Contents

Chapter 1 - Introduction ................................................................................................................1
   Additional Resources .................................................................................................................. 1
   Safety Guidelines .................................................................................................................... 2
   Contacting Riverbed ................................................................................................................ 2

Chapter 2 - Preparation ................................................................................................................. 3
   Requirements .......................................................................................................................... 3
   Data sources .......................................................................................................................... 4
   Cable connections ................................................................................................................... 4
      Power ................................................................................................................................... 4
      Console port ....................................................................................................................... 4
      Primary port ....................................................................................................................... 4
      Auxiliary port .................................................................................................................... 5
      Access to the network ....................................................................................................... 5
   Configuration information ..................................................................................................... 5
   Licensing strategy ................................................................................................................ 7
      Downloading and adding license keys ............................................................................... 8

Chapter 3 - Cabling ....................................................................................................................... 9
   Cabling to the console port .................................................................................................... 9
   Cabling to the management network ..................................................................................... 10
      Primary port ...................................................................................................................... 10
      Auxiliary port .................................................................................................................. 10
   Power cabling ....................................................................................................................... 10

Chapter 4 - Configuration .......................................................................................................... 11
   Installation time considerations ............................................................................................. 11
   Step 1 - Run the configuration wizard ................................................................................. 11
   Step 2 - Log in to the web user interface ............................................................................. 12
Chapter 5 - Installing new software ................................................................. 13
  Overview ........................................................................................................... 13
  Checklist ......................................................................................................... 14
  Step 1 - Download the software ................................................................. 15
  Step 2 - Create bootable USB memory sticks ............................................. 15
  Step 3 - Insert the bootable USB memory stick into the system ............... 15
  Step 4 - Connect to the console port ......................................................... 15
  Step 5 - Configure the BIOS ................................................................. 15
  Step 6 - Install the software ................................................................. 16
  Step 7 - Remove the USB memory stick ................................................. 16
  Step 8 - Run the configuration wizard .................................................. 16
  Step 9 - Log into the web user interface ................................................ 17

Chapter 6 - Licensing ....................................................................................... 19
  Automatic licensing .................................................................................... 19
  Manual licensing ......................................................................................... 20
  Licensing multiple products ....................................................................... 21
  Next steps ................................................................................................... 21

Chapter 7 - Installation Verification .............................................................. 23

Appendix A - Specifications ............................................................................ 25
  Console cable wiring .................................................................................... 25
  Controls and indicators .............................................................................. 26
    Front panel .................................................................................. 26
    Disk fault indicators ............................................................................. 27
  Mechanical and electrical specifications ............................................. 27
CHAPTER 1  Introduction

This guide describes installing the Riverbed® SteelCentral™ Flow Gateway. It assumes that the product has already been mounted in the rack as described for SteelCentral model xx70 series products in the Rack Mounting Guide.

It describes preparations, cabling the product, configuring it on your network, activating the licenses, and verifying that the appliance is receiving and processing traffic data. When these tasks are completed, Flow Gateway is ready to configure operationally. Operational configuration is described in the online help system of each product.

This guide also describes downloading new software from the Riverbed Support site and installing it, in case you choose to do that instead of running the factory-installed software.

This guide includes:

- Chapter 1, “Introduction”
- Chapter 2, “Preparation”
- Chapter 3, “Cabling”
- Chapter 4, “Configuration”
- Chapter 5, “Installing new software”
- Chapter 6, “Licensing”
- Chapter 7, “Installation Verification”
- Appendix A, “Specifications.”

Additional Resources

The primary source of product information is the online help system. Additional information is available from the Riverbed Support site at https://support.riverbed.com. This includes:

- Release Notes - posted in the software section of the page for your product.
- Users Guides - posted in the documentation section of the page for your product.
- Tech Notes - posted in the documentation section of the page for your product where applicable.
- Knowledge Base - a database of known issues and how-to documents. You can browse titles or search for key words and strings. Choose “Search the Knowledge Base” from the Knowledge Base menu.
Safety Guidelines

Follow the safety precautions outlined in the Safety and Compliance Guide when installing and setting up your equipment.

**Important:** Failure to follow these safety guidelines can result in injury or damage to the equipment. Mishandling of the equipment voids all warranties. Please read and follow safety guidelines and installation instructions carefully.

Many countries require the safety information to be presented in their national languages. If this requirement applies to your country, consult the Safety and Compliance Guide.

Before you install, operate, or service the Riverbed product, you must be familiar with the safety information. Refer to the Safety and Compliance Guide if you do not clearly understand the safety information provided in this guide.

Contacting Riverbed

Options for contacting Riverbed include:

- **Internet** - Find out about Riverbed products at [http://www.riverbed.com](http://www.riverbed.com).

