

SteelCentral™ NetShark Quick Start Guide

Models 2170, 4170 and 6170

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riverbed®

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This manual is for informational purposes only. Addresses shown in screen captures were generated by simulation software and are for illustrative purposes only. They are not intended to represent any real traffic or any registered IP or MAC addresses.

riverbed

Riverbed Technology
680 Folsom St.
San Francisco, CA 94107

Phone: 415 247 8800
Fax: 415 247 8801
www.riverbed.com

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Overview

This document describes the cabling, initial configuration, licensing, and verification of a Riverbed® SteelCentral™ NetShark 2170, 4170, or 6170. It assumes that the product has already been mounted in a rack as described for SteelCentral model xx70 series products in the *Rack Installation Guide*, shipped with the product or available on the Riverbed Support Web site.

When the installation is complete your system will be operating with a basic configuration. You configure it for normal operation on your network using configuration instructions in the *SteelCentral NetShark User's Guide* available on the Riverbed Support Web site.

Product description

A NetShark monitors network traffic seen on taps or on mirror (SPAN) ports of switches and routers while performing high-speed packet capture and storage. A NetShark can be ordered with various storage and interface options. The models, including the two storage unit (SU) options available for the SCAN-06170 (NetShark 6170) base unit, appear below.

Product Model	Rack Space	Length ¹	Width	Height	Maximum Weight
SCAN-02170	1U	640.43 mm (25.21 in.)	438 mm (17.24 in.)	43.2mm (1.7 in.)	13 kg (29 lbs.)
SCAN-04170	2U	707.8 mm (27.87 in.)	438 mm (17.24 in.)	87.6 mm (3.45 in.)	24 kg (53 lbs.)
SCAN-06170	2U	707.8 mm (27.87 in.)	438 mm (17.24 in.)	87.6 mm (3.45 in.)	19.3 kg (42.5 lbs.)
SCAN-SU-48TB	2U	640.3 mm (25.21 in.)	438 mm (17.24 in.)	87.6 mm (3.45 in.)	21 kg (46 lbs.)
SCAN-SU-72TB	2U	640.3 mm (25.21 in.)	438 mm (17.24 in.)	87.6 mm (3.45 in.)	21 kg (46 lbs.)

¹Length is without bezel, cables

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.

Preparation for installation

This section describes resources you need available before you install a NetShark Appliance. The next section uses these resources to cable and power on the appliance.

Data sources

A NetShark must be receiving traffic from at least one source in order for you to verify successful installation and configuration. The traffic source can be a tap or a mirror (SPAN) port on a switch or router.

Cable Connections

Access to the network

If you lock down your network on a port-by-port basis, ensure that the following ports are open between the NetShark and other devices it must communicate with:

- **TCP/22** – (ssh) Command line interface
- **TCP/443** – (https) Web interface and control from Riverbed® SteelCentral Packet Analyzer, also used by concurrent license server for Packet Analyzer
- **TCP or UDP/514** – Default port for external log use, configured in NetShark Web interface
- **TCP/41017** – Traffic data to Riverbed® SteelCentral™ NetProfiler
- **UDP/123** – (ntp) Time synchronization
- **UDP/319 and 320** – (ptp) Time synchronization

Primary port

A NetShark chassis is equipped with a 100/1000baseTX primary management port, (PRI), that must connect to a hub or switch on the management network. The primary management port is set by default for auto-negotiation.

Ensure that:

- The management network has a switch port available for use by the NetShark
- A straight-through cable to a hub or switch port on the management network is available at the rack location.
- The management network switch port is set to establish a connection at 100 or 1000 Mb/s and full duplex.
- A terminal device is available on the management network for logging in to the NetShark Web interface.

Auxiliary port

Optionally, the secondary management port, AUX, can be configured. This is useful if you want to keep network data and network control traffic on separate networks. Note: PRI and AUX should not be enabled on the same network.

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.

Traffic monitoring interfaces

Ensure that the necessary taps or mirror ports are set up in your network and that the correct electrical or optical cables are available in the rack where the NetShark is to be installed.

The interfaces that capture network traffic are provided by network interface cards (NICs). These may be optical or electrical, depending on your order. Check your purchase documentation or view the back panel of the chassis to determine the number and type of cables needed.

Port on network card	Cable type	Cable connector type
RJ-45 electrical	Ethernet	RJ-45
1-Gb/s SX SFP optical	Multimode fiber-optic	LC
1-Gb/s LX SFP optical	Single-mode fiber-optic	LC
10-Gb/s SR SFP+ optical	Multimode fiber-optic	LC
10-Gb/s LR SFP+ optical	Single-mode fiber-optic	LC
10-Gb/s SFP+ DAC*	Copper	SFP+

* A NetShark must be restarted after connecting an SFP+ DAC NIC.

The number of NICs and the slots supported by model appears below.

NetShark Model	Number of NICs Supported	Chassis Slots Used
2170	1	Slot 2
4170 and 6170	2	Slot 1 followed by Slot 2

Console port

Ensure that a terminal server or a device running a terminal emulation program such as HyperTerminal or Tera Term Pro and a cable with an RJ45 connector, such as the cable supplied in the accessory kit, are available. See “Specifications” for the pinouts of the supplied RJ45 to 9-pin D-subminiature cable. A KVM device can also be used to connect to the console.

