

Qualys Gateway Service

User Guide Version 1.8

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About this Guide

About Qualys

Qualys, Inc. (NASDAQ: QLYS) is a pioneer and leading provider of cloud-based security and compliance solutions. The Qualys Cloud Platform and its integrated apps help businesses simplify security operations and lower the cost of compliance by delivering critical security intelligence on demand and automating the full spectrum of auditing, compliance and protection for IT systems and web applications.

Founded in 1999, Qualys has established strategic partnerships with leading managed service providers and consulting organizations including Accenture, BT, Cognizant Technology Solutions, Deutsche Telekom, Fujitsu, HCL, HP Enterprise, IBM, Infosys, NTT, Optiv, SecureWorks, Tata Communications, Verizon and Wipro. The company is also founding member of the Cloud Security Alliance (CSA). For more information, please visit www.qualys.com

Qualys Support

Qualys is committed to providing you with the most thorough support. Through online documentation, telephone help, and direct email support, Qualys ensures that your questions will be answered in the fastest time possible. We support you 7 days a week, 24 hours a day. Access online support information at www.qualys.com/support/.

Overview

Qualys Gateway Service (QGS) is a packaged virtual appliance developed by Qualys that provides proxy services for Qualys Cloud Agent deployments that require proxy connectivity to connect agents to the Qualys Cloud Platforms.

Qualys Gateway Service is managed using a new module user interface on the Qualys platform. From this interface, one can create, register, monitor, and manage QGS virtual appliance deployments.

The QGS virtual appliance is separate and different from the virtual scanner appliance that is used for Vulnerability Management and Policy Compliance scanning. The QGS virtual appliance only provides proxy services for Cloud Agent deployments.

The following features and capabilities are available in QGS virtual appliance:

- A virtual appliance image downloaded, registered, and managed from the Qualys platform user interface using the **QGS** module
- Support for any Cloud Agent version that supports HTTP/HTTPS proxy (all agents since 2016)
- Explicit forward proxy
- SSL/TLS pass-through bypass
- Can be deployed in High-Availability failover using external 3rd party load balancers
- Connection Security the QGS proxy only will provide connections to the Qualys platform from where it is registered. It is not possible to use QGS to proxy connections to any other destination.
- Shared Platform support (Private Cloud Platforms require coordination with Qualys Operations)
- **Enabling Allowed Domains:** We have added an option which will help you to allow traffic for required domains.
 - Default Domains Allowed: qualys.eu, qualys.ca, qualys.com, qualys.in

Virtualization Server Requirements and Virtual Machine File Formats

Virtual Server	Supported Versions	File Format
VMware vSphere / ESXi	5.5, 6.0, 6.5, 6.7	VMDK, OVA, OVF
Microsoft Hyper-V	2012, 2012 R2, 2016	VHD

Virtual Machine Configuration

- 2 vCPUs
- 8 GB RAM minimum
- 30 GB Disk minimum (For QGS primary disk only)
 - For Patch Mode, a second disk of 250GB minimum is required
- One network adapter
 - IP address configured with a Default gateway
 - QGS Proxy listening port for Cloud Agents: 1080 (can be changed)
 - QGS Cache listening port for Cloud Agent: 8080 (can be changed)
- Available support to connect QGS to upstream proxy server, if required
 - IP/DNS name and port of upstream proxy
 - Optional username/password proxy credentials
 - Support for upstream proxy domain-based filtering

Network Configuration

QGS requires connectivity to four (4) URLs/IPs on the Qualys Platform for full functionality. The appropriate network routing, firewall rules, and upstream proxy configurations (if used) must be configured correctly to allow QGS to connect to these URLs/IPs.