- **Support** - If you have problems installing, using, or replacing Riverbed products, contact Riverbed Technical Support or your channel partner who provides support. To contact Riverbed Technical Support, please open a trouble ticket at [https://support.riverbed.com](https://support.riverbed.com) or call 1-888-RVBD-TAC (1-888-782-3822) in the United States and Canada or +1 415 247 7381 outside the United States.

- **Professional Services** - Riverbed has a staff of engineers who can help you with installation, provisioning, network redesign, project management, custom designs, consolidation project design, and custom-coded solutions. To contact Riverbed Professional Services, go to [http://www.riverbed.com](http://www.riverbed.com) or email proserve@riverbed.com.

- **Documentation** - Riverbed continually strives to improve the quality and usability of its documentation. We appreciate any suggestions you may have about our online documentation or printed materials. Send documentation comments to techpubs@riverbed.com.
CHAPTER 2  Preparation

This chapter describes equipment, network access, and configuration information that is necessary for installing Flow Gateway. The topics include:

- “Requirements” on page 3
- “Data sources” on page 4
- “Cable connections” on page 4
- “Configuration information” on page 5
- “Licensing strategy” on page 7

Requirements

- Data sources
- Cable for connection to management network
- Access to the management network
- Terminal emulator set to 9600 baud, 8 data bits, 1 stop bit, no parity and no flow-control
- Console cable provided in the accessory kit shipped with the chassis. This cable has a 9-pin D-subminiature connector on one end and an RJ45 connector on the other end for connecting to the console port. The cable wiring is listed in Appendix A, “Specifications.”
- Configuration information for placing Flow Gateway on your network
- Customer account on the Riverbed Support site
- Licensing strategy

If you will be downloading new software from the Riverbed Support site instead of running the factory-installed software, you will also need:

- USB memory sticks with at least 1 GB capacity
- Universal USB installer utility
Data sources

Flow Gateway obtains traffic information from NetFlow, IPFIX, sFlow or compatible Packeteer FDR sources. It also receives SteelFlow Net information from SteelHead (formerly called CascadeFlow). This includes application identification, QoS configuration and flow data. SteelFlow Net is a standards-compliant variant of NetFlow v9 that uses a custom Riverbed template to send standard NetFlow data as well as more specialized metrics.

If Flow Gateway is to receive flow data from NetFlow-enabled devices, enable the SNMP ifIndex persistence feature of the NetFlow source to ensure consistency of interface reporting.

There are two approaches to setting up data sources:

- Set up the available data sources and point them to the IP address of Flow Gateway before you install it.
- Install Flow Gateway up to the point of verification, then install or configure the data sources, and then return to Flow Gateway to complete the installation verification.

It is preferable to configure all the data sources that are available at the time you install Flow Gateway. However, product operation can be confirmed with just one data source.

Cable connections

Ensure that cables for the following connections are available at the location where the product is installed.

Power

Flow Gateway has two power supplies. It is recommended that these be plugged into two different circuits, if they are available.

Console port

The initial setup is performed using the console port. Ensure that you have a terminal server or a system running a terminal emulation program and a cable for connecting to the console port, such as the cable supplied in the accessory kit shipped with the chassis. This cable has a 9-pin D-subminiature connector on one end and an RJ45 connector on the other end for connecting to the console port. The cable wiring is listed in Appendix A, “Specifications.”

Primary port

Flow Gateway is equipped with a 100/1000baseTX primary management port that must connect to a hub or switch on the management network. The primary port is set by default for auto-negotiation.

Ensure that:

- The management network has a switch port for Flow Gateway.
- A straight-through cable is available at the rack location for connecting Flow Gateway to the switch.
- The management network switch port is set to establish a connection at 1000 Mb/s and full duplex.
- A terminal device (laptop, KVM, etc.) is available on the management network for logging in to the Flow Gateway user interface.
**Auxiliary port**

Optionally, the AUX port can be configured. This is useful if you want to keep network data and network control traffic on separate networks. Additionally, the AUX port can be configured for access to the remote management features for performing chassis-level functions. Ensure that:

- A straight-through cable to a hub or switch port on the network is available at the rack location.
- The network switch port is set to establish a connection at 100 or 1000 Mb/s and full duplex.

**Access to the network**

Flow Gateway uses the management network to access network services to provide access to its user interface.

**Communication between SteelCentral products**

If you lock down your network on a port-by-port basis, ensure that the following ports are open between SteelCentral products:

- TCP/22 – (ssh) Flow Gateway uses this port to download and synchronize update packages from the SteelCentral Standard or Enterprise NetProfiler to which it is connected.
- TCP/443 – Packet Analyzer communicates with the web interface of the NetShark over this port.
- TCP/8443 – Exchange of encryption certificates between SteelCentral products.
- TCP/41017 – Encrypted communication between Flow Gateway and NetProfiler or NetExpress appliances.
- UDP/123 – (ntp) Synchronization of time between Flow Gateway and Flow Gateway.

