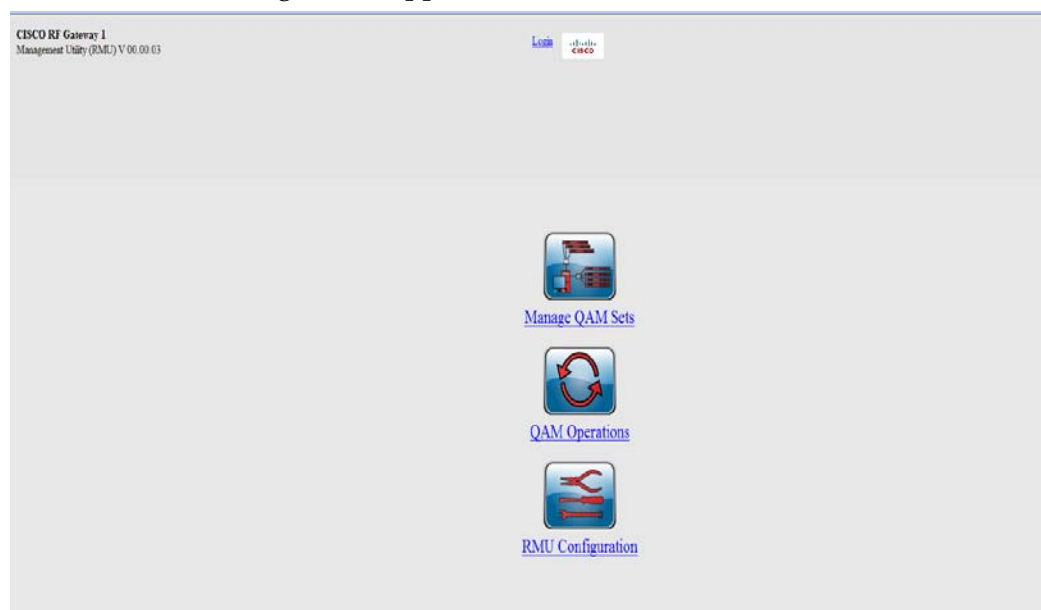
- 2 Copy all RMU scripts to the htdocs folder. Do not edit any of these files.

**Notes:**

- RMU scripts contain files with the following extensions: .html, .php, .gif, .png, .js, .css, .dat
- RMU creates a number of files when in use. It is advised not to delete or modify any files in the RMU folder.

- 3 Open a web browser on the same machine and enter **http://localhost/rmu**.

**Result:** The following screen appears.



## Network Access

To verify network access, follow the steps below.

- 1 Connect your server to the network and check the IP address.
- 2 Enter the URL **http://<ip address>/rmu** on a browser running on another machine connected to the same network.
- 3 Make sure the RMU is accessible within the network.



# 3

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## Configuring the RMU

This chapter describes how to configure the RMU.

### In This Chapter

- Security Settings..... 18
- FTP Settings ..... 20

## Security Settings

### RMU Login

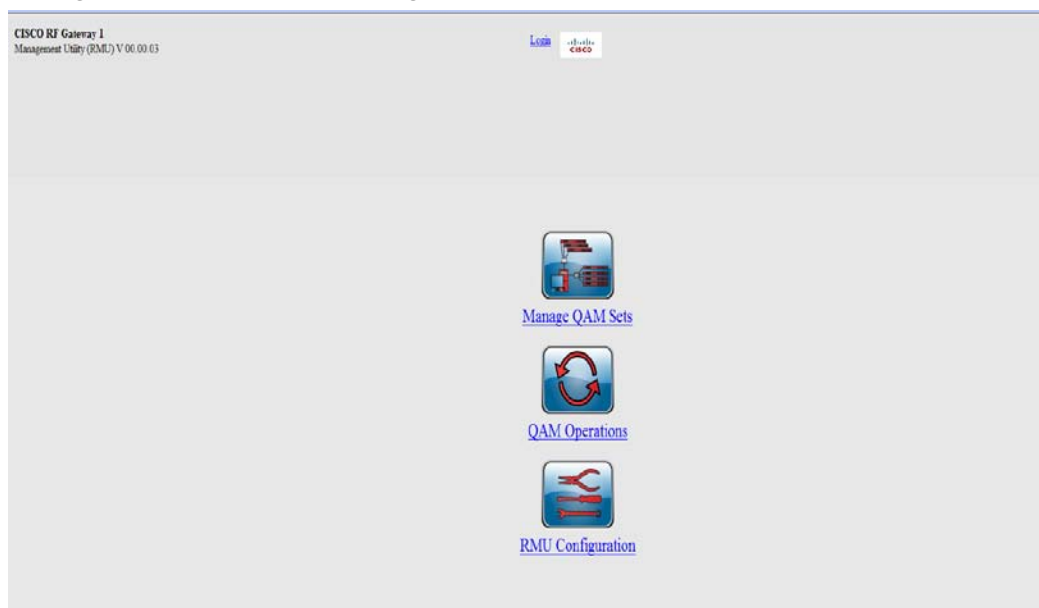
Login is required for accessing many RMU functions. Login is valid for 5 hours, after which the system automatically logs out.

**Notes:**

- You cannot assign administrative privilege to regular users.
- Administrator user ID is fixed and cannot be deleted.
- It is recommended that you change your password after installation
- Maximum number of user IDs is limited to 5, including administrator.