Remote monitoring

The REM port provides a remote connection to the NetShark chassis Baseboard Management Controller (BMC). The BMC uses an Intelligent Platform Management Interface (IPMI) to monitor system and network watchdogs, error logs and sensors. You can remotely start, restart and power down the chassis. You can monitor hardware operating parameters and configure alerts for conditions outside specified limits. For descriptions of these features, log in to the BMC Web interface and open the online help system.

This port is disabled by default. The NetShark command line interface (CLI) is used to enable and configure the interface. On a 2170, the REM port is accessible through the AUX physical port. On the 4170 and 6170 there is a separate REM port. For instructions on accessing the BMC Web interface

or the IPMI-over-LAN command line, see the *Upgrade and Maintenance Guide* which shipped with the appliance or is available on the Riverbed Support Web site.

Storage units

You can connect a 6170 base unit to up to eight storage units *of the same model*, either SCAN-SU-48TB or SCAN-SU-72TB. By default, a storage unit is formatted with RAID 0, supplying the greatest amount of storage with no redundancy. RAID 5 and RAID 6 are supported and can be used to provide packet storage redundancy. A storage unit can be reformatted to RAID 5 or RAID 6 using the NetShark CLI. All existing packet data is lost when a storage unit's RAID level is changed.

- Check that each disk in the storage unit is the same type (4 TB or 6 TB) and properly seated.
- Use the supplied external 1m SAS gen3 cable with SFF-8644 plugs to connect each unit.
- Confirm that the supplied 1m cable can connect from the ports in slot 4 on the rear of one chassis to the ports in slot 4 on the rear of another chassis in a single linear daisy chain.

Power

All SteelCentral model xx70 series products have two power supplies, including the storage units. It is recommended that the power supplies use two different circuits, if they are available. Use the power cables supplied in the accessory kit. All NetShark models power on automatically when connected to power and after a power outage.

Important: All storage units must be connected and powered on before powering on a 6170. If this is not done, packet storage may not be configured properly.

Cabling and Powering On

Before plugging in the power supplies, make the connections as described below. Note: If you are installing a 6170, be sure to review the information under “[Powering on a 6170](#)” before you connect the appliance’s power supplies.

Management network connections

You operate and manage the appliance over the management network after this initial setup is done. Connect a cable from the management network to the RJ45 connector labeled **PRI**. Note: if you enable AUX, the secondary management port, it must not be on the same network as the primary management port (PRI).

Traffic monitoring interface connections

Connect the cables from the live traffic sources to the interface connectors (mon1_0, mon1_1...) on the back of the chassis. Interface names are mon S _ N where “ S ” is the slot where the NIC is installed and “ N ” is the interface number (0-3), left to right. Note that:

- Replacing a NIC with the same model retains the interface name and settings.
- Replacing a NIC with a different model retains the interface name but auto-negotiation and deduplication settings are lost and must be respecified.

Note: Passthru mode is not supported on the NICs used by the NetShark 2170, 4170, or 6170.

Optical connectors

Models that include a 1-Gb/s network interface card have SFP transceiver inserts pre-installed. If you ordered an SX model, use a multimode fiber-optic cable with an LC connector. If you ordered an LX model, use a single-mode fiber-optic cable with an LC connector.

Models that include a 10-Gb/s network interface card have SFP+ transceiver inserts pre-installed. If you ordered an SR model, use a multimode fiber-optic cable with an LC connector. If you ordered an LR model, use a single-mode fiber-optic cable with an LC connector.

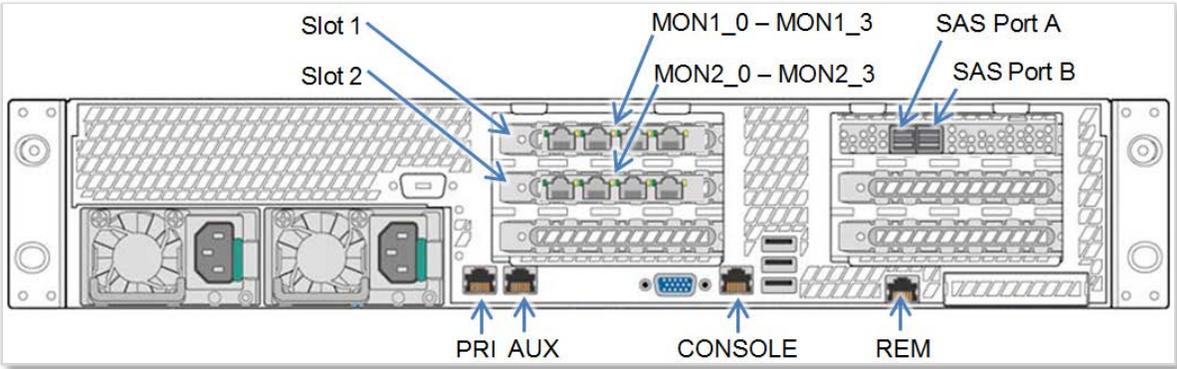
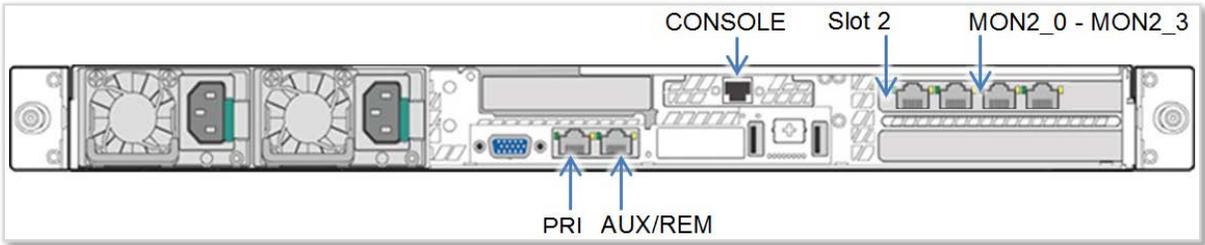
Note: While a 10G card can be installed in a 2170, traffic is not processed at this speed. A 10G card is meant for use by customers who use only 10G links in their network, even if the traffic speed is less than 1G on some interfaces.

