

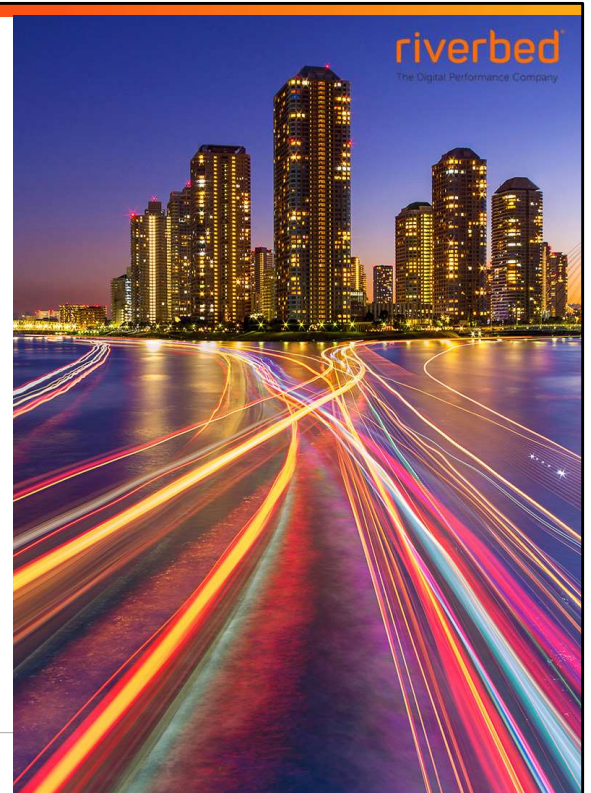


Learning Objectives

After completing this module, you will be able to:

- Manage your appliances.
- Perform basic housekeeping tasks.

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Key Points



Management is available using the CLI or the GUI.



It is available on all interfaces, unless otherwise dictated by the Management ACL



Configuration and Management is best performed using the SCC.



Management and Configuration (Mgmt & Config)

Management Methods

- Command Line Interface, CLI
 - Console
 - BMC
 - SSH
 - Telnet (disabled by default)
- Graphical User Interface, GUI
 - HTTP
 - HTTPS
- Rest API
- SNMP
- Management is available on all interfaces by default
- Configurable by Management ACL
- Rest API for special purposes, e.g., automation
- SNMP MIB downloadable from the GUI
- Best Practice: Always use the SCC.

Mgmt & Config – CLI Command Entry Modes

- User, Enable and Config modes
- Command completion
- ?, context sensitive help
- Initial Configuration with a wizard

```
hostABC$ ssh -l admin 10.1.30.25
Riverbed SteelHead
admin@10.1.30.25's password:
Last login: Thu Jan 23 11:46:49 2020 from 10.1.30.1
VCX255-A > enable
VCX255-A # conf terminal
VCX255-A (config) #
```

Note: the CX5080 & CX7080 use classic DB-9 serial interface for console access

Mgmt & Config – CLI Command Completion

- User, Enable and Config modes
- Command completion
- ?, context sensitive help
- Initial Configuration with a wizard

```
VCX255-A # sh int inpath0_0
Interface inpath0_0 state
  Up: yes
  Interface type: ethernet
  IP address: 10.1.30.125
  Netmask: 255.255.255.0
  IPv6 link-local address: fe80::20c:29ff:fe28:b93d/64
  MTU: 1500
  HW address: 00:0C:29:28:B9:3D
  Traffic status: Normal
  HW blockable: no
  Counters cleared date: 2019/12/12 11:43:00

  RX bytes: 6526710
  RX packets: 51827
  RX mcast packets: 0
  RX discards: 0
  RX errors: 0
  RX overruns: 0
  RX frame: 0

  TX bytes: 1548
  TX packets: 18
  TX discards: 0
lines 1-23
```

Mgmt & Config – CLI Basics

- User, Enable and Config modes
- Command completion
- ?, context sensitive help
- Initial Configuration with a wizard

```
VCX255-A # show interfaces ?
<cr>                Display detailed running state for all
interfaces
<interface name>
lo
primary
wan0_0
lan0_0
inpath0_0
aux
brief              Display brief running state for all
interfaces
configured          Display configuration for all interfaces
mtu-override        Display MTU sync override setting
VCX255-A # show interfaces
```


Mgmt & Config – Config Wizard

- User, Enable and Config modes
- Command completion
- ?, context sensitive help
- Initial Configuration with a wizard

```
VCX255-A (config) # conf jump-start
```

```
Riverbed SteelHead configuration wizard.
```

```
Step 1: Hostname? [VCX255-A]
Step 2: Use DHCP on primary interface? [no]
Step 3: Primary IP address? [10.1.30.25]
Step 4: Netmask? [255.255.255.0]
Step 5: Default gateway? [10.1.30.254]
Step 6: Primary DNS server? [10.1.30.102]
Step 7: Domain name? [training.local]
Step 8: Admin password?
Step 9: SMTP server? []
Step 10: Notification email address?
Step 11: Set the primary interface speed? [auto]
Step 12: Set the primary interface duplex? [auto]
Step 13: Would you like to activate the in-path configuration? [yes]
Step 14: In-Path IP address? [10.1.30.125]
Step 15: In-Path Netmask? [255.255.255.0]
Step 16: In-Path Default gateway? [10.1.30.254]
Step 17: Set the in-path:LAN interface speed? [auto]
Step 18: Set the in-path:LAN interface duplex? [auto]
Step 19: Set the in-path:WAN interface speed? [auto]
Step 20: Set the in-path:WAN interface duplex? [auto]
```

The Wizard comes up automatically from a factory reset. It is available all the time from configuration mode by typing *conf j*. Twenty questions include the basic reachability configuration for the Base interfaces, which are the Primary and Aux. You can also set the first in-path interface, but only the first one, all others are to be done with the GUI or CLI.