**Access to and from network access services**

- TCP/22 – (ssh) This is needed for secure shell access to SteelCentral software components and for the appliance to obtain information from servers via scripts.
- TCP/443 – (https) Secure web-based management interfaces.

**Configuration information**

When you configure Flow Gateway, you will be asked to provide configuration information. Information that is required to complete the installation is listed in the table that follows with an asterisk (*). Items not marked with an asterisk are optional during installation and can be specified afterwards on the Flow Gateway Configuration > General Settings page if necessary.

It may be useful to write the configuration values in the blank column of the checklist below so that you can refer to them during the configuration step or afterward.

<table>
<thead>
<tr>
<th>Configuration information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Gateway host name:*</td>
</tr>
<tr>
<td>Flow Gateway IP address:*</td>
</tr>
<tr>
<td>Netmask:*</td>
</tr>
<tr>
<td>Default gateway:*</td>
</tr>
<tr>
<td><strong>Preparation</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>DNS name resolution for hosts (enable or disable):</td>
</tr>
<tr>
<td>Primary DNS server IP address:</td>
</tr>
<tr>
<td>Secondary DNS server IP address:</td>
</tr>
<tr>
<td>DNS search domain:</td>
</tr>
<tr>
<td>Management (Primary) port settings:</td>
</tr>
<tr>
<td>Switch port settings:</td>
</tr>
<tr>
<td>Aux interface IP address</td>
</tr>
<tr>
<td>Aux interface netmask</td>
</tr>
<tr>
<td>Aux interface switch port settings</td>
</tr>
<tr>
<td>Time Zone:</td>
</tr>
<tr>
<td>Flow encryption certificate (default or new certificate):</td>
</tr>
<tr>
<td>NetFlow port:</td>
</tr>
<tr>
<td>sFlow port:</td>
</tr>
<tr>
<td>Packeteer port:</td>
</tr>
<tr>
<td>SNMP information:</td>
</tr>
<tr>
<td>First NetProfiler data input address.</td>
</tr>
<tr>
<td>NetProfiler IP Address:</td>
</tr>
<tr>
<td>Flow sources:</td>
</tr>
</tbody>
</table>
Licensing strategy

Capacity and feature licenses must be activated on the Riverbed licensing web site. SteelCentral products that have been configured and have access to Internet automatically download the license keys that have been assigned to their serial numbers on the licensing web site. If the appliance does not have Internet access, then you must add its license keys manually.

The licensing web site provides the flexibility to assign different feature and capacity licenses to different appliances. You can ship appliances to remote locations without concern for which appliance is to have which license. When you have the serial numbers and know where the appliances are deployed in the network, you can make the license assignments on the Riverbed licensing web site.

When all the appliances are to be licensed for the same features and capacities, the licensing web site handles this automatically. The appliances can automatically download their licenses without your needing to visit the licensing web site.
Downloading and adding license keys

If Flow Gateway is configured and has Internet connectivity, it can download its license keys automatically. Otherwise, someone must email the keys from the Riverbed licensing web site and then copy them from the email, or else copy them directly from the Riverbed licensing web site, and then someone must add them to Flow Gateway manually. Determine which strategy you are using.

- Will you activate the licenses on the Riverbed licensing web site yourself? Or will someone else do that?
- If the Flow Gateway you are installing does not have Internet access, how will you ensure that it gets its assigned license keys? Will you email them to yourself from the Riverbed licensing site? Will you copy them from the Riverbed licensing site? Or will someone else provide the license keys for you to add to the Flow Gateway manually?

Typically the installer:

1. Mounts, cables and configures this appliance and the other SteelCentral products that were ordered with it.

2. Records the product serial number from the chassis of each appliance. The number identified as “SN” is the product serial number for the chassis. It is located on the pull-out tab near the upper-left corner of the front of the chassis.

3. Sends the serial number for each appliance, along with the appliance location on the network, to the network manager.

Then the network manager:

1. Logs in to the Riverbed licensing web site.

2. Enters the product serial number of the first SteelCentral product to gain access to the licensing page. The Riverbed licensing page lists the serial numbers of all SteelCentral products that were included in the same purchase order.

3. For each serial number, activates the licenses that apply to that serial number.

Using the Riverbed licensing web site is described in Chapter 6, “Licensing.”

After the licenses have been activated on the Riverbed licensing web site, the license keys can be added to the Flow Gateway either automatically or manually.