Console connection

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

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

- Laptop or other device running a terminal emulation program such as HyperTerminal or Tera Term Pro. Set the device’s terminal emulator to 9600 Baud, 8 data bits, 1 stop bit, no parity bit, vt100 emulation, and no flow control.
- Cable with an RJ45 connector and a 9-pin D-subminiature connector. The accessory kit includes one.
- Alternatively, a KVM device can be used to connect to the console port.



Remote monitoring

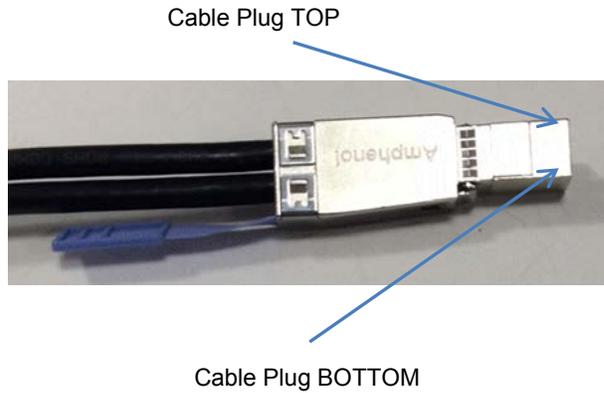
Connecting to the REM port is optional. Connect a cable from the network you choose to the REM port. Note: A 2170 uses the AUX port for remote connections to the BMC.

Storage units

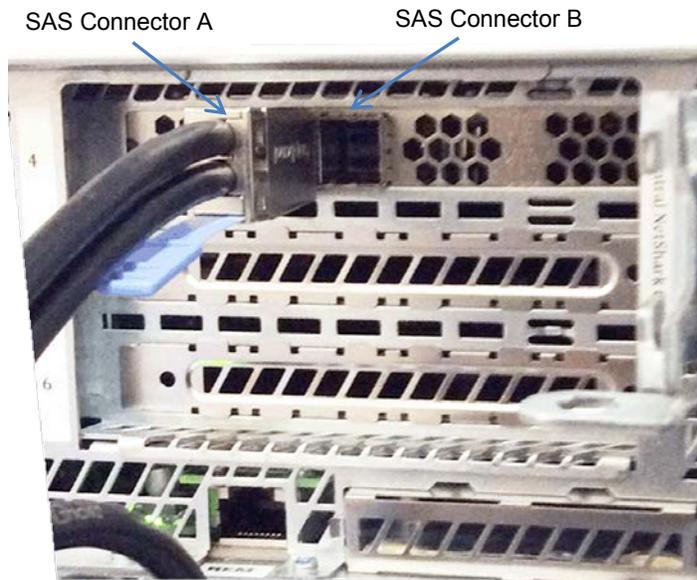
Use the supplied external 1m SAS gen3 cable with SFF-8644 plugs to connect the base unit and each storage unit. Follow the instructions below.

Inserting SAS cable with SFF-8644 plugs into a 6170 SAS connector

Step 1. Identify the cable plug top and bottom. Note the blue tab at the bottom of the plug.



Step 2. Insert the top of the plug into the top of the connector. Note the blue tab at the bottom of the plug.



Slot 4 on the chassis provides two SFF 8644 SAS connectors labeled “A” and “B.” Connect port A on the 6170 base unit to port A on a storage unit. Use port B on the storage unit to connect to port A on the next storage unit. Continue until all storage units are connected in a linear daisy chain.

Power cables

Read “Powering on a NetShark appliance” before you plug in your NetShark model. All models have two power supplies. Plug each power supply into a different circuit, if available, using the supplied power cords.