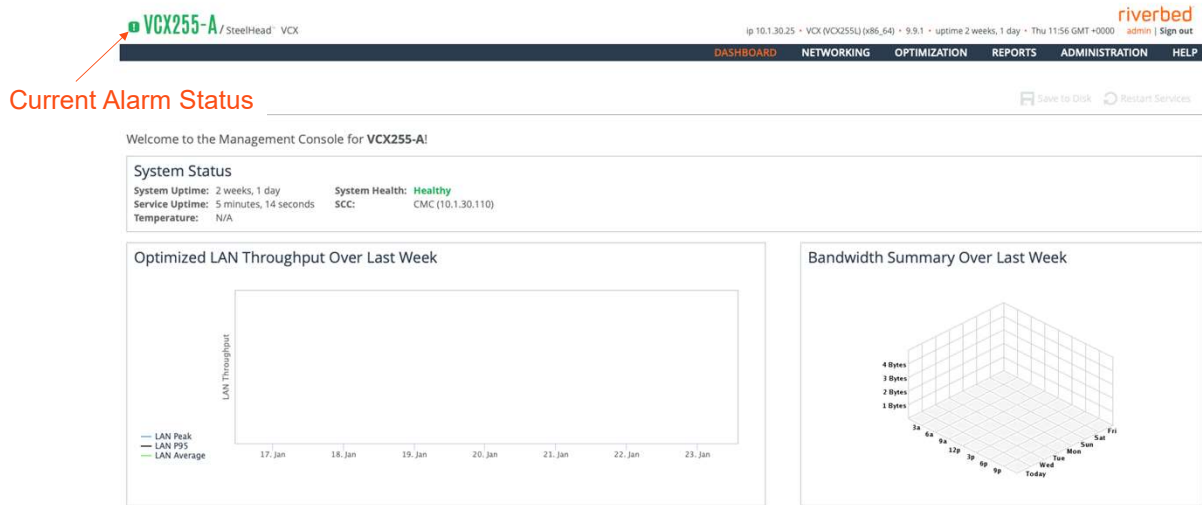
Mgmt & Config – Search from CLI with “ / ”

```
UCX-255A #  
UCX-255A # show configuration full
```

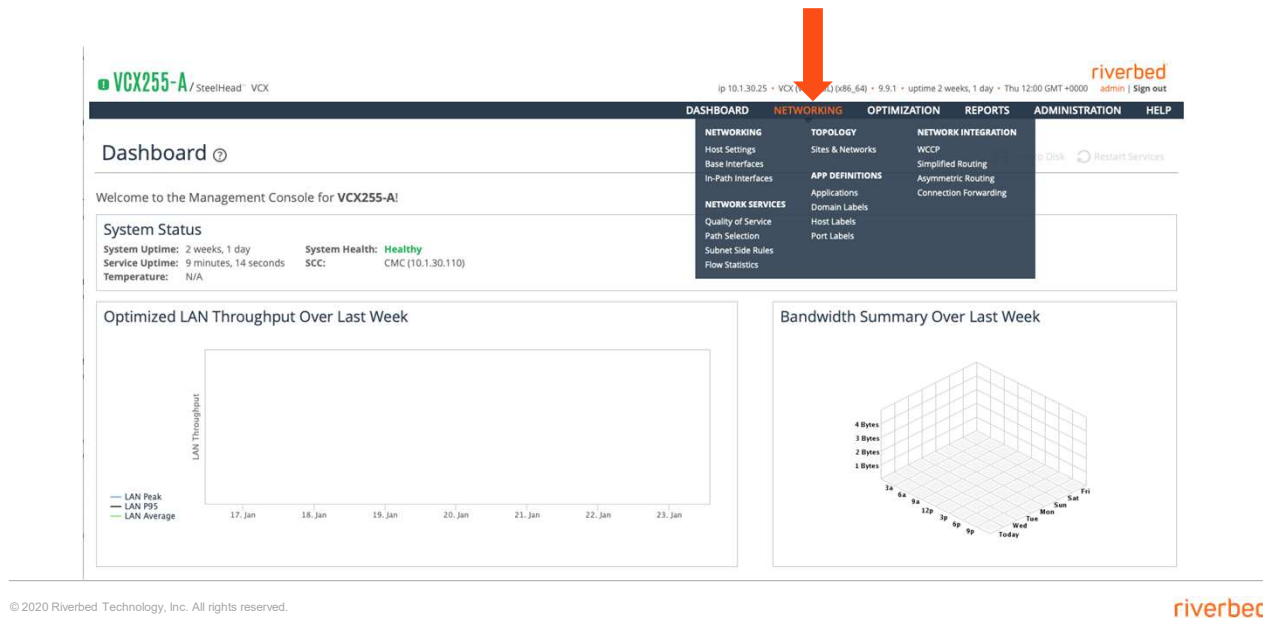
```
##  
## Network interface configuration  
##  
interface aux description ""  
interface aux dhcp  
no interface aux dhcp dynamic-dns  
no interface aux dhcpv6  
no interface aux dhcpv6 dynamic-dns  
interface aux mtu "1500"  
no interface aux shutdown  
interface aux speed "auto"  
interface inpath0 description ""  
no interface inpath0 dhcp  
no interface inpath0 dhcp dynamic-dns  
no interface inpath0 dhcpv6  
no interface inpath0 dhcpv6 dynamic-dns  
no interface inpath0 force-mdi-x enable  
interface inpath0 ip address 10.1.50.125 /24  
interface inpath0 mtu "1500"  
interface inpath0 napi-weight "128"  
no interface inpath0 shutdown  
interface inpath0 speed "auto"  
interface inpath0 txqueuelen "100"  
interface lo description ""  
/vlan-conn_
```

```
in-path vlan-conn-based  
ip rt-cache rebuild-count "0"  
limit connection "4096"  
no out-of-path enable  
no packet-mode enable  
prepop enable  
protocol cifs applock enable  
no protocol cifs clear-read-resp enable  
no protocol cifs disable write optimization  
protocol cifs dw-throttling enable  
protocol cifs enable  
no protocol cifs ext-dir-cache enable  
protocol cifs mac oplock enable  
no protocol cifs mac qpath-allinfo squash enable  
protocol cifs nosupport client add "macunk"  
protocol cifs nosupport client add "novell"  
protocol cifs nosupport client add "winunk"  
protocol cifs nosupport client add "wnt3"  
protocol cifs nosupport server add "bsd"  
protocol cifs nosupport server add "win98"  
protocol cifs nosupport server add "winunk"  
protocol cifs nosupport server add "wnt3"  
no protocol cifs oopen enable  
protocol cifs oopen extension modify ldb setting deny  
lines 1736-1759
```