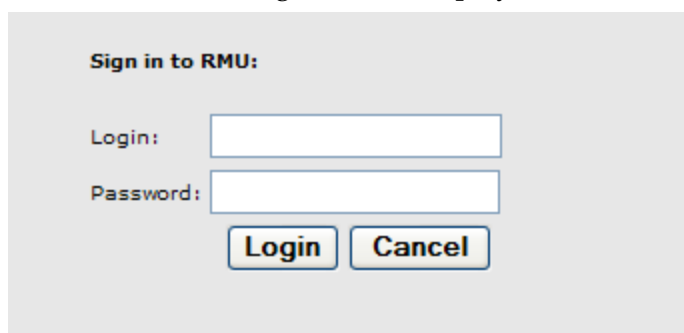
Follow the instructions below to login to the RMU.

- 1 Navigate to the RMU home page as shown below.




- 2 Click the **Login** link at the top of the screen.

**Result:** The following screen is displayed.

The image shows a login form titled "Sign in to RMU:". It has two input fields: "Login:" and "Password:". Below the fields are two buttons: "Login" and "Cancel".

- 3 Enter your login Id and password.
- 4 Click the **Login** button.  
**Result:** The home page is again displayed.
- 5 Click **RMU Configuration**.  
**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

\*QAM List last refreshed at: 16:16 PM 2009 Mar 03

**RMU Configuration**

**FTP Settings** **RMU Login Management**

Server IP:

Login Id:

Password:

Remote path for configuration file backup/restore:

Remote path for software upgrade:

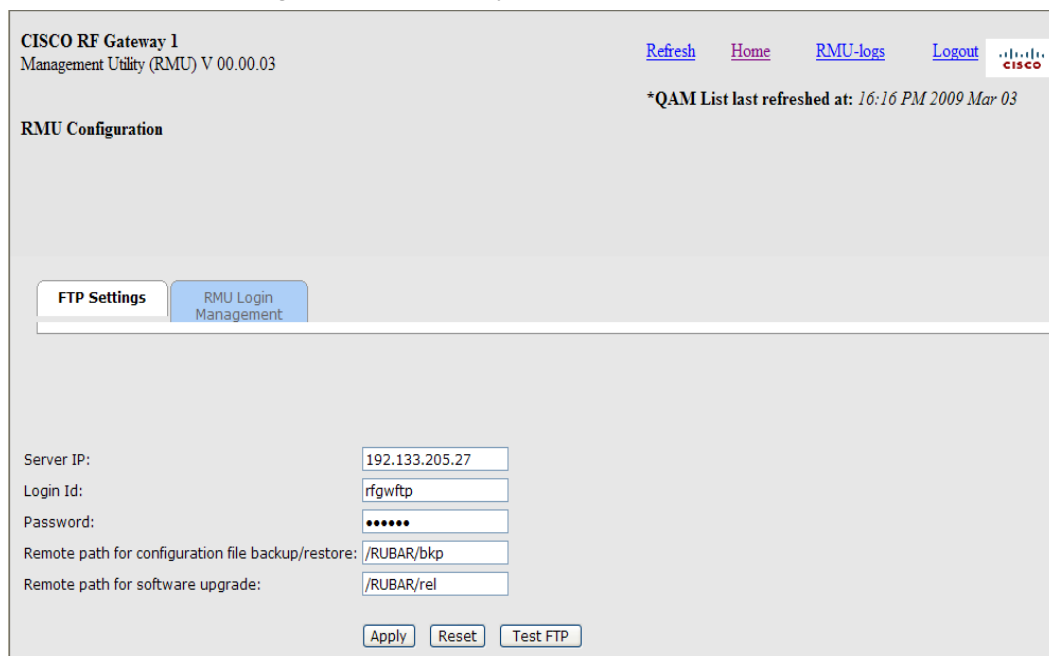
- 6 Click the **RMU Login Management** tab.
- 7 Enter new password.
- 8 Click **Apply** to save settings.  
To create a user login, refer to *Creating/Removing Users* (on page 46).

## FTP Settings

Follow the instructions below to select FTP settings.

- 1 From the home page, click **RMU Configuration**.

**Result:** The following screen is displayed.



The screenshot shows the Cisco RF Gateway 1 Management Utility (RMU) V 00.00.03 interface. The page title is "RMU Configuration". In the top right corner, there are links for "Refresh", "Home", "RMU-logs", and "Logout", along with a Cisco logo and a status message: "\*QAM List last refreshed at: 16:16 PM 2009 Mar 03". Below the title, there are two tabs: "FTP Settings" (which is selected) and "RMU Login Management". The main content area contains several input fields for configuration:

- Server IP: 192.133.205.27
- Login Id: rfgwftp
- Password: [masked with dots]
- Remote path for configuration file backup/restore: /RUBAR/bkp
- Remote path for software upgrade: /RUBAR/rel

At the bottom of the form, there are three buttons: "Apply", "Reset", and "Test FTP".

- 2 Select the **FTP Settings** tab.
- 3 In the appropriate field, enter the Server IP, login Id, Password, and Remote path credentials.
- 4 Click **Apply**.

**Note:** FTP settings are required for executing QAM management functions.

# 4

## General Operation

This chapter provides information on the general operation of the RMU including QAM management.