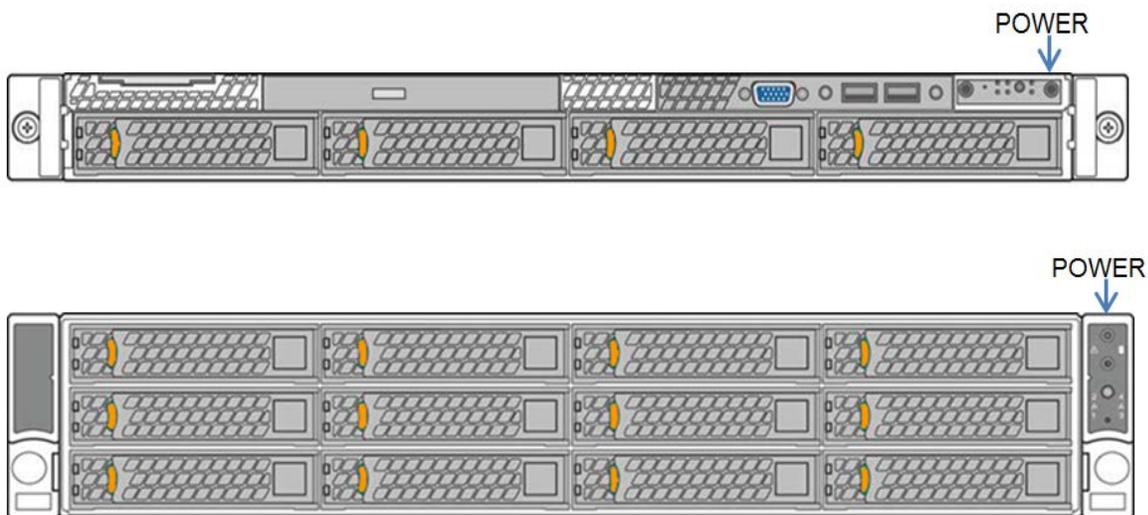
Powering on a NetShark appliance

Read the instructions below before powering on your NetShark model.

Important: The installation of a 6170 with storage units requires that the storage units are powered on and connected before the 6170 is powered on, as described below.

Powering on a 2170 or a 4170

Connect one or both power supplies to power. Observe that the chassis powers up. The power button is used to manually force a shutdown of a NetShark.



Powering on a 6170

An enrollment process must link each storage unit to the 6170 base unit before a storage unit can be used for packet storage. When a 6170 performs an enrollment, any existing packet data is lost and the storage unit is formatted as RAID 0 by default. For more information on NetShark storage units see “Configuring and Managing 6170 Storage Units” in Chapter 2 of the *SteelCentral NetShark User’s Guide*, version 10.9 and later, or the NetShark Web interface online Help.

To automatically enroll storage units:

1. Connect the 6170 and the storage units. See “6170 storage units” for details.
2. Check disk compatibility – are all disks either 4 TB disks or 6 TB disks?
3. Connect the storage units to power *before* the 6170.
4. Check that the storage unit’s status indicator, the power button on the right ear at the front of each storage unit – it should be lit green. If not, check the items below.
 - a. Is the power cable attached to the unit and is the circuit live?
 - b. Reseat the disks in the storage unit.

5. Once all storage units are connected and successfully powered on, power on the 6170. When a new 6170 is connected to power it detects the storage units and enrolls each one. Packet storage is then initialized as RAID 0 by default.

Once the 6170 has powered on and enrolled all storage units you are ready to do a basic NetShark configuration.

Configuration

After the NetShark finishes booting up, a login prompt appears on the console terminal. Perform the initial NetShark configuration using the CLI, as described below.

Note: Once the initial configuration is done, a license must be installed before operating and managing a NetShark. License installation is done in the next section, "Licensing." For additional configuration, use the NetShark Web interface. See the *SteelCentral NetShark User's Guide* for details on configuring and managing a NetShark.

Initial setup

1. Using the console port and a terminal emulator, log in to the NetShark CLI using the default login name and password.

```
Login: admin
Password: admin
```

Note: You must always keep a record of the login password.

2. Run the setup wizard to configure the appliance for operation on the network.

```
shark> wizard
```

The setup wizard guides you through the initial configuration of the appliance. Press **Enter** at any step to accept the current setting "[]" and move to the next step. For example:

```
Step 0: Hostname [shark]? NetShark1
Step 1: Use DHCP for primary [yes]? no
Step 2: primary IP address []? 10.0.20.11
Step 3: primary netmask []? 255.255.255.0
Step 4: primary default gateway []? 10.0.20.3
Step 5: Enable aux [no]? no
Step 10: DNS servers []? 10.0.20.1,10.0.20.2
Step 11: Domain name []? example.com
Step 12: Timezone (type * for list) [America/Los_Angeles]? *
Africa/          America/          Antarctica/       Arctic/
Asia/            Atlantic/         Australia/        Etc/
Europe/         Indian/           Pacific/
Step 12: Timezone (type * for list) [America/Los_Angeles]? Australia/*
Adelaide        Brisbane          Broken_Hill       Currie
Darwin          Eucla             Hobart            Lindeman
Lord_Howe       Melbourne         Perth             Sydney
Step 12: Timezone (type * for list) [America/Los_Angeles]? Australia/Perth
Step 13: Enable SSH [yes]? yes
Step 14: Enable PTP [yes]? Note: The PTP steps appear on version 10.6 or later of the software. They do not appear on version 9.6 or earlier. See description below.
Step 15: PTP Interface [primary]?
Step 16: NTP server names [0.riverbed.pool.ntp.org,1.riverbed.pool.ntp.org,2.riverbed.pool.ntp.org,3.riverbed.pool.ntp.org]?
```

The purposes of the steps in the setup wizard are as follows:

Step 0 sets the hostname (without the domain).

Steps 1 through 4 configure the IP management network. Enter **yes** in Step 1 to use DHCP for the **primary** management port or **no** to use a static IP configuration, and press Enter. When setting up an address to be provisioned by DHCP, refer to the MAC address of the management port (primary or aux) on the label on top of the appliance. For a static IP configuration, use Step 2 to specify the IP address, Step 3 to specify the IP net mask, and Step 4 to specify the default gateway.