- One URL/IP is for Cloud Agents to connect through QGS to the Qualys Platform
- Three URLs/IPs are for QGS to connect to Qualys Platform for management functions
- One URL/IP is for operating system updates as this appliance is based on Flatcar Linux

Platform	Cloud Agent	Qualys Gateway Service
US 1	qagpublic.qg1.apps.qualys.com (64.39.104.93:443)	camspublic.qg1.apps.qualys.com (64.39.96.183:443) camspm.qg1.apps.qualys.com (64.39.96.181:443) camsrepo.qg1.apps.qualys.com (64.39.96.182:443) update.release.flatcar-linux.net
US 2	qagpublic.qg2.apps.qualys.com (64.39.104.103:443)	camspublic.qg2.apps.qualys.com (64.39.96.179:443) camspm.qg2.apps.qualys.com (64.39.96.177:443) camsrepo.qg2.apps.qualys.com (64.39.96.178:443) update.release.flatcar-linux.net
US 3	qagpublic.qg3.apps.qualys.com (64.39.104.113:443)	camspublic.qg3.apps.qualys.com (64.39.96.175:443) camspm.qg3.apps.qualys.com (64.39.96.173:443) camsrepo.qg3.apps.qualys.com (64.39.96.174:443) update.release.flatcar-linux.net
US 4	qagpublic.qg4.apps.qualys.com (139.87.107.253:443)	camspublic.qg4.apps.qualys.com (139.87.106.68:443) camspm.qg4.apps.qualys.com (139.87.105.91:443) camsrepo.qg4.apps.qualys.com (139.87.104.252:443) update.release.flatcar-linux.net
EU 1	qagpublic.qg1.apps.qualys.eu (64.39.100.93:443)	camspublic.qg1.apps.qualys.eu (64.39.100.50:443) camspm.qg1.apps.qualys.eu (64.39.100.51:443) camsrepo.qg1.apps.qualys.eu (64.39.100.52:443) update.release.flatcar-linux.net
EU 2	qagpublic.qg2.apps.qualys.eu (154.59.121.74:443)	camspublic.qg2.apps.qualys.eu (154.59.121.88:443) camspm.qg2.apps.qualys.eu (154.59.121.86:443) camsrepo.qg2.apps.qualys.eu (154.59.121.87:443) update.release.flatcar-linux.net
IN 1	qagpublic.qg1.apps.qualys.in (103.216.98.40:443)	camspublic.qg1.apps.qualys.in (103.216.98.50:443) camspm.qg1.apps.qualys.in (103.216.98.51:443) camsrepo.qg1.apps.qualys.in (103.216.98.52:443) update.release.flatcar-linux.net
CA 1	qagpublic.qg1.apps.qualys.ca (64.39.97.135:443)	camspublic.qg1.apps.qualys.ca (64.39.97.143:443) camspm.qg1.apps.qualys.ca (64.39.97.144:443) camsrepo.qg1.apps.qualys.ca (64.39.97.145:443) update.release.flatcar-linux.net

Platform	Cloud Agent	Qualys Gateway Service
AE 1	qagpublic.qg1.apps.qualys.ae (193.123.67.247:443)	camspublic.qg1.apps.qualys.ae (193.123.67.119:443) camspm.qg1.apps.qualys.ae (193.123.66.50:443) camsrepo.qg1.apps.qualys.ae (193.123.70.220:443) update.release.flatcar-linux.net
UK1	qagpublic.qg1.apps.qualys.co.uk (151.104.33.9:443)	camspublic.qg1.apps.qualys.co.uk (151.104.32.191:443) camspm.qg1.apps.qualys.co.uk (151.104.34.156:443) camsrepo.qg1.apps.qualys.co.uk (151.104.32.108:443) update.release.flatcar-linux.net
AU 1	qagpublic.qg1.apps.qualys.com.au (152.67.106.2:443)	camspublic.qg1.apps.qualys.com.au (168.138.104.94:443) camspm.qg1.apps.qualys.com.au (168.138.109.86:443) camsrepo.qg1.apps.qualys.com.au (168.138.104.114:443) update.release.flatcar-linux.net

Qualys Gateway Service User Interface Module

Qualys Gateway Service has a user interface module on the Qualys Platform. Customers with purchased or trial accounts see the QGS module in the module picker.

Use the QGS UI to create, configure, monitor, disable, and delete QGS appliances deployed in your organization.



In order to deploy a QGS virtual appliance, log into the Qualys Platform, select the QGS module, and follow the steps below. By default, QGS is configured as a proxy server only when deployed. Cache Mode and Patch Cache Mode are additional explicit configuration options to be performed to enable this functionality.



1) Create a New Appliance. Give the appliance a name and enter a location, if desired.