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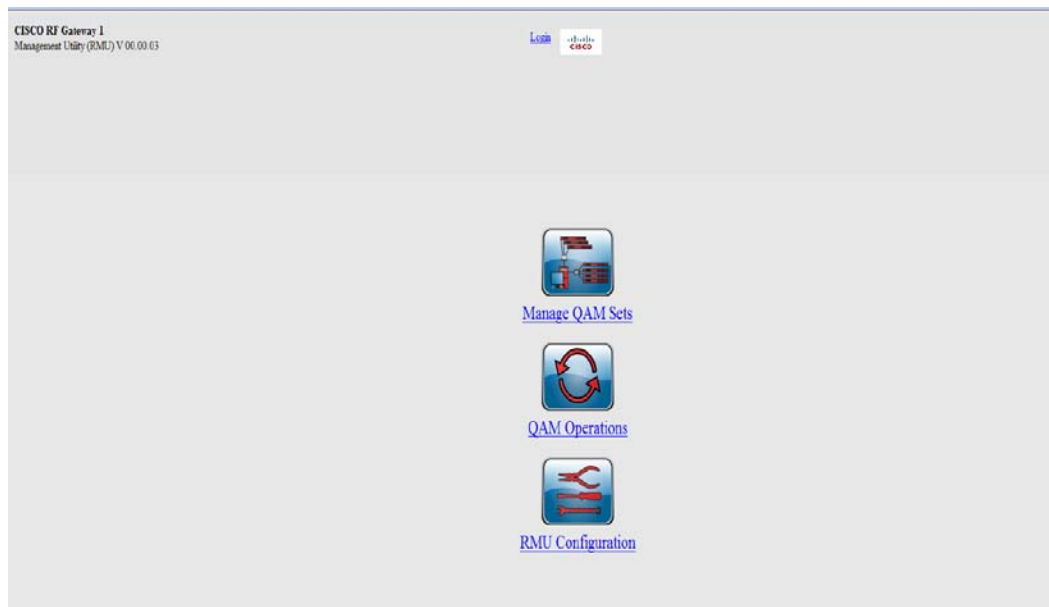
## QAM Sets

A QAM Set is the number of QAMs grouped together. You can choose one or more QAMs from a set and initiate a QAM operation.

### Creating a QAM Set

Follow the instructions below to create a QAM Set.


- 1 Navigate to the RMU home page.



- 2 Click **Manage QAM Sets**.

The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

\*QAM List last refreshed at: 16:25 PM 2009 Mar 03


Manage QAM Sets

QAM Set *	IP Address	Description	Status	Location	Name
<a href="#">Create new QAM set</a>					

- 3 Click the **Create new QAM set** link.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[RMU-logs](#) 

\*QAM List last refreshed at: 16:25 PM 2009 Mar 03


Manage QAM Sets

QAM Set *	IP Address	Description	Status	Location	Name
<input type="text"/>					

- 4 Enter a name in the box.
- 5 Click **Save**.

**Result:** The added QAM Set appears as shown below.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

\*QAM List last refreshed at: 16:29 PM 2009 Mar 03

Manage QAM Sets


	QAM Set *	IP Address	Description	Status	Location	Name
<input type="checkbox"/>	test1			0 QAMs		
		<a href="#">Add new QAM</a>				
	<a href="#">Create new QAM set</a>					

## Renaming a QAM Set

Follow the instructions below to rename a QAM Set.

- 1 To rename a QAM Set, double click the name and type in the new name.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[RMU-logs](#) 

\*QAM List last refreshed at: 16:29 PM 2009 Mar 03

Manage QAM Sets

	QAM Set *	IP Address	Description	Status	Location	Name
<input type="checkbox"/>	New			0 QAMs		
		<a href="#">Add new QAM</a>				
	<a href="#">Create new QAM set</a>					

- 2 Click **Save**.



## Deleting a QAM Set

Follow the instructions below to delete a QAM Set.

- 1 Click the check box adjacent to the QAM Set. See screen below.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

\*QAM List last refreshed at: 16:29 PM 2009 Mar 03

Manage QAM Sets

	QAM Set *	IP Address	Description	Status	Location	Name
<input type="checkbox"/>	<input checked="" type="checkbox"/> test1			0 QAMs		
		<a href="#">Add new QAM</a>				
	<a href="#">Create new QAM set</a>					

- 2 Click **Delete QAM Sets**.

**Result:** The following dialog box appears.



- 3 Click **OK** to delete or **Cancel** to abort the action.

## Adding/Deleting QAMS

Follow the instructions below to add QAMS.

- 1 Click the + box adjacent to the desired QAM Set.

**Result:** The following screen is displayed.

**CISCO RF Gateway 1**  
Management Utility (RMU) V 00.00.02

**Manage QAM Sets**

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

*\*QAM List last refreshed at: 11:10 AM 2008 Dec 10*

	QAM Set *	IP Address	Description	Status	Location	Name
+	<input type="checkbox"/> new			2 QAMs		
-	<input checked="" type="checkbox"/> test1			2 QAMs		
		<input checked="" type="checkbox"/> <a href="#">10.90.149.87</a>	Ravis Cube RFGW1	Active	cube 1.2.228	RFGW-1-D
		<input checked="" type="checkbox"/> <a href="#">10.90.149.77</a>	Vans Cube RFGW1	Active	1.2.232	Van's RFGW
		<a href="#">Add new QAM</a>				
	<a href="#">Create new QAM set</a>					

Add & Continue
Save
Delete QAMs
Delete QAM Sets
Cancel

- 2 Click the **Add new QAM** link in the *IP Address* field.

The following screen is displayed.