Step 5 selects whether to use the second management port (**aux**). Enter **yes** to enable **aux**. If **aux** is enabled, Steps 6 through 9 configure **aux** for either DHCP or a static IP configuration.

Steps 10 and 11 configure the DNS servers (as a comma- or space-separated list) and the domain name of the appliance. If DHCP is used for the **primary** management network configuration, these steps are skipped (because they are configured by the DHCP server).

Step 12 sets the time zone of the appliance. Entering an asterisk * lists the available time zone areas. To list the specific time zones within an area (for example, Europe), enter the area followed by /*. To specify a particular time zone, enter the full time zone including the area (for example, **Europe/Rome**). Use **Etc/*** to specify GMT time.

Step 13 enables or disables the remote shell (SSH).

Steps 14 and 15 select and configure the use of Precision Time Protocol (PTP) in software version 10.6 or later. A clock source must be reachable using the selected interface.

Step 16 defines the NTP server(s) used for clock synchronization. Enter one or more NTP server names or IP addresses, separated by commas or spaces.

At the end of the configuration, the wizard prints out a summary of the parameters. Note: The summary for a NetShark 6170 includes an additional report – see “[NetShark 6170 Connected Storage Unit Report](#)” below for details. Each step can be revisited by entering the step number. Entering an “s” saves the configuration, and entering a “c” cancels it.

To change an answer, enter the step number to return to.

Type 's' to save changes and exit

Type 'c' to exit without saving changes

3. Once the configuration is complete, enter **s** to save the configuration.

Note: A change to the host name, IP address, or time zone requires a reboot in order to take effect. The wizard asks for confirmation before rebooting the appliance.

4. If you have used DHCP to provision an IP address for NetShark, at the console prompt enter **interface show primary** to find the IP address of the primary management port. Ensure that you can ping this address from another workstation on the management network before logging out of the command line interface.

After you save the settings and exit the wizard, the appliance is accessible on the management network.

NetShark Connected Storage Unit Report

When a NetShark 6170 is configured, the wizard also reports the detected storage units connected to the base unit. Detected storage units are listed in serial number order:

The following Storage Units have been detected:

- 0) SCAN-SU-48TB (serial LD8HV0680AA12)
- 1) SCAN-SU-48TB (serial LD8TT0680AA11)
- 2) SCAN-SU-48TB (serial LD8XU00680AA9)
- 3) SCAN-SU-48TB (serial LD8XW0680AA10)

If all storage units are listed, continue and confirm packet storage in the NetShark web interface (System > Maintenance).

If a storage unit is missing, check that it is connected and powered on. Check packet storage in the Netshark web interface.

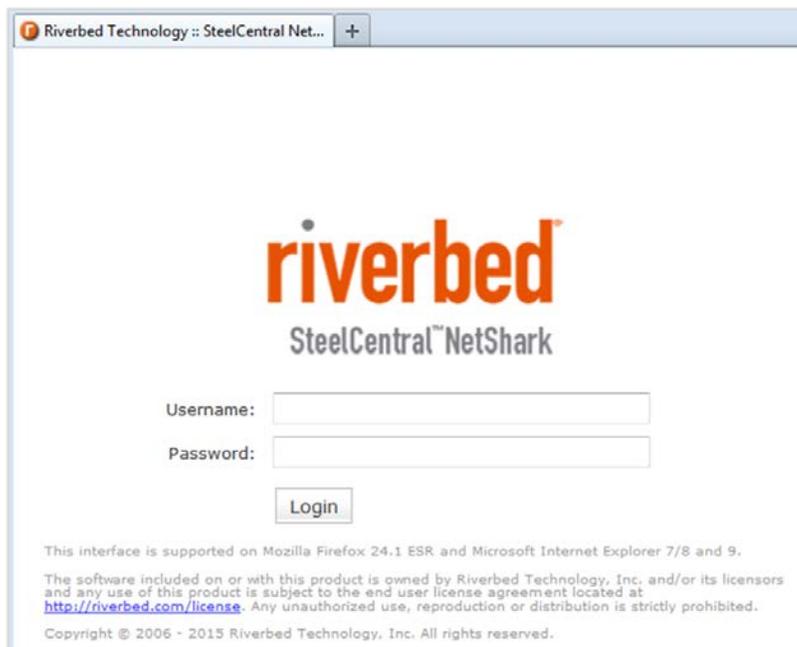
Check the number of storage units on this list – is the number of storage units the same as the number of units you attached to the 6170? If not, the packet storage created may be smaller than intended as any missing storage units were not enrolled. See “Troubleshooting Storage Units” for help.

After completing the NetShark configuration and adding a license, verify the NetShark installation and then go the System > Maintenance page in the NetShark Web interface. Check the size of packet storage and the status of each storage unit. Use “Troubleshooting Storage Units” for help fixing common problems you may find when installing packet storage for a NetShark 6170.

Opening the NetShark Web interface

Once the NetShark can be pinged, you can use a browser to open the NetShark Web interface. The NetShark Web interface is supported on Mozilla Firefox 24.1 ESR and Microsoft Internet Explorer 7/8 and 9. Make sure that SSL, cookies, and JavaScript are enabled in your browser.

1. Point a browser to **<https://<NetShark>>** where <NetShark> is the IP address or DNS name of the NetShark. This displays the Web interface login page.



2. Log in using the default Web interface username and password.

Username: **admin**
Password: **admin**

Note: the username and password can be changed on the Settings > Users and Groups page of the Web interface.