If only one appliance is being installed, or if all the appliances are to be licensed for the same features and capacities, the licensing web site handles this automatically. The appliances can automatically download their licenses without your needing to visit the licensing web site.

Licensing is described in Chapter 6, “Licensing.”
CHAPTER 3  Cabling

Installation requires connecting to the console port for initial software configuration and connecting to the primary port for operations.

- “Cabling to the console port” on page 9
- “Cabling to the management network” on page 10
- “Power cabling” on page 10

Cabling to the console port

If there is to be a permanent connection from the console port to a terminal server, make the connections now. Refer to Appendix A, “Specifications” for console port pin assignments.

If you will temporarily connect to the console for configuring the software, ensure that you have:

- Laptop or other device running a terminal emulation program. Set the device’s terminal emulator to 9600 Baud, 8 data bits, 1 stop bit, no parity bit, and no flow control.
- A cable for connecting to the console port, such as the cable supplied in the accessory kit shipped with the chassis. This cable has a 9-pin D-subminiature connector on one end and an RJ45 connector on the other end for connecting to the console port. The cable wiring is listed in Appendix A, “Specifications.”

Connect the cable to the console connector on the back of the chassis.
Cabling to the management network

Primary port

Connect a straight-through cable from the management network to the Primary (PRI) connector on back of the Flow Gateway chassis.

Auxiliary port

If the Auxiliary port is to be used for receiving data or for remote management of chassis-level functions, connect a straight-through cable from the management network to the AUX connector. The Auxiliary port does not need to be on the same network as the Primary port.

When the remote management feature is used, the network address and login credentials for remote access to the BMC (baseboard management controller) web user interface are usually configured by a system administrator as part of the operational configuration after Flow Gateway has been installed. For additional information, complete the installation and then consult the online help for the Configuration > General Settings page of the web user interface.

Power cabling

If the power cables were not installed when the chassis were mounted in the racks, install them at this time. If possible, plug the two power supplies into two different power sources.

The chassis is configured to initialize when power is connected.
CHAPTER 4  Configuration

The Flow Gateway is shipped from the factory with its software already installed. This chapter describes configuring the factory-installed software. If instead you want to install and configure new software downloaded from the Riverbed Support site, refer to Chapter 5, “Installing new software.”

This chapter includes:

- “Installation time considerations” on page 11
- “Step 1 - Run the configuration wizard” on page 11
- “Step 2 - Log in to the web user interface” on page 12

Installation time considerations

The time required for installing the Flow Gateway is shortest if you configure and run the factory-installed software. If you will be running a version of the software later than the version that was installed at the factory, then there are two approaches to installing that version:

- Configure the factory-installed software as described in this chapter and then update it to the latest version.
- Perform a full installation of new software downloaded from the Riverbed Support site. This replaces the factory-installed software.

If the software version on the Support site is only one or two versions later than the factory-installed version, it may be faster to configure the factory-installed software and then update it to the latest version. If the software on the Support site is several versions later than the factory-installed version, it may be faster to download the latest version from the Support site and perform a full installation. This is described in Chapter 5, “Installing new software.”

To configure and run the factory-installed software, follow the steps below.

Step 1 - Run the configuration wizard

1. On the system that has the cable connected to the Flow Gateway console connector, use your terminal emulator to log in through the console port. The default login credentials are:
   - User name: admin
   - Password: admin
2. When the configuration wizard starts, it displays the product model and serial number. If you will be activating the licenses manually, record this information to use during license activation.

3. Enter the required information at the prompts:
   - MGMT IP ADDRESS
   - MGMT SUBNET MASK
   - MGMT GATEWAY IP ADDRESS
   - NETPROFILER IP ADDRESS
   Finish Setup and Reboot? (yes/no):

4. When the wizard completes and exits, the system reboots. Wait until the system finishes rebooting before continuing with the next step.

---

**Step 2 - Log in to the web user interface**

1. Using a system that is connected to the management network, point your web browser to the IP address you specified in the configuration wizard in the previous step.
   
   https://<Flow_Gateway_IP_address>

2. Log in to the Flow Gateway user interface. The default credentials are:
   - User name: admin
   - Password: admin
   The first time you log in to the Flow Gateway user interface, it displays the Setup page.

3. On the Setup page, ensure that all the required fields (marked with an asterisk) are filled in.

4. At the bottom of the Setup page, click **Configure Now**.

5. When prompted, enter a new password for the web user interface.

If Flow Gateway has an Internet connection, it will attempt to download licenses from the Riverbed licensing server. Alternatively, you can either add or download applicable licenses using the Flow Gateway Configuration > Licenses page. Refer to **Chapter 6, “Licensing.”**
CHAPTER 5  Installing new software

This chapter describes how to download the software from the Riverbed Support site and install it in Flow Gateway. It provides a checklist section that can be used as a guide for those familiar with installing software from a USB memory stick, and more detailed step-by-step instructions explaining items on the checklist.