2) Generate a Personalization Code. Similar to the virtual scanner, you will need to enter this Personalization Code in the QGS virtual appliance local user interface to fully configure the appliance.

3) Select Download Image and chose the appropriate file format for your environment

4) Download/copy the virtual appliance image to your virtualization server.

- Configure the Virtual Machine properties following the specified resources.

Important: Enabling caching for Qualys Patch Management requires a second virtual hard drive to be added to the virtual appliance before Patch Cache Mode can be enabled as a feature. 100-250GB is recommended.

5) Start the image.

Note: Console access to the running image is required to configure the appliance.

6) Use the console-based user interface to configure the virtual appliance for networking, DNS, time server, and optional upstream proxy configuration (see instructions below).

7) Validate that the appliance can successfully communicate with the Qualys Platform.

8) Register the Appliance with the Qualys Platform.

The QGS Appliance supports a Diagnostic mode to help accelerate Qualys Customer Support troubleshooting and problem resolution, primarily for initial network setup and registration issues. Refer to the section below on Diagnostics Mode.

Changing the Proxy Port

After successful appliance deployment and registration, you can change the proxy port from default 1080 to any allowable port number.

1) Use the Quick Action menu to select Configuration (hover over the appliance name in the appliance list until the Quick Action down-arrow menu appears)

2) In the first configuration step (Proxy), enter the new proxy port.

3) Click **Next** to the menu, then **Finish** to save the configuration.

\leftarrow Configuration	
STEPS 1/3 Proxy	Configure the Proxy Port Cloud Agents connects to Qualys Cloud Platform using proxy port while using Qualys Gateway Service
2 Modes 3 TLS Protocols	Proxy Port 1080 Note: Valid Port values are 1 – 65535 (integers only), excluding 22, 23, 2379, 2380, 4001, 5514, 7001, 48081, 48082, 48083, 48084, 48085, 48086.
	Cancel Next

Note: Valid Port values are 1 – 65535 (integers only), excluding 22, 23, 2379, 2380, 4001, 5514, 7001, 48081, 48082, 48083, 48084, 48085, 48086.

On the next appliance check-in, the appliance will download the configuration and use the new proxy port.

Cache Mode and Patch Mode Configuration

Cache Mode is an optional feature used to optimize the download network bandwidth used by Cloud Agents whereby the QGS appliance caches downloaded Cloud Agent artifacts (installers for platform-initiated upgrades and manifest files).

Files downloaded by the first-connecting agent will be cached on the QGS appliance to be served to any subsequent configured agents requesting the same content. This will save Internet download bandwidth from the Qualys cloud platform to the on-premise network as only one copy of unique files will be downloaded. For environments will large number of Cloud Agents deployed, this can save a significant amount of download bandwidth.

File Type	Interval	Number of Agents	Bandwidth without Caching	Bandwidth with Caching
VM Manifest	Daily	1,000	2 GB	2 MB
VM Manifest	Daily	5,000	10 GB	2 MB
VM Manifest	Daily	10,000	20 GB	2 MB
VM Manifest	Daily	25,000	50 GB	2 MB

Patch Mode extends the caching capability to cache patch files for Cloud Agents activated with the Qualys Patch Management application. Similar to Cache Mode where the gateway appliance caches the downloaded Cloud Agent artifacts, Patch Mode will cache the patch files downloaded by the first requesting Cloud Agent in order to serve patch files locally to subsequent download request. Patch Mode uses the same port and connection as Cache Mode.

Note: When Patch Mode is enabled, the default Connection Security that only allows outbound connections from the gateway appliance to Qualys platform domains is disabled. Cloud Agents with Patch Management application need to download patch files from the software vendor's website thus the gateway appliance allows for connections to any Internet resource. In Patch Mode, Connection Security is configured to only allow client connections from Cloud Agent clients as an additional protection method.

Cache Mode and Patch Mode are not enabled by default. Additional configuration is required to enable caching and patch file caching, both on the gateway appliance itself (using the QGS module UI) and on the host the runs the Cloud Agent.