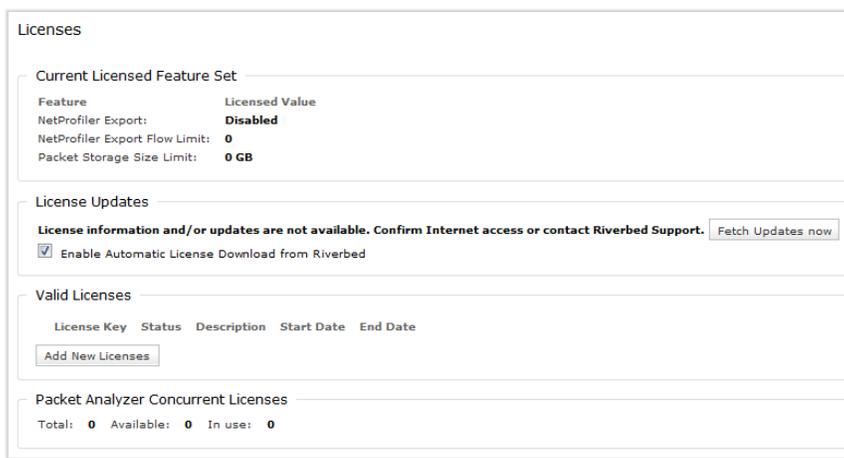
Licensing

A NetShark requires a license to capture packets, export flows, and host Packet Analyzer Concurrent Licenses. If a NetShark has Internet access, you can download and install your license keys automatically. If a NetShark does not have Internet access you can download and install the licenses manually from the Riverbed licensing Web site (<https://licensing.riverbed.com>) using the NetShark serial number, available on the System>Maintenance page of the NetShark Web interface.

Automatic licensing

If the NetShark has been configured to be accessible on a network and if it has access to the Internet, automatic licensing is used to download and install the license key(s).

1. Log in to the NetShark Web interface.
2. Navigate to the System->Licenses page and check for license keys in the Valid Licenses section.
 - a. If license keys are listed NetShark has downloaded its licenses from the Riverbed licensing Web site and no further action is required.
 - b. If no license keys are listed, NetShark has not downloaded and installed its licenses. Go to the next step.
3. If the license keys have not been downloaded, click **Fetch Updates now**. Refresh the browser page to view the licenses.



4. Confirm that license keys are listed under Valid Licenses.
5. The NetShark must be restarted to activate a license. A message in the upper right corner of the Licenses page allows you to restart or delay the restart of the NetShark. Installed licenses are listed in the Valid Licenses section of the Licensing page.

The **Fetch Updates Now** button causes the NetShark to immediately connect to the Riverbed licensing Web site and download any new licenses that you have purchased

When **Enable Automatic License Download from Riverbed** is enabled the NetShark automatically connects to the Riverbed licensing Web site every 12 hours and downloads licenses that you have purchased. Uncheck the box to disable the automatic retrieval of license updates.

Manual licensing

If the NetShark does not have Internet connectivity, you can install licenses manually.

1. Obtain the serial number for the appliance to be licensed. The NetShark serial number is displayed under System Info on the System > Maintenance page of the NetShark Web interface.
2. Point your browser at the Riverbed licensing Web site: <https://licensing.riverbed.com>
3. Follow the instructions of the licensing wizard to generate the license keys using the NetShark serial number.
4. On the Licenses page, click **Add Licenses**, then copy and paste the license keys into the window, one line per key. Click **Add New Licenses** to add the keys to the NetShark.
5. When the keys have been added, the NetShark returns a completion message. Click **Restart Now** to restart the NetShark probe service.



6. After the NetShark is restarted, the NetShark is fully licensed and the licenses are visible on the Licenses page in the Valid Licenses section.
Note: If you purchase and download a license for a higher capacity than a current license, NetShark uses the license with the higher capacity.

Remove a license by clicking the **Delete** button next to its licensing key. If a NetShark is connected to the Web it can automatically or manually check for license updates. When deleting multiple licenses, only one restart is necessary.

Licenses

Current Licensed Feature Set

Feature	Licensed Value
NetProfiler Export:	Enabled
NetProfiler Export Flow Limit:	1.20 M
Packet Storage Size Limit:	72000 GB

License Updates

Updates successfully retrieved last time on 12/30/2014 12:50:42 Fetch Updates now

Enable Automatic License Download from Riverbed

Valid Licenses

	License Key	Status	Description	Start Date	End Date
<input type="button" value="Delete"/>	LK1-MSPECSCAN6170-0000-0000-1-AE68-772C-0BED	VALID	NetShark 6170 Model License	--	--
<input type="button" value="Delete"/>	LK1-CPEL#1+00000000-4023-40D7-1-6476-264F-D6FC	VALID	Concurrent license for Packet Analyzer	12/14/2014 21:00:00	6/13/2015 22:00:00
<input type="button" value="Delete"/>	LK1-CPEL#10+548B746E-0000-0000-1-1F79-FA43-B4C1	VALID	Concurrent license for Packet Analyzer	--	--

Packet Analyzer Concurrent Licenses

Total: **17** Available: **17** In use: **0**

Installation verification

Once the NetShark has been licensed, use the NetShark Web interface to verify that the appliance has been successfully installed.