- “Overview” on page 13
- “Checklist” on page 14
- “Step 1 - Download the software” on page 15
- “Step 2 - Create bootable USB memory sticks” on page 15
- “Step 3 - Insert the bootable USB memory stick into the system” on page 15
- “Step 4 - Connect to the console port” on page 15
- “Step 5 - Configure the BIOS” on page 15
- “Step 6 - Install the software” on page 16
- “Step 7 - Remove the USB memory stick” on page 16
- “Step 8 - Run the configuration wizard” on page 16
- “Step 9 - Log into the web user interface” on page 17

Overview

Flow Gateway is shipped from the factory with its software already installed. You can configure the factory-installed software and begin using the product, or you can perform a complete installation of software downloaded from the Riverbed Support site.

To configure and run the factory-installed software, refer to Chapter 4, “Configuration.” To download a new copy of the software from the Riverbed Support site, follow the instructions in this chapter.
Checklist

Briefly, the installation procedure involves the following tasks:

1. Download the software installation image file from the Riverbed Support site.

2. Create a bootable (live) USB memory stick.

3. Plug the bootable USB memory stick into a USB connector on the front or back of the chassis.

4. Use a terminal emulator and the cable supplied in the accessory kit to connect to the console port connector on the back of the chassis.

5. Switch on or power-cycle the Flow Gateway. During the power-on self-test (POST) sequence, configure the BIOS to boot from an external USB device. The power switch is in the upper right corner of the front of the chassis.

6. When the system boots from your USB stick and displays the boot prompt, enter “install” and wait for the system to install the software. This requires approximately 20 minutes.
   After the installation process completes, the localhost.localdomain login prompt is displayed.

7. When the software installation has completed and the “boot” prompt is displayed, remove the USB memory stick and power-cycle the appliance. After the system reboots, the login prompt is displayed.

8. Run the configuration wizard. To start the wizard, log in using “admin” for your user name and “admin” for your password. Enter the required information when prompted by the configuration wizard. The system reboots when you exit from the configuration wizard. Wait for it to finish rebooting before continuing to the next step.

9. Log into the web user interface from a management system on the network.

10. The first time you log in, the initial Setup page is displayed. Enter the required information in all the fields marked with an asterisk (*).

11. At the bottom of the Setup page, click Configure Now to complete the configuration.

12. When prompted, enter a new password for the web user interface.

If the Flow Gateway has an Internet connection, it will attempt to download licenses from the Riverbed licensing server. Alternatively, you can either add or download applicable licenses using the Flow Gateway Configuration > Licenses page. Refer to Chapter 6, “Licensing.”

With no external USB memory stick installed, the product will boot off its internal disks if it loses power or is power-cycled. However, it may be preferable to reconfigure the BIOS to exclude external USB sticks from the boot order.

The sections that follow describe the installation process in greater detail.
Step 1 - Download the software

Download the installation software from the Riverbed Support site: https://support.riverbed.com

This requires an account on the Support site. If you do not have an account, follow the directions on the Support site to set one up.

The Support site provides both .usb and .iso versions of the installation file.

Step 2 - Create bootable USB memory sticks

Flow Gateway software can be loaded on to a USB memory stick using standard procedures. For example, on a Linux system you can create a bootable (live) USB stick from the downloaded .usb file by mounting the USB stick and entering:

```
sudo dd if=<path_to_download_location> of=/dev/usb bs=1M
```

Or you can use a universal USB installer tool to transfer the .iso file to a USB memory stick in a Microsoft Windows environment.

Step 3 - Insert the bootable USB memory stick into the system

USB connectors are located on the front and back of the chassis. Insert the memory stick into any USB connector.

Step 4 - Connect to the console port

If you have not already connected to the console port as part of cabling,

1. Connect a laptop or other device to the console connector using the RJ45 to 9-pin D-subminiature cable supplied in the accessory kit and any necessary connector converter. The cable wiring is listed in Appendix A, “Specifications.”

2. Set the device’s terminal emulator to 9600 Baud, 8 data bits, 1 stop bit, no parity bit, and no flow control.

Step 5 - Configure the BIOS

The default BIOS configuration causes the product to boot the factory-installed software from an internal disk. To boot from an external USB memory stick, you must change the BIOS configuration as follows:

1. Use the power switch to power-cycle the system. The power switch is in the upper right corner of the front of the chassis.

2. During the POST (power-on self-test) sequence, press F2 to start the BIOS configuration tool.
3. On the Advanced menu:
   - Select “USB Configuration” and press Enter.
   - Select “Make USB Devices Non-bootable” and press Enter.
   - Select “Disabled” and press Enter.
   - Press Esc to go back to the previous menu.