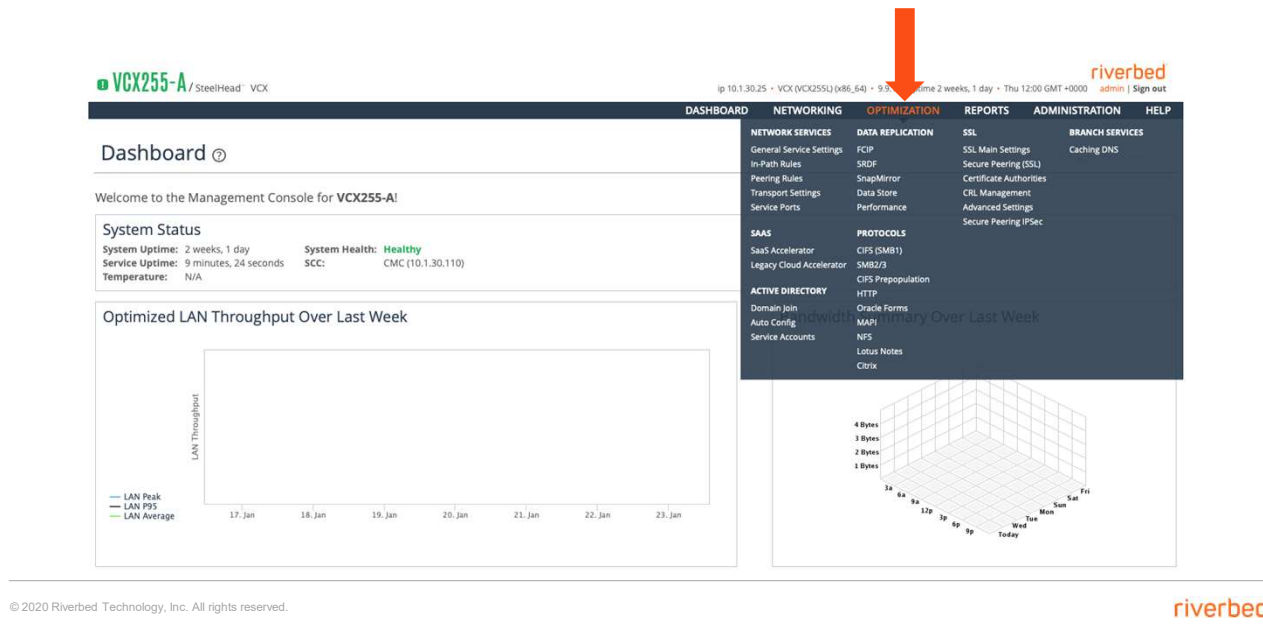
Mgmt & Config – GUI Basics & Alarm



Mgmt & Config – GUI Networking Pages



Mgmt & Config – GUI Optimization Pages



Mgmt & Config – GUI Administration Pages

VCX255-A / SteelHead VCX

ip 10.1.30.25 • VCX (VCX255L) (x86_64) • 9.9.1 • uptime 2 weeks, 1 day • Thu 12:01 GMT

riverbed admin | Sign out

DASHBOARD NETWORKING OPTIMIZATION REPORTS **ADMINISTRATION** HELP

ADMINISTRATION

- MAINTENANCE
 - Services
 - Scheduled Jobs
 - Licenses
 - Software Upgrade
 - Reboot/Shutdown
- SECURITY
 - General Settings
 - User Permissions
 - Password Policy
 - RADIUS
 - TACACS+
 - SAML
 - Secure Vault
 - Management ACL
 - Web Settings
 - REST API Access
- SYSTEM SETTINGS
 - Announcements
 - Alarms
 - Date/Time
 - Monitored Ports
 - SNMP Basic
 - SNMP v3
 - SNMP ACLs
 - Email
 - Logging
 - My Account
 - Configurations

Dashboard ⓘ

Welcome to the Management Console for VCX255-A!

System Status

System Uptime: 2 weeks, 1 day System Health: **Healthy**
Service Uptime: 9 minutes, 54 seconds SCC: CMC (10.1.30.110)
Temperature: N/A