Confirming basic configuration

1. Point a browser to <https://<NetShark>> where <NetShark> is the IP address or DNS name of the NetShark.
2. Log in using the default Web interface username and password.

Username: **admin**

Password: **admin**

NetShark displays the Status page.

The screenshot displays the 'Status' page of the NetShark web interface. It is organized into several sections:

- Capture Jobs:** A table with columns for Job, Status, and Packet Capture Size. It is currently empty.
- System Information:** A summary of system resources:
 - User Data Storage:** Status: **OK**, Total: **3.12 TB**, Used: **258.01 MB (0.01%)**, Allocated (Index): **0 B (0%)**
 - Packet Storage:** Status: **OK**, Total: **65.48 TB**, Used: **1024 GB (1.53%)**, Allocated (Jobs): **1024 GB (1.53%)**
 - Memory:** Status: **OK**, Total: **62.94 GB**, Available: **60.59 GB**
- Time Synchronization Status:** Protocol: **PTP**, Synchronized: **NO**, Offset: **--**
- NetProfilers Configured For Export:** A table with columns for NetProfilers, Status, and Info. It shows 'No NetProfilers are configured for export'.
- NetProfiler Export Statistics:** A table with columns for Total (last minute/week), Avg per minute (last week), Peak (last week), Exported Flows, and Rejected Flows. All values are 0.
- Flow collectors (NetFlow v9) For Export:** A table with columns for Flow Collectors, Port, Status, and Info. It shows 'No Flow Collectors are configured for export'.
- Flow Collector Export Statistics:** A table with columns for Total (last minute/week), Avg per minute (last week), Peak (last week), Exported Flows, and Rejected Flows. All values are 0.
- Interfaces:** A table with columns for Interface, Link Status, and Received Packets:

Interface	Link Status	Received Packets
mon1_0	UP	729.45 M
mon1_1	UP	0

3. Under **System Information**, check the status of storage and memory.
 - a. If any storage is not OK, navigate to the System > Maintenance page and troubleshoot using the Storage Status information shown below. This same information is available from the CLI using the `packet-storage status` command.

Storage Status

System Storage Status: OK

Packet Storage Status: OK

Packet Storage RAID level: **0**

Packet Storage Total Space: **87.31 TB**

Packet Storage Available Space: **74.47 TB**

Packet Storage Used Space: **12.83 TB**

Model: SCAN-06170 **Serial:** LD5KY0000000 **Status:** OK



Model: SCAN-SU-48TB **Serial:** LD84000 **Status:** OK



Model: SCAN-SU-48TB **Serial:** LD84001 **Status:** OK



New Reserved Space: %

Write speed tends to be slower at the end of hard drives. By setting the 'New Reserved Space' parameter, you can prevent the appliance from writing at the end of packet storage. This will reduce the available storage size, but it will make disk write performance more uniform.

Important: Reinitializing or reformatting packet storage will cause all packets in the capture jobs to be lost.

4. Under **Time Synchronization Status**, check that the NetShark is synchronized with at least one clock source. If not, confirm that the ports used by your time protocol are not blocked by a firewall. See “Access to the network” for port requirements. Note: When using NTP, the Remote Peers are the servers NetShark is synchronizing with. These may be different from the NTP servers you configured, as those are often pools of servers, for example, `0.timesource.pool.org`.
5. Under **Interfaces**, if an interface name appears as `mon0_N`, the NIC is installed in an incorrect slot. For a 2170, move the NIC to slot 2. For a 4170 or 6170, move the NIC to slot 1 or to slot2 if slot 1 is in use.
6. For each interface that you have connected, check the values under **Link Status** and **Received Packets**
 - a. **Link Status** should be UP for all connected interfaces. If DOWN, check the connection and the source.
 - b. **Received Packets** for all connected interfaces should be increasing. Refresh the browser page (or wait for it to auto-refresh) and confirm that the received packet count is incrementing.
 - c. If the interfaces remain DOWN or the packet counters are not incrementing, see the *SteelCentral NetShark User's Guide* for troubleshooting information.

7. After you have verified that all interfaces that you have connected to network traffic sources are up and that the received packets counters are incrementing, the installation is complete.

Additional configuration

For operational configuration and use, including setting up interfaces, capture jobs, and communication with SteelCentral NetProfiler, refer to the *SteelCentral NetShark User's Guide* or the *SteelCentral Packet Analyzer Reference Manual*.

Troubleshooting Storage Units

Solutions to common packet storage installation problems are listed below.

Problem 1: Packet Storage is Inoperable

This can occur if:

- The 6170 was powered on before *any* storage units.
When the 6170 booted, no storage units were detected. No enrollment occurred
- An invalid storage unit was found.
No enrollment occurred.
- A mismatched storage unit is attached. There are 48 TB and 72 TB storage units attached to the 6170 base unit. No enrollment occurred.
- A storage unit has a failed disk.
- A storage unit has an incompatible disk.

Solution:

The 6170 was powered on before *any* storage units.

1. All storage units are UNCONFIGURED. If the status of any storage unit is OK, skip to Problem 2 below.
2. Reboot the 6170.
3. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If packet storage is OK but its size is not what is expected, go to Problem 2 below.

An invalid or mismatched storage unit was found.