**CISCO RF Gateway 1**  
Management Utility (RMU) V 00.00.02

**Manage QAM Sets**

[RMU-logs](#)

*\*QAM List last refreshed at: 11:10 AM 2008 Dec 10*

	QAM Set *	IP Address	Description	Status	Location	Name
	<input type="checkbox"/> new			2 QAMs		
	<input checked="" type="checkbox"/> test1			2 QAMs		
		<input checked="" type="checkbox"/> <a href="#">10.90.149.87</a>	Ravis Cube RFGW1	Active	cube 1.2.228	RFGW-1-D
		<input checked="" type="checkbox"/> <a href="#">10.90.149.77</a>	Vans Cube RFGW1	Active	1.2.232	Van's RFGW
		<input type="text"/>	<input type="text"/>			
	<a href="#">Create new QAM set</a>					

Add & Continue
Save
Delete QAMs
Delete QAM Sets
Cancel

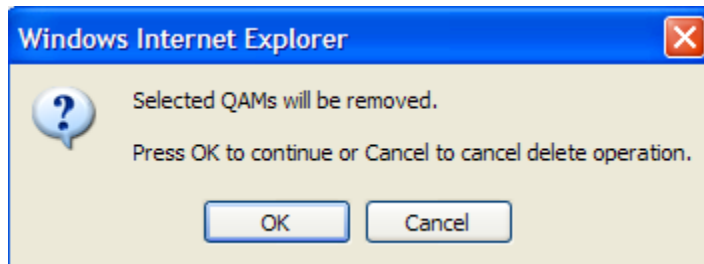
- 3 Enter the IP address of the QAM and a description.
- 4 Click the **Add & Continue** button.
- 5 Click **Save** to save the IP address.

**Note:** Do not save the same QAM in different QAM Sets.

Follow these instructions to delete QAMs.

- 1 Click the check box next to the QAM IP address.
- 2 Click the **Delete QAMs** button at the bottom of the screen.

**Result:** The following screen is displayed.



Click **OK** to delete or **Cancel** to abort the action.

## Embedded Web Page Access

The RF Gateway 1 is equipped with an embedded web server. The RMU provides a link to the RF Gateway 1 home page which allows access to each individual QAM chassis.

Follow the instructions below to access a QAM from the RF Gateway 1 home page.

- 1 Navigate to the RMU home page.
- 2 Click **Manage QAM Sets**.
- 3 Click the + box adjacent to the desired QAM set.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

\*QAM List last refreshed at: 11:29 AM 2009 Mar 04

Manage QAM Sets

	QAM Set *	IP Address	Description	Status	Location	Name
<input type="checkbox"/>	new			0 QAMs		
<input type="checkbox"/>	test1			2 QAMs		
<input type="checkbox"/>		<a href="#">10.90.149.87</a>	-	Active	here	Ravi's rfgw-1d
<input type="checkbox"/>		<a href="#">10.90.149.78</a>	-	Active	Lab rack #8	Jim's rfgw-1d
		<a href="#">Add new QAM</a>				
		<a href="#">Create new QAM set</a>				

- 4 Click the IP address hyperlink to access a particular QAM.

**Result:** The following screen is displayed.

Ravi's rfgw-1d

Summary







13:35:50

Card	RF Port 1				RF Port 2			
	1	2	3	4	1	2	3	4
<b>Output B/W</b>  Display Mode <input checked="" type="radio"/> B/W(Mbps) <input type="radio"/> Session	29.3731 (76%)	0.0030 (0%)	29.3731 (76%)	29.3731 (76%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)
	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)
	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)
	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)
	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)
	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)	0.0030 (0%)

Pair	Pair 1		Pair 2	
	GbE: 1	2	3	4
Input B/W	<div style="width: 86.49%; height: 20px; background-color: #ccc;"></div>	<div style="width: 0.00%; height: 20px; background-color: #ccc;"></div>	<div style="width: 0.00%; height: 20px; background-color: #ccc;"></div>	<div style="width: 0.00%; height: 20px; background-color: #ccc;"></div>
Active Port	86.49 Mbps	0.00 Mbps	0.00 Mbps	0.00 Mbps

	Statistics Received / Transmitted			
	GbE1	GbE2	GbE3	GbE4
Bytes	2.77GB 33.47KB	0B 0B	0B 0B	0B 0B
Error Packets	0	0	0	0
Unicast Packets	6.00M 1	0	0	0
Multicast Packets	24.41M 392	0	0	0
Discarded Packets	0	0	0	0

Alarms	
Severity	Description

## Downloading Software

Follow the instructions below to download software.

- 1 Navigate to the RMU home page.
- 2 Click **QAM Operations**.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

\*QAM List last refreshed at: 09:25 AM 2009 Mar 05

QAM Operations

QAM Status Software Upgrade Configuration Backup & Restore

	QAM Set *	IP Address	Description	Status	Location	Name	Active Release	Inactive Release	Downloaded Release	Last Backup
+	new									
+	test1									

- 3 Click the **Software Upgrade** tab.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

Click refresh before any QAM operations

QAM Operations

QAM Status **Software Upgrade** Configuration Backup & Restore

	QAM Set *	IP Address	Description	Status	Location	Name	Active Release	Inactive Release	Downloaded Release	Comments
<input type="checkbox"/>	new									
<input type="checkbox"/>	test1									

Latest Release File: rfgw1\_rel\_02\_00\_04\_1.xml Revert Activate Cancel

Selected Release:  Download

- 4 Click the + box adjacent to the desired QAM set and select the desired IP addresses.
- 5 Select the software version from the drop down list at the bottom of the page.
- 6 Click **Download**.

**Note:** The software download may take a few minutes to complete.

## Backup/Restore Configuration

Follow the instructions below to backup/restore the RMU configuration.

- 1 Navigate to the RMU home page.
- 2 Click **QAM Operations**.
- 3 Click the **Configuration Backup & Restore** tab.

**Result:** The following screen is displayed.

The screenshot displays the 'Configuration Backup & Restore' tab in the RMU interface. At the top, it shows 'CISCO RF Gateway 1 Management Utility (RMU) V 00.00.03' and navigation links for Refresh, Home, RMU-logs, and Logout. A timestamp indicates the QAM list was last refreshed at 08:39 AM 2009 Mar 04. The main content area features a table with the following structure:

	QAM Set *	IP Address	Description	Status	Location	Name	Saved on	Last Backup
<input type="checkbox"/>	test1							


At the bottom of the interface, there are four buttons: Backup, Restore, Clone..., and Cancel.