Optimized LAN Throughput Over Last Week

LAN Throughput

— LAN Peak
— LAN P95
— LAN Average

17 Jan 18 Jan 19 Jan 20 Jan 21 Jan 22 Jan 23 Jan

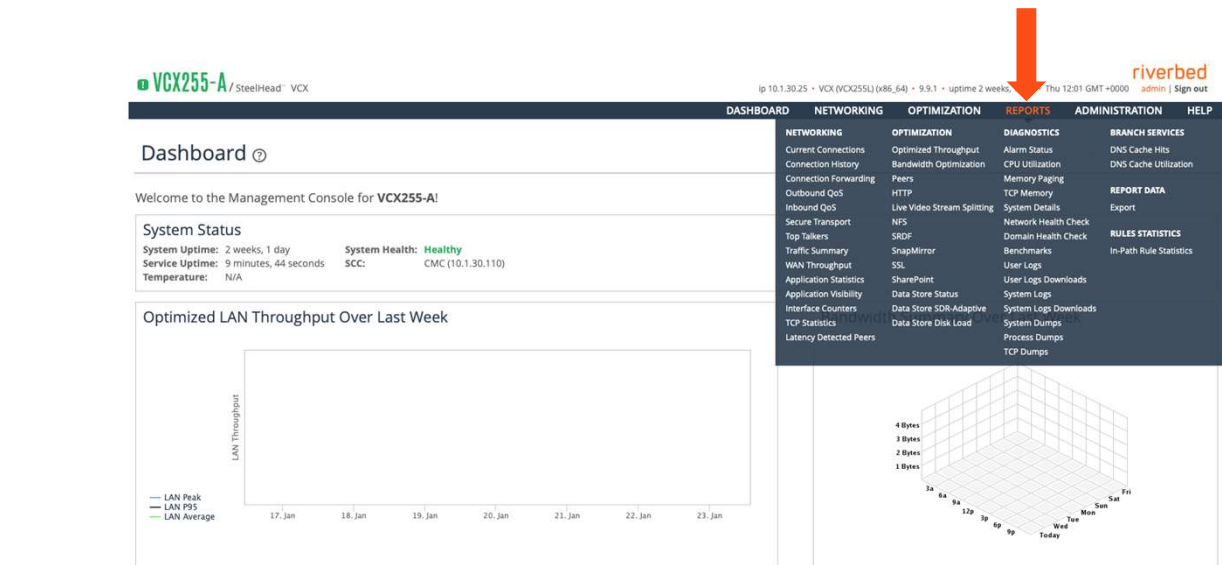
Bandwidth Summary Over Last Week

4 Bytes
3 Bytes
2 Bytes
1 Bytes

3a 6a 12p 3p 9p Today Tue Wed Thu Fri Sat Sun

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Mgmt & Config – GUI Reporting Pages



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Mgmt & Config – Avoiding SSL Cert Splash Screen...

**This Connection Is Not Private**

This website may be impersonating "10.1.30.25" to steal your personal or financial information. You should go back to the previous page.

Show Details Go Back


**Warning: Potential Security Risk Ahead**

Firefox detected a potential security threat and did not continue to 10.1.30.25. If you visit this site, attackers could try to steal information like your passwords, emails, or credit card details.

[Learn more...](#)

☐ Report errors like this to help Mozilla identify and block malicious sites

Go Back (Recommended) Advanced...

**Your connection is not private**

Attackers might be trying to steal your information from 10.1.30.25 (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR_CERT_INVALID

☐ Help improve security on the web for everyone by sending URLs of some pages you visit, limited system information, and some page content to Google. [Privacy policy](#)

Advanced Reload

Mgmt & Config – Replacing SSL Web Certificate

Avoid the Splash Screen for SSL Certificates

OPTIMIZATION	REPORTS	ADMINISTRATION	HELP
MAINTENANCE	SECURITY	SYSTEM SETTINGS	
Services	General Settings	Announcements	
Scheduled Jobs	User Permissions	Alarms	
Licenses	Password Policy	Date/Time	
Software Upgrade	RADIUS	Monitored Ports	
Reboot/Shutdown	TACACS+	SNMP Basic	
	SAML	SNMP v3	
	Secure Vault	SNMP ACLs	
	Management ACL	Email	
	Web Settings	Logging	
	REST API Access	My Account	
		Configurations	

You can replace the SSL certificate for management with one that is trusted within your domain

Details | PEM | **Replace** | Generate CSR

☒ Import Certificate and Private Key
☐ Generate Self-Signed Certificate and New Private Key

Certificate

☒ Upload (PKCS-12, PEM or DER formats)
☐ Paste it here (PEM only)

Choose File | no file selected

Private Key:

☒ The Private Key is in a separate file (see below)
☐ This file includes the Certificate and Private Key
☐ The Private Key for this Certificate was created with a CSR generated on this appliance

Separate Private Key

☒ Upload (PEM or DER formats)
☐ Paste it here (PEM only)

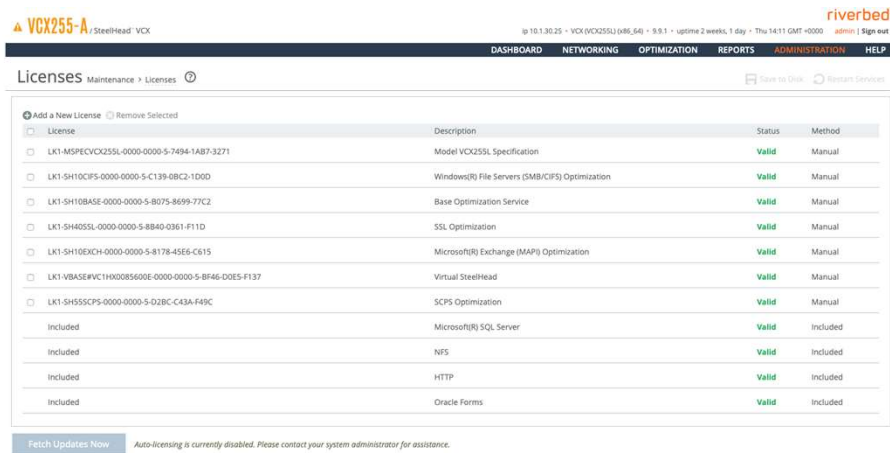
Choose File | no file selected



Housekeeping – Licensing Structure

- Licenses are small strings of text tied to the HW
 - e.g., LK1-SH40SSL-0000-0000-5-8B40-0361-F11D
- Basic Licenses plus options and sizing
- Can be added by:
 - CLI
 - GUI
 - Call Home function
- Slightly different on Virtual Appliances, more later...