1. All storage units are UNCONFIGURED. If the status of any storage unit is OK, skip to Problem 2 below.
2. Identify the INVALID or mismatched storage unit.
 - a. If a storage unit's serial number is followed by INVALID the unit is defective and enrollment did not occur.
 - b. Check the model of each storage unit to identify the mismatched unit(s). All storage units must be either SCAN-SU-48TB or SCAN-SU-72TB. Enrollment did not occur.
3. To create packet storage choose "a" or "b" below.
 - a. It is recommended that you replace the INVALID or mismatched storage unit(s) before creating packet storage. If you disconnect the defective or mismatched storage unit and build package storage without it (option "b") a new enrollment is required to add a replacement unit later and any existing packet capture data is lost.
 - i. Connect and power on the replacement storage unit.

- ii. Reboot the 6170.
 - iii. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If packet storage is OK but its size is not what is expected, go to Problem 2 below.
- b. Disconnect the INVALID or mismatched unit.
- i. Power off and disconnect the unit from the 6170 configuration. A storage unit cannot be disconnected through software.
 - ii. Reboot the 6170.
 - iii. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If packet storage is OK but its size is not what is expected, go to Problem 2 below.
- Important:** Should you later decide to add a replacement storage unit a new enrollment is required and any existing packet capture data is lost.

A storage unit has a failed disk.

1. All storage units are UNCONFIGURED. If the status of any storage unit is OK, skip to Problem 2 below.
2. Go to System > Maintenance in the NetShark Web interface and check the status of each disk in all storage units. Find any disk whose status is FAILED.
3. Replace all failed disks.
4. Reboot the 6170.
5. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If packet storage is OK but its size is not what is expected, go to Problem 2 below.

A storage unit has an incompatible disk.

1. All storage units are UNCONFIGURED. If the status of any storage unit is OK, skip to Problem 2 below.
2. Go to System > Maintenance in the NetShark Web interface and check the status of each disk in all storage units. All storage unit disks must be the same size, either 4 TB or 6 TB. Find any disk whose status is INCOMPATIBLE.
3. Replace all incompatible disks.
4. Reboot the 6170.
5. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If packet storage is OK but its size is not what is expected, go to Problem 2 below.

Problem: Packet Storage is smaller than expected

This can occur if:

- A storage unit was not connected or not powered on when an enrollment occurred.
- A storage unit was added after an enrollment occurred.

Solution:

A storage unit was not connected or not powered on when an enrollment occurred.

1. Packet storage status is OK and all storage units are OK. One or more storage units were not enrolled by the 6170 and are not included in packet storage.
2. Go to System > Maintenance in the NetShark Web interface and compare the number of storage units listed with the number of storage units to be deployed. This list is by serial number, not the order that the storage units are physically attached to the 6170.
 - a. When multiple storage units are deployed in a single linear daisy chain, a storage unit that is not connected or not powered on, and all storage units following it, are not identified and enrolled by the 6170.
 - b. Starting with the missing storage unit that is closest to the 6170 in the linear daisy chain, power on the unit and reconnect it to the 6170. Power on and reconnect all subsequent storage units.
 - c. A new enrollment must be run to add the missing storage unit(s) to packet storage. Any existing packet capture data is lost.
3. Open the NetShark CLI. Enter the command **storage-unit enroll-reset** to clear all references to any previously enrolled storage units.
4. Enter **storage-unit enroll-force**. All existing packet data is lost when the new enrollment occurs.
5. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. If not, contact Riverbed Support for additional assistance

A storage unit was added after an enrollment occurred.

1. Packet storage status is OK and one or more storage units are UNCONFIGURED on the System > Maintenance page in the NetShark Web interface. All other storage units are OK. The storage unit(s) is connected to the 6170 and powered on but has not been enrolled and is not a part of package storage.
2. A new enrollment must be run to add the missing storage unit(s) to packet storage. Any existing packet capture data is lost.
3. Open the NetShark CLI. Enter the command **storage-unit enroll-reset** to clear all references to any previously enrolled storage units.
4. Enter **storage-unit enroll-force**. All existing packet data is lost when the new enrollment occurs.
5. Go to System > Maintenance in the NetShark Web interface and confirm the packet storage status is OK, its size matches the number of storage units deployed, and the status of each storage unit is OK. [If not, contact Riverbed Support for additional assistance](#)

Contacting Riverbed

Options for contacting Riverbed include:

- Internet - Find out about Riverbed products at <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> 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> 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 on line documentation or printed materials. Send documentation comments to techpubs@riverbed.com.

Specifications

Power

Line voltage: 90Vac to 132Vac and 180Vac to 264Vac

Line Frequency: 47 Hz - 63 Hz

Power (Typical)

SCAN-02170	SCAN-04170	SCAN-06170	SCAN-SU-48TB	SCAN-SU-72TB
135W	318W	259W	217W	254W

BTU

SCAN-02170	SCAN-04170	SCAN-06170	SCAN-SU-48TB	SCAN-SU-72TB
458	1082	881	737	865

Cooling

Ambient air should be:

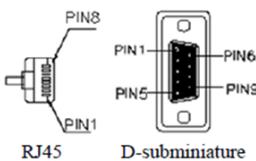
- Air temperature: 10°to 35°C (50°to 95°F) (
- Relative humidity: 20% to 90%

Operating altitude up to 10,000 feet

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:

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



riverbed

Riverbed Technology
680 Folsom St.
San Francisco, CA 94107

Phone: 415 247 8800
Fax: 415 247 8801
www.riverbed.com