- 4 Click the + box adjacent to the desired QAM set.



**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

Click refresh before any QAM operations

QAM Operations

QAM Status Software Upgrade **Configuration Backup & Restore**

	QAM Set *	IP Address	Description	Status	Location	Name	Saved on	Last Backup
<input type="checkbox"/>	new							
<input checked="" type="checkbox"/>	test1							
<input type="checkbox"/>		10.90.149.87	-	Active	here	Ravi's rfgw-1d	WED MAR 04 11:51:19 2009	WED MAR 04 14:14:27 2009
<input checked="" type="checkbox"/>		10.90.149.78		BK: Backup of configuration file cfg_10_90_149_78_03_04_2009.gz successful!	Lab rack #8	Jim's rfgw-1d	WED FEB 25 22:21:09 2009	FRI FEB 20 13:28:25 2009

5 Click the + box adjacent to the IP address to select.

6 Click **Backup**.

**Example:** If the QAM IP is 10.90.149.78 and the backup is made on 2009 MAR 04, the backup file name will be cfg\_10\_90\_149\_78\_03\_04\_2009.gz.

7 To Restore the Configuration, click **Restore**.

**Note:** Each QAM selected will be restored with the last backup file currently associated with the QAM configuration.

Refer to *Clone* (on page 34) to restore a QAM with a chosen backup file.

## Clone

It may be necessary at times to load the configuration of one QAM to other QAMs. Follow the instructions below to clone a QAM.

- 1 Navigate to the RMU home page.
- 2 Click **QAM Operations**.
- 3 Click the **Configuration Backup & Restore** tab.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

\*QAM List last refreshed at: 08:39 AM 2009 Mar 04

QAM Operations

QAM Status Software Upgrade **Configuration Backup & Restore**


	QAM Set *	IP Address	Description	Status	Location	Name	Saved on	Last Backup
<input type="checkbox"/>	test1							

Backup Restore Clone... Cancel

- 4 Click the + box adjacent to the desired QAM to be cloned.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

Click refresh before any QAM operations

QAM Operations

QAM Status Software Upgrade **Configuration Backup & Restore**

	QAM Set *	IP Address	Description	Status	Location	Name	Saved on	Last Backup
<input type="checkbox"/>	new							
<input checked="" type="checkbox"/>	test1							
<input type="checkbox"/>		10.90.149.87	-	Active	here	Ravi's rfgw-1d	WED MAR 04 11:51:19 2009	WED MAR 04 14:14:27 2009
<input checked="" type="checkbox"/>		10.90.149.78		BK:Backup of configuration file cfg_10_90_149_78_03_04_2009.gz successful!	Lab rack #8	Jim's rfgw-1d	WED FEB 25 22:21:09 2009	FRI FEB 20 13:28:25 2009

Backup Restore Clone... Cancel

5 Click the + box adjacent to the IP address(es) to select.

6 Click **Clone**.

**Result:** The following screen is displayed.

QAM Status Software Upgrade **Configuration Backup & Restore**

	QAM Set *	IP Address	Description	Status	Location	Name	Saved on	Last Backup
<input type="checkbox"/>	new							
<input checked="" type="checkbox"/>	test1							
<input type="checkbox"/>		10.90.149.87	-	Active	here	Ravi's rfgw-1d	WED MAR 04 11:51:19 2009	WED MAR 04 14:14:27 2009
<input checked="" type="checkbox"/>		10.90.149.78		BK:Backup of configuration file cfg_10_90_149_78_03_04_2009.gz successful!	Lab rack #8	Jim's rfgw-1d	WED FEB 25 22:21:09 2009	FRI FEB 20 13:28:25 2009

Select a configuration file to clone:

- Select..
- cfg\_10\_90\_149\_77\_02\_27\_2009.gz
- cfg\_10\_90\_149\_78\_03\_04\_2009.gz
- cfg\_10\_90\_149\_79\_02\_27\_2009.gz
- cfg\_10\_90\_149\_80\_02\_26\_2009.gz**
- cfg\_10\_90\_149\_80\_02\_27\_2009.gz

## Chapter 4 General Operation

- 7 Select a backup file from the drop down list.
- 8 Click **Apply**.

## Activate/Revert Software

Follow the instructions below to activate/revert software.

- 1 Navigate to the RMU home page.
- 2 Click **QAM Operations**.
- 3 Click the **Software Upgrade** tab.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

Click refresh before any QAM operations

QAM Operations

QAM Status **Software Upgrade** Configuration Backup & Restore

	QAM Set *	IP Address	Description	Status	Location	Name	Active Release	Inactive Release	Downloaded Release	Comments
<input type="checkbox"/>	new									
<input type="checkbox"/>	test1									


Latest Release File: **rfgw1\_rel\_02\_00\_04\_1.xml** Revert Activate Cancel

Selected Release:  Download

- 4 Click the + box adjacent to the desired QAM set.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#) 

Click refresh before any QAM operations

**QAM Operations**

QAM Status **Software Upgrade** Configuration Backup & Restore

	QAM Set *	IP Address	Description	Status	Location	Name	Active Release	Inactive Release	Downloaded Release	Comments
<input type="checkbox"/>	new									
<input checked="" type="checkbox"/>	test1									
<input type="checkbox"/>		10.90.149.87	-	Active	here	Ravi's rfgw- id	01.04.02	01.03.09	01.03.08	
<input checked="" type="checkbox"/>		10.90.149.78	-	Active	Lab rack #8	Jim's rfgw- id	02.00.08	01.03.09	na	

Latest Release File: **rfgw1\_rel\_02\_00\_04\_1.xml**

Selected Release:

5 Click the + box adjacent to the IP address(es) to select.

6 Click **Activate**.

**Note:** The downloaded version is now active.

7 To revert back, click **Revert**.

## FTP Requirement

The RMU requires FTP access to perform QAM operations. The following provides information regarding FTP folders.