4. From the EXIT menu, select “Save Changes and Exit” and press Enter.

5. Select “OK” in the resulting screen to save the changes and exit the BIOS configuration tool.

---

**Step 6 - Install the software**

When the system finishes booting from your USB memory stick, enter “install” at the prompt.

Software installation requires approximately 20 minutes. After the installation process completes, the USB memory stick can be removed. If it is not removed, the system boots from the USB and presents the “boot” prompt again.

---

**Step 7 - Remove the USB memory stick**

When the software installation has completed and the “boot” prompt is displayed, remove the USB memory stick and power-cycle the appliance. After the system reboots, the login prompt is displayed.

---

**Step 8 - Run the configuration wizard**

1. On the system that has the cable connected to the Flow Gateway console connector, use your terminal emulator to log in through the console port. The default login credentials are:
   - User name: admin
   - Password: admin

2. When the configuration wizard starts, enter the required information at the prompts:
   - PRODUCT (SCFG-02270-FX)
   - MGMT IP ADDRESS
   - MGMT SUBNET MASK
   - MGMT GATEWAY IP ADDRESS
   - NETPROFILER IP ADDRESS
   - Finish Setup and Reboot? (yes/no):

3. When the wizard completes and exits, the system reboots. Wait until the system finishes rebooting before continuing with the next step.
Step 9 - Log into the web user interface

1. Using a system that is connected to the management network, point your web browser to the IP address you specified in the configuration wizard in the previous step.
   
   https://<Flow_Gateway_IP_address>

2. Log in to the Flow Gateway user interface. The default credentials are:
   - User name: **admin**
   - Password: **admin**

   The first time you log in to the Flow Gateway user interface, it displays the Setup page.

3. On the Setup page, ensure that all the required fields (marked with an asterisk) are filled in.

4. At the bottom of the Setup page, click **Configure Now**.

5. When prompted, enter a new password for the web user interface.

   If Flow Gateway has an Internet connection, it will attempt to download licenses from the Riverbed licensing server. Alternatively, you can either add or download applicable licenses using the Flow Gateway Configuration > Licenses page. Refer to Chapter 6, “Licensing.”
Installing new software

Step 9 - Log into the web user interface
CHAPTER 6  Licensing

After Flow Gateway has been installed and configured to be reachable on the management network, the licenses must be set up. This chapter describes:

- “Automatic licensing” on page 19
- “Manual licensing” on page 20
- “Licensing multiple products” on page 21
- “Next steps” on page 21

Automatic licensing

 Licensing can be performed automatically if Flow Gateway has Internet access and:

- You are licensing only one Flow Gateway, or
- You are licensing multiple Flow Gateway appliances that all have the same features and capacities.

If you are licensing multiple Flow Gateway appliances to run with different features or capacities, then it is necessary to go to the Riverbed licensing web site and assign the licenses to the serial numbers of the products. See “Licensing multiple products” on page 21.

To license a single Flow Gateway that has Internet access, it is not necessary to go to the licensing website. Instead, just confirm that the licenses are active as follows:

1. Log in to the Flow Gateway web user interface “admin” account.
2. Go to the Configuration > Licenses page and check the License Key column.
   - If the License Key column lists an “MSPEC” license key, then Flow Gateway has downloaded its licenses from the licensing web site and you can proceed with installation verification. See Chapter 7, “Installation Verification.”
   - If no “MSPEC” license key is listed, then Flow Gateway has not downloaded its license keys.
3. If the license keys have not been downloaded, click Fetch Updates Now. The license keys will be listed within a few minutes.
4. Confirm that the licenses are listed on the Configuration > Licenses page and that the status of each is green.

If you select the **Enable automatic license download from Riverbed** option on the Configuration > Licenses page, the appliance checks for any additional licenses once per day.

When the license key for flow capacity is listed, the product is ready for operation and you can proceed with installation verification. See Chapter 7, “Installation Verification.”

---

**Manual licensing**

If Flow Gateway does not have access to the Internet, then it is necessary to add the license keys manually, as follows:

1. Obtain the serial number for the appliance to be licensed. It is located on the pull-out tab near the upper-left corner of the front of the chassis.

2. Point your browser to the Riverbed licensing portal: https://licensing.riverbed.com

3. Enter the product serial number. This displays a table listing the serial numbers of all the SteelCentral products purchased on the same purchase order as the appliance whose serial numbers you entered.

4. Follow the instructions of the licensing wizard to generate the license keys.

5. Either choose the option to email the license keys to yourself, or else copy the keys from the **Activated License Key** column of the table.