Housekeeping – Licensing: Using the GUI



The screenshot shows the Riverbed SteelHead GUI. The top navigation bar includes links for DASHBOARD, NETWORKING, OPTIMIZATION, REPORTS, ADMINISTRATION, and HELP. The ADMINISTRATION tab is selected, and the Licenses page is displayed. The page has a sub-header 'Licenses Maintenance > Licenses' and a 'Save as Link' button. Below the header, there are two tabs: 'Add a New License' (selected) and 'Remove Selected'. A table lists the following licenses:

License	Description	Status	Method
<input type="checkbox"/> LK1-M5PECVCX255L-0000-0000-5-7494-1A87-3271	Model VCX255L Specification	Valid	Manual
<input type="checkbox"/> LK1-SH10CIFS-0000-0000-5-C139-0BC2-10D0	Windows(R) File Servers (SMB/CIFS) Optimization	Valid	Manual
<input type="checkbox"/> LK1-SH10BASE-0000-0000-5-B075-8699-77C2	Base Optimization Service	Valid	Manual
<input type="checkbox"/> LK1-SH40SSL-0000-0000-5-8B40-0361-F11D	SSL Optimization	Valid	Manual
<input type="checkbox"/> LK1-SH10EXCH-0000-0000-5-8178-45E6-C615	Microsoft(R) Exchange (MAP) Optimization	Valid	Manual
<input type="checkbox"/> LK1-VBA3E#VCTHX0085600E-0000-0000-5-8F46-D0E5-F137	Virtual SteelHead	Valid	Manual
<input type="checkbox"/> LK1-SH55SCPS-0000-0000-5-D2BC-C43A-F49C	SCPS Optimization	Valid	Manual
Included	Microsoft(R) SQL Server	Valid	Included
Included	NFS	Valid	Included
Included	HTTP	Valid	Included
Included	Oracle Forms	Valid	Included

At the bottom of the table, there is a 'Fetch Updates Now' button and a message: 'Auto-licensing is currently disabled. Please contact your system administrator for assistance.'

Housekeeping – Licensing: Using the CLI

```
VCX255-A (config) # license install LK1-SH40SSL-0000-0000-5-8B40-0361-F11D
You must restart the optimization service for your changes to take effect.
VCX255-A (config) # restart
Terminating optimization service.....
Relaunching optimization service.
VCX255-A (config) #
```

Don't forget to 'wr mem'

Housekeeping – Licensing: The Call Home Function

- The Primary Interface will need Internet access, so may need Proxy access configured

Configure How this Appliance Connects to the Network

☐ Enable Proxy Settings

Web/FTP Proxy: Port:

☐ Enable Authentication

User Name:

Password:




Authentication Type:

Proxy Whitelist ⓘ

Domain Name
No Domain.

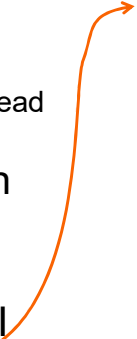
Found under Host
Settings on the Network
Pages of the GUI

Housekeeping – License Types: Tiered

	 Essentials	 Standard	 Enterprise
Description	Bandwidth-focused WANOp	Full WANOp with App Accel	Full Featured App Accel + Next Gen Features
Use Case	Bandwidth Arbitrage	Application Acceleration Most DC + SaaS Applications SteelCentral Telemetry	Replication, Security
Sample Features	<ul style="list-style-type: none"> • Full De-Dup and LZ Compress • TCP Optimization / MXTCP • Hybrid Networking: QOS / Secure Transport / Path Selection • Network Services and topologies (e.g., wccp, EAD, connection forwarding, IPv6) • DNS Caching • Pre-pop for HTTP 	Essentials + <ul style="list-style-type: none"> • HTTP/S Optimization (includes Sharepoint, wta, uid, video caching, stream splitting) • SMB/CIFS & pre-pop • MAPI • WebProxy • SaaS Accelerator • Legacy Cloud Accelerator SCA 	Standard + <ul style="list-style-type: none"> • NFS • Data Center Replication (fcip, srdf, snap mirror) • Lotus Notes • Oracle Forms • Citrix • SCPS • FIPS

Housekeeping – Licensing: Virtual vCX (NG-VCX)

- Starting with RiOS 9.6.1
 - Allows subscription-based licensing
 - Appears as VCX-10, VCX-20..., instead of VCX255, VCX755H...
- Uses Support ID rather than serial number to activate licenses
- To view Support ID, use CLI “show info”
- See KB [S30770](#), “SteelHead NG-VCX license installation”



```
VCX-10 # show info
Current User: admin

Status: Healthy
Config: initial
Appliance Up Time: 5m 59s
Service Up Time: 3m 29s
Managed by CMC: no

Serial: VC1GG00862AB1
Model: VCX (VCX10)
Revision: A
Version: 9.8.0
Support IDs: CDC-HAIKXXFTKC: FIPS,
SH10BASE, SH10CIFS, SH10EXCH,
SH40SSL, SH55SCPS, VCX-10
```

License installation can be summarized by these two steps:

1. Download and install your Virtual SteelHead on a supported hypervisor (such as ESX/ESXi, Hyper-V, or KVM) from the [Riverbed Support site](#)
2. Install your customer and feature keys via the UI or CLI. These instructions are sent via email entitled as "Riverbed License for your Virtual SteelHead" and contain all of the information needed to complete the required steps.