- The RMU picks up software release files from the FTP folder. Configuration backup files listed for cloning are also picked up from the FTP folder.
- It is recommended that separate folders be kept for release and configuration files.
  - <FTP-Root>/RMU/rel for release files
  - <FTP-Root>/RMU/cfg for configuration files
- The RMU does not search sub-folders for files. It looks for release files in <FTP-Root>/RMU/rel/ not in <FTP-Root>/ RMU/rel/working/ even if the files are available in the "working" folder.
- The RMU does not validate the file contents. Make sure only valid release and configuration files are present in FTP folders.
- The approximate size of a release file is 2 kilobytes. A configuration file is 3 megabytes.

## Release File

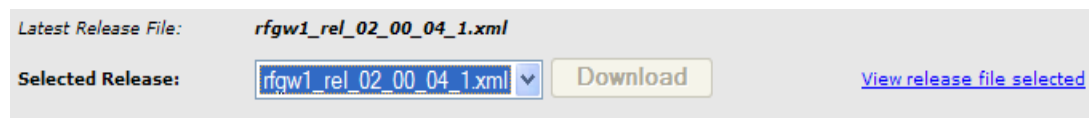
Software releases are provided by Cisco and the file name indicates the version of software it represents. The file name format for a release file is "rfgw1\_rel\_xx\_yy\_zz.xml", where xx, yy & zz represents the version number. Do not rename release files. The RMU does not recognize release files not in the above format. A software release comes with a number of files, including XML and binary files. The RMU looks for only the XML file mentioned above, however, it is necessary to keep all associated files in the same folder. This is mandatory for the software download. The software download is performed by the QAM and expects all files associated with a given release to be in the same folder.

## View Release File

Follow the instructions below to view the release file.

- 1 Navigate to the RMU home page.
- 2 Click **QAM Operations**.
- 3 Click the **Software Upgrade** tab and then choose the software release from the drop down list.

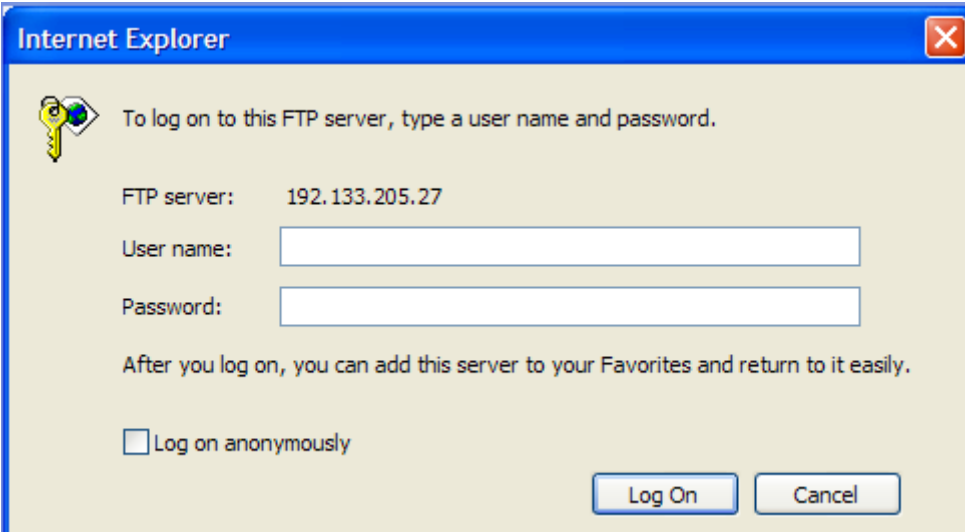
**Result:** The following screen is displayed.





- 4 Click the **View release file selected** link on the right.

**Result:** The following screen is displayed.



The screenshot shows an Internet Explorer dialog box titled "Internet Explorer" with a close button in the top right corner. The dialog box has a light beige background and contains the following text and controls:

- A key icon on the left.
- The text: "To log on to this FTP server, type a user name and password."
- The text: "FTP server: 192.133.205.27"
- The text: "User name:" followed by a text input field.
- The text: "Password:" followed by a text input field.
- The text: "After you log on, you can add this server to your Favorites and return to it easily."
- A checkbox labeled "Log on anonymously" which is currently unchecked.
- Two buttons at the bottom right: "Log On" and "Cancel".

- 5 Enter the FTP login credentials.

**Note:** File access and display is done by the web browser and not the RMU application.

## Configuration Backup File

The Configuration backup file is a copy of the QAM configuration settings. This file can be loaded, thus resetting the QAM to an earlier state. The RMU generates backup file names in the following format: `cfg_ip1_ip2_ip3_ip4_mm_dd_yyyy.gz`. `ip1, ip2,...` indicates the constituents of an IP address (ex: `ip1=101` and `ip2= 102` for 101.102.103.104) and `mm, dd & yyyy` indicates the month date and year the backup was made. The `.gz` extension indicates the file is in compressed format.