6. Place the keys in a file that is accessible to the machine you are using for configuring Flow Gateway.

7. Log in to the Flow Gateway web user interface “admin” account.

8. On the Flow Gateway, navigate to the Configuration > Licenses page and click **Add License(s)**.

9. Paste or type the license keys into the Licenses page. When entering more than one license key, use a comma-separated list.

10. Confirm that the licenses are listed on the Configuration > Licenses page and that the status of each is green.
When the license keys have been added, Flow Gateway is ready for installation verification. See Chapter 7, “Installation Verification.”

**Licensing multiple products**

If you are licensing multiple Flow Gateway appliances with different features or capacities, ensure that the correct capacity licenses are assigned to the correct appliance as follows:

1. Obtain the serial number for each appliance to be licensed.
2. Point your browser to the Riverbed licensing portal: https://licensing.riverbed.com
3. Enter the product serial number. This displays a table listing the serial numbers of all the SteelCentral products purchased on the same purchase order as the appliance whose serial numbers you entered.
4. Use the drop-down list boxes in the **Software** column for each serial number to assign the correct licenses to each appliance. Select or multi-select the licenses you want to activate for each Flow Gateway or other SteelCentral product.
5. Follow the instructions of the licensing wizard to continue the process and generate the license keys.
6. For products that do not have Internet access, email the license keys to yourself or copy and paste them into a text file for manually loading them.
7. Log in to the Flow Gateway web user interface “admin” account.
8. Go to the Configuration > Licenses page.
9. If the product has Internet access, click **Fetch Updates Now** to load the license keys.
10. If the product does not have Internet access, click **Add License(s)** and paste or type the license keys into the Licenses page. When entering more than one license key, use a comma-separated list.
11. Confirm that the licenses are listed on the Configuration > Licenses page and that the status of each is green.

When the license keys have been added, Flow Gateway is ready for installation verification. See Chapter 7, “Installation Verification.”

**Next steps**

After the Flow Gateway has been licensed, you can log in to the web user interface and perform additional configuration on the Configuration > General Settings page, such as:
- Auxiliary (AUX) port - Flow Gateway can receive flow data on both the Primary and Auxiliary ports.
- Static Routes - If there are multiple subnets on the Aux interface network, or if you need to use a gateway router other than the default gateway, it may be necessary to define static routes.
- Data Sources - Flow Gateway does not require flow data to use particular ports. However, you must identify the port that the sending device is configured to send to.
- NetProfiler destinations - The IP addresses of additional NetProfiler or NetExpress appliances that are to receive data from Flow Gateway.

Additionally, you can specify flow data forwarding destinations on the Configuration > Flow Forwarding page. Flow data is forwarded in the format in which it is received.

For instructions, look in the Configuration section of the online help system.
CHAPTER 7 Installation Verification

Installation verification requires Flow Gateway to be receiving traffic data from at least one source. Verify that the appliance has been successfully installed and configured by logging in and checking the Overview page. The Overview page identifies all traffic information sources that are currently sending data to Flow Gateway. Also, it identifies destinations to which Flow Gateway forwards traffic information.

Check the Overview page to confirm that Flow Gateway is receiving traffic flow data.

<table>
<thead>
<tr>
<th>IP Address</th>
<th>Flow Type</th>
<th>Version(s) (Last Minute)</th>
<th>Last Heard From</th>
<th>Flows Received (Last Minute)</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.8.12.2</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>966,582</td>
<td></td>
</tr>
<tr>
<td>10.8.12.4</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>447,912</td>
<td></td>
</tr>
<tr>
<td>10.8.12.6</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>960,534</td>
<td></td>
</tr>
<tr>
<td>10.8.12.8</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>921,114</td>
<td></td>
</tr>
<tr>
<td>10.8.12.10</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>283,572</td>
<td></td>
</tr>
<tr>
<td>10.8.12.12</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>446,670</td>
<td></td>
</tr>
<tr>
<td>10.8.12.14</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>277,082</td>
<td></td>
</tr>
<tr>
<td>10.8.12.16</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>974,304</td>
<td></td>
</tr>
<tr>
<td>10.8.12.18</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>389,662</td>
<td></td>
</tr>
<tr>
<td>10.8.12.20</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>628,272</td>
<td></td>
</tr>
<tr>
<td>10.8.12.1</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>979,794</td>
<td></td>
</tr>
<tr>
<td>10.8.12.3</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>903,600</td>
<td></td>
</tr>
<tr>
<td>10.8.12.5</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>596,518</td>
<td></td>
</tr>
<tr>
<td>10.8.12.7</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>881,874</td>
<td></td>
</tr>
<tr>
<td>10.8.12.9</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>678,042</td>
<td></td>
</tr>
<tr>
<td>10.8.12.11</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>522,198</td>
<td></td>
</tr>
<tr>
<td>10.8.12.13</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>264,420</td>
<td></td>
</tr>
<tr>
<td>10.8.12.15</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>837,090</td>
<td></td>
</tr>
<tr>
<td>10.8.12.17</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>738,504</td>
<td></td>
</tr>
<tr>
<td>10.8.12.19</td>
<td>netflow</td>
<td>9.2</td>
<td>Jan 5, 2015 4:02 PM</td>
<td>277,002</td>
<td></td>
</tr>
</tbody>
</table>