Housekeeping – Alarms and Notifications

- Active alarms can be viewed via a report
- Uninteresting ones can be disabled
- Some can be sent by email
- System logs are held locally and can be exported
- SNMP Traps are available

Housekeeping – Active Alarms Report

VCX255-A / Steelhead VDX ip 10.1.30.25 - VCX(VCX255L) (x86_64) - 9.9.1 - uptime 2 weeks, 1 day - Thu 12:21 GMT+0000 admin | Sign out **riverbed**

DASHBOARD NETWORKING OPTIMIZATION **REPORTS** ADMINISTRATION HELP

Alarm Status Diagnostics > Alarm Status Save to Disk Refresh Services

Alarm	Status
Admission Control	OK
Asymmetric Routing	OK
Connection Forwarding	OK
CPU Utilization	OK
Data Store	OK
Disk Full	OK
Domain Authentication Alert	OK
Domain Join Error	OK
Hardware	OK
Inbound QoS WAN Bandwidth Configuration	OK
LAN/WAN Loop Alarm	OK
Licensing	OK
Link Duplex	OK
Link I/O Errors	OK
Link State	Disabled

Also available from
the SCC

Housekeeping – Alarm Configuration

The screenshot displays the Riverbed Steelhead VCA web interface. On the left, a sidebar menu is visible with categories: WORKING, OPTIMIZATION, REPORTS, and ADMINISTRATION. Under ADMINISTRATION, there are sub-sections: MAINTENANCE, SECURITY, and SYSTEM SETTINGS. The 'Alarms' link under SYSTEM SETTINGS is highlighted with a red dashed arrow. The main content area shows the 'Alarms' configuration page, which includes a list of enabled alarms and their status. The page title is 'Alarms System Settings > Alarms'. The 'Enable Alarms' section lists various alarms, including Admission Control, Asymmetric Routing, Connection Forwarding, and CPU Utilization. Each alarm has a checkbox to enable it and a status indicator (ON/OFF). The CPU Utilization alarm has a 'Rising Threshold' of 90% and a 'Reset Threshold' of 70%.

Administration - Alarms

Housekeeping – Email Notifications

VCX255-A / SteelHead® VCX

Email System Settings > Email ⓘ

Email Notification

SMTP Server:

SMTP Port:

☒ Send Reminder of Passthrough Rules via Email

☒ Report Events via Email

(comma separated)

☒ Report Failures via Email

(comma separated)

☐ Override Default Sender's Address

☒ Report Failures to Technical Support

Housekeeping – System Logs: Local & Remote

Logging System Settings > Logging

Logging Configuration

Minimum Severity: Notice (applies only to system log)

Maximum Number of Log Files:

Lines Per Log Page:

Rotate Based On:

- ☒ Time: Day
- ☐ Disk Space: MBytes

Apply

Remote Log Servers:

☒ Add a New Log Server ☐ Remove Selected

Server IP or Hostname:

Minimum Severity:

Emergency
Alert
Critical
Error
Warning
Notice
Info

☐ Remote Log Server

☐ 10.1.30.104

Remote Log Servers:

☒ Add a New Log Server ☐ Remove Selected

Server IP or Hostname:

Minimum Severity: Notice

☐ Remote Log Server

☐ 10.1.30.104

You set up local and remote logging details in the Administration > System Settings: Logging page.

Housekeeping – System Logs: Severity Levels

Logging System Settings > Logging ?

Logging Configuration

Minimum Severity: Emergency Alert Critical Error Warning **Notice** Info *(applies only to system log)*

Maximum Number of Log Files:

Lines Per Log Page:

Rotate Based On:

☒ Time: Day

☐ Disk Space: 16 MBytes

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By default, the system rotates each log file every 24 hours or if the file size reaches 1 GB uncompressed. You can change this setting to rotate every week or month, and you can rotate the files based on file size.

The automatic rotation of system logs deletes your oldest log file, labeled as Archived log #10, pushes the current log to Archived log # 1, and starts a new current-day log file.

To rotate the logs manually, under Log Actions, click Rotate Logs. After the logs are rotated, this message appears:

```
logs successfully rotated
```

When you click Rotate Logs, your archived file #1 contains data for a partial day because you are writing a new log before the current 24-hour period is complete.

Housekeeping – System Logs: Exporting

Remote Log Servers:
▼ Add a New Log Server ✕ Remove Selected

Server IP or Hostname:

Minimum Severity:

Emergency
Alert
Critical
Error
Warning
✓ Notice
Info

☐ Remote Log Server

☐ 10.1.30.104

Housekeeping – Export Flow Statistics

- NetFlow and other Flow Data Collectors gather network statistics about network hosts, protocols and ports, peak usage times, traffic paths, and others
- The flow data collectors update flow records with information pertaining to each packet traversing a specified network interface

NetFlow Considerations

Generating NetFlow data from every SteelHead and sending it across the WAN to a Collector may utilize a good deal of bandwidth, especially on low bandwidth links. Setting up an additional Collector is a good idea for resiliency, but can double the bandwidth used by NetFlow unless compression & deduplication efforts are taken as with SteelCentral Flow Gateway.

NetFlow v5 monitors an interface's ingress traffic only. To obtain a full picture of bidirectional flow information, NetFlow must be deployed such that all ingress and egress flows are captured.

NetFlow Cache Expiry Timers

A NetFlow cache is used to collect the flow records. The cache timer has to expired before these flow records are exported. Rules for expiring NetFlow cache entries include:

- Flows which have been inactive for a specified time (15 seconds) are expired and removed from the cache (defined as a flow where no traffic have been sent for 15 second gap).
- Active flows are expired and removed from the cache (flows are not allowed to live more than 30 minutes by default; the underlying packet conversation remains undisturbed).
- As the cache becomes full, oldest flows are expired (1 second).