Qualys Gateway Appliance Configuration

To enable Cache Mode or Patch Cache Mode on an existing QGS appliance:

1) For a specific appliance, use the Quick Action menu to select Configuration (hover over the appliance name in the appliance list until the Quick Action menu appears)

2) Click **Next** through the menu until **Caching Modes**

3) To enable Cache Mode, toggle the On/Off slider to **On**

4) The default cache port is **8080**. You may accept or change the cache port to an allowable port number.

Note: Valid Port values are 1 – 65535 (integers only), excluding 22, 23, 2379, 2380, 4001, 5514, 7001, 48081, 48082, 48083, 48084, 48085, 48086.

5) To enable Allowed Domains, toggle the On/Off slider to **On**

Allowed Domains: This option will allow traffic to required domains. You can add the domain names manually.

Default Domains Allowed: qualys.eu, qualys.ca, qualys.com, qualys.in

Note: While adding domains in the allowed domain section you should not add a prefix like **http(s)://www.** For instance, if you want to allow traffic to Microsoft then you should enter only microsoft.com and not https://www.microsoft.com

Configuration	
PS 2/3	Configure Modes
Proxy	
Modes TLS Protocols	Cache Mode Enable Cache Mode to cache Cloud Agent artifacts including version installers and manifests. Cache port is used when Cache Mode is enabled Remuise Cache Certificates to be installed on all Cloud Agent assets.
	Cache Port
	8080 Note: Valid Port values are 1 – 65535 (integers only), excluding 22, 23, 2379, 2380, 4001, 5514, 7001, 48081, 48082, 48083, 48084, 48085, 48086.
	Allowed Domains
	Default Domains Allowed: qualys.eu, qualys.co, qualys.com, qualys.in
	Enter domain without 'www.' prefix. You can add maximum 10 domains
	Type domain name here Add
	Actions (0) V
	DOMAINS ACTIONS
	hetzner.de 🖍 🖻
	Patch Mode
	PM Enable Patch Mode to cache patch files when using Patch Management app for Cloud Agent. Patch Mode uses the Cache Mode port configuration. Note: A cache discussion of the use of the patch and the state of the stat
	Note: A second disk with required minimum free disk space must be attached to the virtual appliance first. Patch Mode can not enabled if the disk is not attached.

6) To enable Patch Mode, toggle the On/Off slider to **On**

Note: A second disk with required minimum free disk space must be attached to the virtual appliance first. Patch Mode can not enabled if the disk is not attached.

7) Click Next through the menu until TLS Protocols

8) Select the Minimum TLS Protocol Version allowed for agent connections. To support older operating systems that only support TLS, select TLS 1.0 as the minimum protocol version. (Default setting is TLS 1.2 and higher.)

\leftarrow Configuration	
STEPS 3/3	TLS Protocols Allow Cloud Agent connection to the gateway on enabled protocols. (Connections from the gateway to Qualys platform always only use the
1 Proxy 2 Modes	highest TLS protocol available and is not configurable.)
3 TLS Protocols	Minimum TLS Protocol Version
	TLS 1.0 v
	Cancel Previous Finish

Note: To enable this mode, a second virtual disk drive of at least 10 GB (100-250 GB recommended) must be added to the virtual appliance prior to enabling Patch Mode.

Cloud Agent Configuration

Refer to the Cloud Agent Install Guide to know more about each supported operating system for the appropriate proxy configuration and certificate installation instructions.

Configure Cloud Agents to use the IP or DNS name of the QGS as the agent's proxy is similar to any other proxy server configuration.

Cloud Agent Windows 3.1 supports multiple proxy servers (semi-colon separated) and uses them for connection in the order defined. If the agent can't connect to the proxy server, the agent will try to connect to the next one in the defined list.

Cloud Agent Linux, AIX, and Mac add this feature in the upcoming version 2.5 release.

Cloud Agent Cache Mode and Patch Mode Configuration

Cloud Agents deployed in Cache and Patch Mode require the public certificate of each QGS appliance installed on the host that runs the Cloud Agent.