**Notes:**

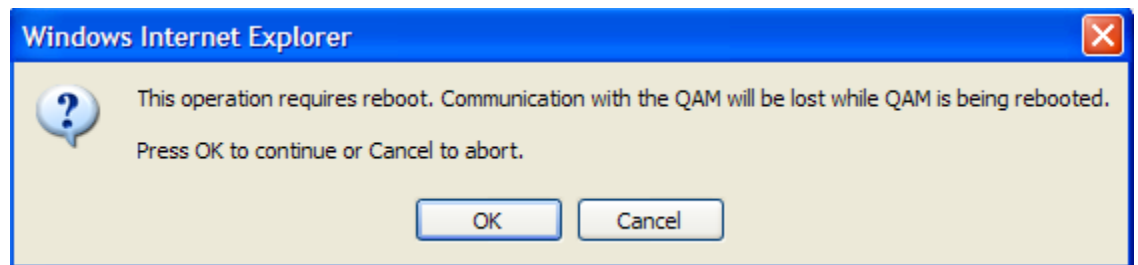
- RMU does not accept file names for QAM configuration backup.
- Do not edit the configuration file.
- Clone operation lists the configuration files present in the "<FTP-Root>/RMU/cfg/" folder (for example, in the path specified for configuration files). It lists all files with the `.gz` extension.
- Do not keep other files with `.gz` extension in the configuration backup folder.

## QAM Reboot

The following operations initiated from the RMU causes the QAM to reboot.

- Restore
- Clone
- Revert software versions
- Activation of downloaded software

The user will be prompted with the following screen.



QAM connectivity will be lost when the QAM is being rebooted. Refresh the RMU display after reboot.

**Note:** It takes approximately 2 minutes to reboot a QAM.

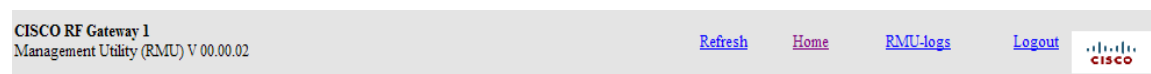
## Logs

RMU activities are logged in a text file. Log file size is restricted to 1 MB. A new log file is started when the file size exceeds this limit. However, old logs are preserved in `rmu_old.log` (you can access the old logs by typing the URL `http://<ip-address>/rmu/rmu_old.log`)

Log entries contain the following information:

- date & time the entry is made
- log description. Logs are stored in the order in which they are generated. The latest logs are available at the end of the file.

To access RMU logs, click the RMU-logs link at the top of the page.



## Refresh View

The RMU caches data downloaded from the server, such as QAM set names and QAM status. The date and time shown at the right top corner of the display indicates the time at which QAM set names were downloaded. You may click the refresh button at any time to refresh the cache.



**Note:** As data is cached, actual status of QAMs could be different than displayed. Cached data is refreshed whenever a QAM set operation is initiated.

## Creating/Removing Users

To create and remove users from the RMU, an administrator login/password is required. The default password for an administrator login is **admin123**.

- 1 Login as administrator.
- 2 From the home page, click the **RMU Configuration** link.

**Result:** The following screen is displayed.

CISCO RF Gateway 1  
Management Utility (RMU) V 00.00.03

[Refresh](#) [Home](#) [RMU-logs](#) [Logout](#)

\*QAM List last refreshed at: 16:16 PM 2009 Mar 03

RMU Configuration

FTP Settings RMU Login Management

Server IP:

Login Id:

Password:

Remote path for configuration file backup/restore:

Remote path for software upgrade:

- 3 Click the **RMU Login Management** tab.

**Result:** The following screen is displayed.

The screenshot shows a web interface with two tabs: "FTP Settings" and "RMU Login Management". The "RMU Login Management" tab is active. Below the tabs, there are three sections:

- Change Password:** This section contains three text input fields labeled "Current password:", "New password:", and "Confirm new password:". Below these fields is an "Apply" button.
- Remove User:** This section contains a "User Id:" label followed by a dropdown menu currently showing "login1". Below the dropdown is an "Apply" button.
- Create User:** This section contains three text input fields labeled "User Id:", "Password:", and "Confirm password:". Below these fields is an "Apply" button.

- 4 To delete a user, select the user Id to be removed from the drop down list.
- 5 Click **Apply** and confirm when prompted.

**Result:** The user is permanently removed from the RMU system.

- 6 To create a user, enter the user Id and password.
- 7 Confirm password and click **Apply**.

## RMU Application Upgrade

Follow the instructions below to upgrade the RMU application.

- 1 Backup the contents of your RMU folder.

**Example:** c:\xampp\htdocs\rmu

- 2 Copy the upgrade files you received to this folder. Allow over-write if prompted.

Check the following to make sure the new RMU works as expected.

- Login Ids are valid.
- All QAM sets are available.
- Settings are as per last modification.

If there is a problem, zip all files in the RMU folder and backup files (backed up prior to application upgrade). Send an email to Cisco customer service with the two zip files attached.



# 5

## Customer Support Information

### Introduction

This chapter contains information on obtaining product support.

### Obtaining Product Support

IF...	THEN...
you have general questions about this product	contact your distributor or sales agent for product information or refer to product data sheets on <a href="http://www.cisco.com">www.cisco.com</a> .
you have technical questions about this product	call the nearest Technical Support center.
you have customer service questions about this product	call the nearest Customer Service center.

### In This Chapter

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## Obtaining Product Support

IF...	THEN...
you have general questions about this product	contact your distributor or sales agent for product information or refer to product data sheets on <a href="http://www.cisco.com">www.cisco.com</a> .
you have technical questions about this product	call the nearest Technical Service center or Cisco office.
you have customer service questions or need a return material authorization (RMA) number	call the nearest Customer Service center or Cisco office.

## Support Telephone Numbers

This table lists the Technical Support and Customer Service numbers for your area.