Housekeeping – Flow Data Component Basics

- Exporter – A device that sees the data flows going through the network, such as a SteelHead or a router
- Collector – A server or appliance designed to aggregate data sent to it by NetFlow Exporter, such as SteelCentral Flow Gateway
- Analyzer – A collection of tools (usually provided in conjunction with a collector) used to analyze the data and provide relevant data summaries and graphs, such as SteelCentral NetProfiler

Housekeeping – Flow Export Configuration

- Enable Flow Export
- Add a NetFlow collector

Flow Collectors:
 Add a New Flow Collector Remove Selected

Collector Hostname or IP Address: Port:

Version:

Packet Source Interface: (Interface used for the source IP of the flow packets.)

LAN Address: ☒ Show

Capture Interface:

Enable Filter: ☐ Enable

Filter:

Note: The filter is applicable to CascadeFlow and Netflow v9 only. Flow reports will only be sent for IP/Subnets included in this list. If the filter is not enabled, all will be reported.
 The filter should be of the form "IP/Subnet" or "IP:Port", one entry per line.

Flow Statistics Network Services > Flow Statistics ?

Flow Statistics Settings

☒ Enable Application Visibility

☒ Enable WAN Throughput Statistics

☐ Enable Top Talkers

☒ 24-hour Report Period (Higher Granularity)

☐ 48-hour Report Period (Lower Granularity)

Flow Export Settings

☒ Enable Flow Export

☐ Export QoS and Application Statistics to CascadeFlow Collectors

☐ Enable IPv6

Active Flow Timeout: seconds

Inactive Flow Timeout: seconds

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These versions of flow records are available from the “Version:” drop-down list:

- CascadeFlow - Use with Cascade Profiler 8.4 or later.
- CascadeFlow-compatible - Use with Cascade Profiler 8.3.2 or earlier, and select the LAN Address check box.
- NetFlow v9 - Enables both ingress and egress flow records.
- NetFlow v5 - Enables ingress flow records.

CascadeFlow and CascadeFlow-compatible are enhanced versions of flow export to the SteelCentral. These versions allow automatic discovery and interface grouping for SteelHeads in a Riverbed SteelCentral NetProfiler or a SteelCentral Flow Gateway and support WAN and optimization reports in SteelCentral.

Housekeeping – Subnet Side Rules

- For Virtual In-Path, *i.e.*: WAN connected only, configure Subnet Side Rules
 - Helps SteelHead differentiate WAN-to-LAN traffic from LAN-to-WAN traffic
 - A fake if-index is automatically created



Subnet Side Rules <small>Network Services > Subnet Side Rules ⓘ</small>		
Add a Subnet Side Rule Remove Subnet Rules Move Subnet Rules...		
Rule	Source	Side
default	all	WAN
Related Topics: Flow Statistics		

The SteelHead supports the export of data flows to any compatible flow data collector. During data flow export, the flow data fields provide information such as the interface index that corresponds to the input and output traffic. An administrator can use the interface index to determine how much traffic is flowing from the LAN to the WAN and from the WAN to the LAN.

In virtual in-path deployments, such as the server side of the network, traffic moves in and out of the same WAN interface; the LAN interface is not used. As a result, when the SteelHead exports data to a flow data collector, all traffic has the WAN interface index. Though it is technically correct for all traffic to have the WAN interface index because the input and output interfaces are the same, this setting makes it impossible for an administrator to use the interface index to distinguish between LAN-to-WAN and WAN-to-LAN traffic. The fake index feature is enabled by default if you enable the *CascadeFlow* export option.

Housekeeping – SNMP Basic Settings

SNMP Basic System Settings > SNMP Basic ⓘ

SNMP Server Settings

☒ Enable SNMP Traps

System Contact:

System Location:

Read-Only Community String:

Apply

Trap Receivers:

☒ Add a New Trap Receiver ☐ Remove Selected

Receiver	Version	Port	Community / User
No trap receivers.			

SNMP Trap Test

Run a trap test.

Run

You configure SNMP contact and trap receiver settings to allow events to be reported to an SNMP entity in the Administration > System Settings: SNMP Basic page.

Housekeeping – SNMP Version 3 Settings

SNMP v3 System Settings > SNMP v3 ?

Create User-based Security Model users.

Users:

Users can be authenticated with either a password or a key.

User Name:

Authentication Protocol: ☒ MD5

Authentication: ☒ Password

Supply a Key (at least 8 characters)

Password:

Password Confirm:

☐ Use Privacy Option

Privacy Protocol:

Privacy:

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SNMPv3 provides additional authentication and access control for message security. For example, you can verify the identity of the SNMP entity (manager or agent) sending the message.

RiOS 7.0 and later support SNMPv3 message encryption for increased security. Using SNMPv3 is more secure than SNMPv1 or v2; however, it requires more configuration steps to provide the additional security features.

Housekeeping – SNMP Trap Receivers

Trap Receivers:

▼ Add a New Trap Receiver ✕ Remove Selected

Receiver: (hostname, IPv4 address or IPv6 address)

Destination Port:

Receiver Type:

✓ v1

v2c

v3

Community:

Enable Receiver: ☐ Enabled

Add

Traps are messages sent by an SNMP entity that indicate the occurrence of an event. The default system configuration doesn't include SNMP traps.

Housekeeping – SNMP MIBs

Found on the Help Screen

The screenshot shows the Riverbed VCX255-A help screen. At the top, the device name 'VCX255-A' and 'SteelHead VCX' are displayed. The top navigation bar includes links for DASHBOARD, NETWORKING, OPTIMIZATION, REPORTS, ADMINISTRATION, and HELP. The main content area is titled 'Help' and contains several sections: 'Online Help' with a link to browser-based online help; 'Technical Support' with links to support web site, account registration, support email, phone, and documentation; 'Appliance Details' showing model, revision, and serial number; 'Software Version' showing 9.9.1 #100 x86_64; and 'MIB Files' with links to RBT-MIB.txt and STEELHEAD-MIB.txt. A red dashed line highlights the 'MIB Files' section in the bottom left and the 'MIB Files' section in the top right. The bottom right corner shows the Riverbed logo and the page number 39.