There are two certificate deployment options available in the QGS User Interface:

1) Certificate File in PEM file format for any operating system

- Use any supported software distribution tool to deploy the certificate PEM to the host certificate store
- 2) MSI Certificate File installer for Windows operating systems

- Use any supported software distribution tool (SCCM, GPO, BigFix, etc.) to deploy the certificate by installing the Win.MSI file
- Install the certificate manually on a single host

C:\>msiexec -I <location_to_file\WIN.msi

Qualys Gateway Service Module User Interface

Appliances									
5 Active Agents (2	4 Hours) 9	gents (7 Days)	15MB Bandwidth Savings (30) Days)					
Q Search						0	51 App	oliances	
New Appliance	Download Image Down	load Common CA					1 - 50 of	51	¢Ò
STATUS	APPLIANCE	DEPLOY LOCATION	UNIQUE IPS	ACTIVE AGENTS	PROXY PORT	CACHE PORT	TLS PROTOCOL CLIENT	HEALTH	
Active Oct 29, 2021	AWS_p13_sjc0127_So Cache: Enabled	3 -	0	0	1080	8089	1.2, 1.3	Normal	
Active	patch_sjc01_test_vcn03 Cache: Enabled Patch: Ena	Pune	1	1	1080	8080	1.0, 1.1, 1.2, 1.3	Normal	

The Activity Summary widgets provide aggregate activity information for all QGS appliances in the subscription. Active Agents and Total Agents count the number unique agent IPs connecting through all appliances. Bandwidth Savings is calculated in cache mode.

- **Status:** This column shows the current status of your appliance. Appliances with common CA enabled will be shown an icon (Highlighted) on the appliance list page.

- **Unique IPs**: This column shows the count of unique IPs which were communicated through QGS appliance from last 60 minutes.

- Active Agents: This column shows the number of active agents communicated via QGS from last 24 hours when QGS and Cloud Agent are configured to be used in **Cache** mode.

In **Proxy** mode, you'll see only unique IPs count on QGSUI, while in **Cache** mode you'll see count of active agent and unique IPs on QGSUI.

Create New Appliance / Generate Personalization Code / Use Common Certificate

← New Appliance		
Create Appliance	Enter Appliance Name (Max 100 characters) Deployment Location	
Registration	Deployment Location (Max 255 characters)	
	Personalization Code Generate the personalization code and keep it handy to register the appliance once you dowload the image.	
	Generate Code	Сору
	Advanced Settings Image: Setting Setting Setting Setting Setting the appliance. We recommend using the common certificate for all appliances. Use a common certificate while registering the appliance. We recommend using the common certificate for all appliances.	
	Cancel Save	

The appliance can be created with a Common CA certificate enabled. It can help you to deploy a single certificate across all the cloud agents meant for the particular appliance.

If you want to use a common certificate while registering the appliance, then click **Use Common Certificate** checkbox.

Note: We recommend to use the common certificate for all the appliances.

View List of Appliances and their Status

Appliances							
5 Active Agents (2	24 Hours) Total Agents (7 Days) E	15MB Bandwidth Savings (30 Da	ys)			
Q Search					0	51 App	liances
New Appliance	Download Image Download Co	ommon CA				1 - 50 of	51 🚺 🖒 🌣
STATUS	APPLIANCE	DEPLOY LOCATION	UNIQUE IPS	ACTIVE AGENTS PROXY PORT	CACHE PORT	TLS PROTOCOL CLIENT	HEALTH
Active Oct 29, 2021	AWS_p13_sjc0127_Se Cache: Enabled	-	0	0 1080	8089	1.2, 1.3	Normal
Active Cot 29, 2021	patch_sjc01_test_vcn03 Cache: Enabled Patch: Ena	Pune	1	1 1080	8080	1.0, 1.1, 1.2, 1.3	Normal

A single Subscription certificate will be available instead of appliance specific certificate on the appliance list if appliances are registered with the common CA option.

Appliances with common CA enabled will be shown an icon (Highlighted) on the appliance list page.

Download Image of the Virtual Appliance



Download Common CA

You can download the common CA from the appliance details page or the appliance list page.