Region	Centers	Telephone and Fax Numbers
North America	Cisco Services Atlanta, Georgia United States	For <i>Technical Support</i> , call: <ul style="list-style-type: none"> <li>■ Toll-free: 1-800-722-2009</li> <li>■ Local: 678-277-1120 (Press 2 at the prompt)</li> </ul> For <i>Customer Service</i> , call: <ul style="list-style-type: none"> <li>■ Toll-free: 1-800-722-2009</li> <li>■ Local: 678-277-1120 (Press 3 at the prompt)</li> <li>■ Fax: 770-236-5477</li> <li>■ Email: <a href="mailto:customer-service@cisco.com">customer-service@cisco.com</a></li> </ul>
Europe, Middle East, Africa	Belgium	For <i>Technical Support</i> , call: <ul style="list-style-type: none"> <li>■ Telephone: 32-56-445-197 or 32-56-445-155</li> <li>■ Fax: 32-56-445-061</li> </ul> For <i>Customer Service</i> , call: <ul style="list-style-type: none"> <li>■ Telephone: 32-56-445-444</li> <li>■ Fax: 32-56-445-051</li> <li>■ Email: <a href="mailto:service-elc@cisco.com">service-elc@cisco.com</a></li> </ul>
Japan	Japan	<ul style="list-style-type: none"> <li>■ Telephone: 81-3-5908-2153 or +81-3-5908-2154</li> <li>■ Fax: 81-3-5908-2155</li> </ul>
Korea	Korea	<ul style="list-style-type: none"> <li>■ Telephone: 82-2-3429-8800</li> <li>■ Fax: 82-2-3452-9748</li> <li>■ Email: <a href="mailto:songk@cisco.com">songk@cisco.com</a></li> </ul>
China (mainland)	China	<ul style="list-style-type: none"> <li>■ Telephone: 86-21-2401-4433</li> <li>■ Fax: 86-21-2401-4455</li> <li>■ Email: <a href="mailto:xishan@cisco.com">xishan@cisco.com</a></li> </ul>
All other Asia Pacific countries & Australia	Hong Kong	<ul style="list-style-type: none"> <li>■ Telephone: 852-2588-4746</li> <li>■ Fax: 852-2588-3139</li> <li>■ Email: <a href="mailto:saapac-support@cisco.com">saapac-support@cisco.com</a></li> </ul>
Brazil	Brazil	<ul style="list-style-type: none"> <li>■ Telephone: 11-55-08-9999</li> <li>■ Fax: 11-55-08-9998</li> <li>■ Email: <a href="mailto:fattinl@cisco.com">fattinl@cisco.com</a> or <a href="mailto:ecavalhe@cisco.com">ecavalhe@cisco.com</a></li> </ul>

<b>Region</b>	<b>Centers</b>	<b>Telephone and Fax Numbers</b>
Mexico, Central America, Caribbean	Mexico	For <i>Technical Support</i> , call: <ul style="list-style-type: none"><li>■ Telephone: 52-3515152599</li><li>■ Fax: 52-3515152599</li></ul> For <i>Customer Service</i> , call: <ul style="list-style-type: none"><li>■ Telephone: 52-55-50-81-8425</li><li>■ Fax: 52-55-52-61-0893</li><li>■ Email: sa-latam-cs@cisco.com</li></ul>
All other Latin America countries	Argentina	For <i>Technical Support</i> , call: <ul style="list-style-type: none"><li>■ Telephone: 54-23-20-403340 ext 109</li><li>■ Fax: 54-23-20-403340 ext 103</li></ul> For <i>Customer Service</i> , call: <ul style="list-style-type: none"><li>■ Telephone: 770-236-5662</li><li>■ Fax: 770-236-5888</li><li>■ Email: keillov@cisco.com</li></ul>



# Glossary

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ECM

Entitlement Control Messages.

ECMG

Entitlement Control Message Generator.

EIS

Event Information Scheduler

EMM

Entitlement Management Messages

ES

Elementary Stream.

FTP

file transfer protocol. Allows users to transfer text and binary files to and from a personal computer, list directories on the foreign host, delete and rename files on the foreign host, and perform wildcard transfers between hosts.

GUI

graphical user interface. A program interface that takes advantage of a computer graphics capabilities to make the program visually easier to use.

HTML

hypertext markup language.

HTTP

hypertext transfer protocol.

IP

Internet protocol. A standard that was originally developed by the United States Department

## Glossary

of Defense to support the internetworking of dissimilar computers across a network. IP is perhaps the most important of the protocols on which the Internet is based. It is the standard that describes software that keeps track of the internetwork addresses for different nodes, routes, and outgoing/incoming messages on a network. Some examples of IP applications include email, chat, and Web browsers.

### IP address

Internet protocol address. A 32-bit sequence of numbers used for routing IP data. Each IP address identifies a specific component on a specific network. The address contains a network address identifier and a host identifier.

### ISO

International Organization for Standardization. An international body that defines global standards for electronic and other industries.

### PC

personal computer.

### QAM

quadrature amplitude modulation. An amplitude and phase modulation technique for representing digital information and transmitting that data with minimal bandwidth. Both phase and amplitude of carrier waves are altered to represent the binary code. By manipulating two factors, more discrete digital states are possible and therefore larger binary schemes can be represented.

### RADIUS

Remote authentication dial in service. A networking protocol that provides centralized Authentication, Authorization and Accounting (AAA) management for computers to connect and use a network service.

### RF

radio frequency. The frequency in the portion of the electromagnetic spectrum that is above the audio frequencies and below the infrared frequencies, used in radio transmission systems.

### RMA

return material authorization. A form used to return products.

### RPU

Remote Prvovisioning Utility

RU

rack unit. RU is the measuring unit of vertical space in a standard equipment rack. One RU equals 1.75" (44.5 mm).

SCG

Scrambling Control Group.

SCS

Simulcrypt Synchronizer.





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