VCX255-A / SteelHead VCX

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ip 10.1.30.25 • VCX (VCX255L) x86_64 • 9.9.1 • uptime 2 weeks, 1 day • Thu 13:06 GMT+0000 admin | Sign out

DASHBOARD NETWORKING OPTIMIZATION REPORTS ADMINISTRATION HELP

Help

Online Help

[Browser-based online help](#)

Technical Support

Support Web Site: <https://support.riverbed.com/>
Support Account Registration: <https://support.riverbed.com/account/registration/register.htm>
Support Email: support@riverbed.com
Phone: 1-888-RVBD-TAC (1-888-782-3822) in the US and Canada
1-415-247-7387 outside the US and Canada
Documentation: <https://support.riverbed.com/docs/index.htm>

Appliance Details

Model: VCX (VCX255L)
Revision: A
Serial Number: VC1H00085600E

Software Version

9.9.1 #100 x86_64

MIB Files

[RBT-MIB.txt](#)
[STEELHEAD-MIB.txt](#)

MIB Files

[RBT-MIB.txt](#)
[STEELHEAD-MIB.txt](#)

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Housekeeping – Configuration Management

- The Configuration is held in binary format
 - Pasting a text file to the CLI is *NOT* recommended
 - Configuration files are backed up locally with a .bak copy and can be uploaded manually to a server
 - Files are also regularly backed up to the SCC
 - Files can be saved locally before every change
 - Creates an easy rollback if required in a service window
 - Configuration changes are best done with the SCC
- Best Practice
- Very Best Practice

Housekeeping – View text config from GUI

Configurations System Settings > Configurations ⓘ

Current Configuration: initial

[View Running Config](#)

Save Revert

Save Current Configuration

New Configuration Name:

Save As

```
Running Configuration
##
## Network interface configuration
##
interface ipath0_0 description ""
no interface ipath0_0 dhcp
no interface ipath0_0 dhcp dynamic-dns
no interface ipath0_0 dhcpv6
no interface ipath0_0 dhcpv6 dynamic-dns
no interface ipath0_0 force-mdi-x enable
interface ipath0_0 ip address 10.1.30.125 /24
interface ipath0_0 mtu "1500"
interface ipath0_0 speed "auto"
interface ipath0_0 txqueuelen "100"
interface lan0_0 description ""
no interface lan0_0 dhcp
no interface lan0_0 dhcp dynamic-dns
no interface lan0_0 dhcpv6
no interface lan0_0 dhcpv6 dynamic-dns
no interface lan0_0 force-mdi-x enable
interface lan0_0 mtu "1500"
interface lan0_0 napi-weight "128"
no interface lan0_0 shutdown
interface lan0_0 speed "auto"
interface lan0_0 txqueuelen "100"
no interface primary dhcp
interface wan0_0 ip address 10.1.30.25 /24
interface wan0_0 description ""
no interface wan0_0 dhcp
no interface wan0_0 dhcp dynamic-dns
no interface wan0_0 dhcpv6
no interface wan0_0 dhcpv6 dynamic-dns
no interface wan0_0 force-mdi-x enable
interface wan0_0 mtu "1500"
interface wan0_0 napi-weight "128"
no interface wan0_0 shutdown
interface wan0_0 speed "auto"
```

Housekeeping – Configuration ‘Save As’

Configurations [System Settings > Configurations](#) [?](#)

Current Configuration: initial

[View Running Config](#)

Save

Revert

Save Current Configuration

New Configuration Name:

Save As

Configurations:

[+ Import a New Configuration](#) [- Remove Selected](#)

<input type="checkbox"/> Configuration +	Date +
<input checked="" type="checkbox"/> Config-23Jan2020 (active)	2020/01/23 13:36:09
<input type="checkbox"/> initial	2020/01/23 11:51:21
<input type="checkbox"/> initial.bak	2020/01/22 13:47:07

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You can save, activate, import, and revert configurations in the Administration > System Settings: Configurations page.

Each SteelHead has an active, running configuration and a written, saved configuration. When you Apply your settings in the Management Console, the values are applied to the active running configuration, but the values aren't written to disk and saved permanently. When you Save your configuration settings, the values are written to disk and saved permanently. They take effect after you restart the optimization service.

Each time you save your configuration settings, they're written to the current running configuration, and a backup is created. For example, if the running configuration is myconfig and you save it, myconfig is backed up to myconfig.bak and myconfig is overwritten with the current configuration settings.

Housekeeping – Configuration Rollback

The screenshot displays the Configuration Manager interface. On the left, a table lists configurations with checkboxes for selection. A red dashed line connects the 'Change24Jan2020' entry in the table to a 'Change Active Configuration' dialog box on the right. The dialog box shows a dropdown menu with 'Change24Jan2020' selected and an 'Activate' button.

Configuration	Date
<input type="checkbox"/> Change24Jan2020 (active)	2020/01/23 13:37:08
<input type="checkbox"/> Config-23Jan2020	2020/01/23 13:36:09
<input type="checkbox"/> initial	2020/01/23 11:51:21
<input type="checkbox"/> initial.bak	2020/01/22 13:47:07

Change Active Configuration

Config-23Jan2020
initial
✓ Change24Jan2020
initial.bak

Activate

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The Configuration Manager is a utility that saves configurations as backups or active configuration backups.

Deploy SteelHead Appliance

In this lab, you will:

- Perform an Initial SteelHead Configuration
- Configure the SteelHead to use RADIUS Authentication

Duration: **45 minutes**

HOL1124
HOL1125



*eLab system: link and access details
provided in your course confirmation email*

Module Review

You should now be able to:

- Manage your appliances.
- Perform basic housekeeping tasks.

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