Qualys Gateway Service 💌 Appliances	Download Common CA Download and install the required certificates for Cache Mode for all applicable hosts running Cloud Agents.	_
5 Active Agents (24 Hours)	Certificate Installer on Windows WIN.msi Download	
Q Search New Appliance Download Image	File on Any Operating System Appliance-Certificate.pem	51 Applianc
STATUS APPLIANCE Active AWS_p13_sjc01 Oct 29, 2021 Cache: Enabled	Cancel	LS PROTOCOL CLIENT HE

After Successful Setup and Registration, the Appliance has Active Status

Appliances								
5 Active Agents (2	4 Hours) Total Agents (2	′ Days)	15MB Bandwidth Savings (30 I	Days)				
Q Search						0	51 App	liances
New Appliance	Download Image Download Con	imon CA					1 - 50 of	51 🚺 Ć 🔅
STATUS	APPLIANCE	DEPLOY LOCATION	UNIQUE IPS	ACTIVE AGENTS	PROXY PORT	CACHE PORT	TLS PROTOCOL CLIENT	HEALTH
Active Oct 29, 2021	AWS_p13_sjc0127_Se Cache: Enabled	-	0	0	1080	8089	1.2, 1.3	Normal
Active 📃 Oct 29, 2021	patch_sjc01_test_vcn03 Cache: Enabled Patch: Ena	Pune	1	1	1080	8080	1.0, 1.1, 1.2, 1.3	Normal

View Details, Stats, and Logs of an Active Appliance

\leftarrow View Details							
View Mode	EPP_Patch_Mode revune Prince for London Prince						
uppliance Details		Martha Mar					
.ogs	PROXY PERFORMANCE FOR EPP_PATCH_MODE	Model	Outline Victorial Appellant				
ache Mode	Last 12 hours 100	Varian -	1.0.1.04				
	- Unique IP	IPvd Address :	10 114 252 79				
		MAC Address:	00:50:56:8e:54:4b				
		Gateway:	10.114.252.1				
		DNS:	10.114.25.21,10.114.2				
	0 2000 0100 0000 0000 0700 0000 1100	Configuration					
		Proxy Port:	1080				
		Cache Port:	8080				
	Allowed Domains	Cache:	Enable				
		Patch:	Enable				
	Default Domains Allowed: qualys.ca, qualys.com, qualys.com, qualys.in	TLS Protocol Client:	1.0, 1.1, 1.2, 1.3				
	DOWARS						
	cloudfront.net	Activity					
	bitdefender.net	HUD Consumption :	Disk 1: 23%				
	bitdefender.com		DISK Z. 3%				
	microsoft.com	GPU.	1.54%				

The Performance graph shows connection counts by unique agent IP addresses over the time period selected.

Allowed Domains: This option displays your allowed domain's information.

Virtual Appliance Local Configuration

The Qualys Gateway Service virtual appliance utilizes a text-based user interface available from the appliance console to configure, set networking, view status, perform diagnostics, and reset the appliance.

Local Configuration Menu Structure

- Registration
- System
 - Network
 - First
 - DNS
 - Proxy
 - > Time
- Info
- Diagnostics
 - > Containers
 - Images
 - Units
 - Logs
 - > Stats
- Commands
 - > Ping
 - Reboot
 - Shutdown
 - > Reset

Configuration Screens

Next we'll document the screens used to configure & manage the Qualys Gateway Service.