This completes the installation process. Flow Gateway can now be turned over to those who are responsible for setting up user accounts and operational parameters. Refer to the on line help system for further configuration procedures.
APPENDIX A Specifications

This chapter describes:
- “Console cable wiring” on page 25
- “Controls and indicators” on page 26
- “Mechanical and electrical specifications” on page 27

Console cable wiring

The console cable provided in the accessory kit has an RJ45 connector on one end and a 9-pin D-subminiature connector on the other end. The connectors are wired as follows:

<table>
<thead>
<tr>
<th>RJ45 Connector</th>
<th>9-pin D-subminiature Connector</th>
<th>Signal Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>RTS</td>
<td>Request to send</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>DTR</td>
<td>Data terminal ready</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>SOUT (TxD)</td>
<td>Serial output (Transmit data)</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>RI</td>
<td>Ring indicator</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>SIN (RxD)</td>
<td>Serial input (Receive data)</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>DCD or DSR</td>
<td>Data carrier detect or Data set ready</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>CTS</td>
<td>Clear to send</td>
</tr>
</tbody>
</table>

![RJ45 to D-subminiature cable diagram]
Controls and indicators

Front panel

The panel near the upper right corner of the front of the chassis includes the following controls and indicators:

<table>
<thead>
<tr>
<th>Callout</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>System ID button</td>
<td>Press this button to light a blue LED in the button and on the back of the chassis. This makes it easier to identify the chassis from the front and back of the rack.</td>
</tr>
<tr>
<td>B</td>
<td>Non-maskable Interrupt</td>
<td>This button is recessed and is not for customer use.</td>
</tr>
<tr>
<td>C</td>
<td>Primary port activity indicator</td>
<td>When a connection is detected on the Primary (PRI) port, this green LED lights. When there is activity on the connection, the LED blinks.</td>
</tr>
<tr>
<td>D</td>
<td>Not used.</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Reset button</td>
<td>Press this button to reboot the system.</td>
</tr>
<tr>
<td>F</td>
<td>System status indicator</td>
<td>Described below.</td>
</tr>
<tr>
<td>G</td>
<td>Power button</td>
<td>Switches power on and off. Lights green to indicate the chassis is powered on. Lights amber to indicate a problem in the chassis.</td>
</tr>
<tr>
<td>H</td>
<td>Hard drive activity indicator</td>
<td>Indicates hard drive activity in the chassis.</td>
</tr>
<tr>
<td>I</td>
<td>Not used.</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Auxiliary port activity indicator</td>
<td>When a connection is detected on the Auxiliary (AUX) port, this green LED lights. When there is activity on the connection, the LED blinks.</td>
</tr>
</tbody>
</table>

System status indicator

The hardware system status indicator is located.

It indicates the overall health of the power supplies, fans, CPU and memory chips, BMC firmware, storage devices and chassis temperature as follows:

- **Off** - the product is not operating.
- **Green**
  - Continuously on - Normal operation.
  - Blinking - Minor alarm. Degraded operation. The hardware platform is operating, but is not fully functional.
- **Amber**
Mechanical and electrical specifications

The Flow Gateway requires one rack unit (1U).

**Regulatory compliance code:** 1UACA

**Product model:** SCFG-02270

**Dimensions**
- Height: 43.2 mm, 1.7 in.
- Width: 438 mm, 17.2 in.
- Depth: 640.4 mm, 25.2 in.

**Weight:**
- 11.8 kg, 26 lbs.

**Power:**
- 90V-132V, 47 - 63 Hz
- 180V-264V, 47 - 63 Hz
- 117W

**Cooling:**
- Blinking - Major alarm. Non-fatal failure. The hardware platform is still operating in a degraded condition, but is likely to soon halt.
- Continuously on - Critical alarm. The hardware platform has failed or shut down.
The Flow Gateway requires approximately 398 Btu/hr cooling.

Ambient air should be:

- Air temperature: 10° to 35° C (50° to 95° F)
- Humidity: 20% to 90% non-condensing

**Operating acoustic noise (typical):**

- 7.0 BA (Operating condition in a typical office ambient temperature of 23 +/- 2 deg C)