QGS virtual appliance starting up

[11.458780] SELinux: [11.458827] SELinux:	Class rxrpc_socket not defined in policy.
[11.458827] SELinux:	Class ister as but wet defined in wellow
	Class isan_socket not defined in policy.
[11.458873] SELinux:	Class phonet_socket not defined in policy.
[11.458921] SELinux:	Class ieee802154_socket not defined in policy.
[11.458971] SELinux:	Class caif_socket not defined in policy.
[11.459019] SELinux:	Class alg_socket not defined in policy.
[11.459065] SELinux:	Class nfc_socket not defined in policy.
[11.459295] SELinux:	Class vsock_socket not defined in policy.
[11.459344] SELinux:	Class kcm_socket not defined in policy.
[11.459391] SELinux:	Class qipcrtr_socket not defined in policy.
[11.459440] SELinux:	Class smc_socket not defined in policy.
[11.459486] SELinux:	Class infiniband_pkey not defined in policy.
[11.459536] SELinux:	Class infiniband_endport not defined in policy.
[11.459586] SELinux:	the above unknown classes and permissions will be allowe
đ	
[11.459655] SELinux:	policy capability network_peer_controls=1
[11.459715] SELinux:	policy capability open_perms=1
[11.459757] SELinux:	policy capability extended_socket_class=0
[11.459804] SELinux:	policy capability always_check_network=0
[11.459851] SELinux:	policy capability cgroup_seclabel=0
[11.459896] SELinux:	policy capability nnp_nosuid_transition=0
[11.486879] systemd[1]: Successfully loaded SELinux policy in 94.115ms.
[11.528438] systemd[1]: Relabelled /dev, /run and /sys/fs/cgroup in 9.065ms.
<pre>[11.459391] SELinux: [11.459440] SELinux: [11.459486] SELinux: [11.459586] SELinux: [11.459586] SELinux: [11.459755] SELinux: [11.459757] SELinux: [11.459757] SELinux: [11.459804] SELinux: [11.4598051] SELinux: [11.459806] SELinux: [11.459806] SELinux: [11.459896] SELinux:</pre>	Class qipcrtr_socket not defined in policy. Class smc_socket not defined in policy. Class infiniband_pkey not defined in policy. Class infiniband_endport not defined in policy. the above unknown classes and permissions will be allower policy capability network_peer_controls=1 policy capability open_perms=1 policy capability extended_socket_class=0 policy capability always_check_network=0 policy capability group_seclabel=0 policy capability nnp_nosuid_transition=0 11: Successfully loaded SELinux policy in 94.115ms. 11: Relabelled /dev, /run and /sys/fs/cgroup in 9.065ms.

Main Configuration Menu

Under System menu, configure Network Settings

Qualys	Inc. USE:←↑↓→	to navigate ENTER to confirm
	Configuration Registration System Info	Register the Appliance with Qualys System Settings General Information
	Diagnostics Соммаnds	Information Various commands
	L	

Network Configuration

Qualys I	nc. USE:+†↓→ to navig	ate ENTER to confirm
	System Configuration	
	Network Time Qualys status URL	<mark>Network Settings</mark> System Time Settings Edit Qualys Status URL
	<u>< OK ></u>	< Back >

First ethernet interface

Qualys 	Inc. USE:+†↓→ to navigate ENTER to confirm	
	Configuration First Network Interface Settings (eth0) DIS Settings Proxy Server	
	COX > < Back >	

DHCP

If using DHCP, configure the virtual appliance network interface to use DHCP.

This is the IP of the QGS proxy that Cloud Agents will connect running on port 1080.

Qualys I	nc.	USE∶←↑↓→	to navigate	SPACE to	select E	NTER to c	onfirm
							-1
	Network	interface	configurati	on			
			(*) DHCP () Static () Unconf	igured			
		K	<u>o</u> k >	<canc< td=""><td>el></td><td></td><td></td></canc<>	el >		

Static

If using Static IP, configure the virtual appliance network interface to use Static IP Address. Cloud Agents connect to the Static IP Address on port 1080.

Network	: interface configura	tion	
	() DHCP (*) Stat () Unco	iC nf igured	
	<mark>< 0K ></mark>	<cancel></cancel>	

Set static IP address, if used.

IP address uses a 32-bit netmask, e.g. "/24" for 255.255.255.0

Specify the Default Gateway IP address.

Qualys Inc.	USE:↑↓ to	navigate	TAB to focus	ENTER to	confirm
_					
et	h0:				
I	P (CIDR):	_			
G	ateway:				
L					-
		OK >	< Back >		

DNS Servers

Set DNS servers for the virtual appliance to resolve the Qualys URLs.

Qualys Inc.	USE:11 to navigate TAB to focus ENTER to confirm
	DNS Servers:
	DNS: 8.8.8
	DNS: 4.1.1.1 Search domain: corp.acme.com_
	< OK > < Back >

Proxy Servers

Configure upstream Proxy Server, if using proxy chaining.

Qualys Inc.	USE:11 to navigate TAB to focus ENTER to confirm
	Proxy Settings:
	Proxy URL:
	Proxy Port:
	Username:
	Password:
	< OK > < Back >

Info

Qualys 	Inc.	USE∶←↑↓→	to navigate ENTER to confirm
	Com	figuration Registration System Info Diagnostics Соммалds	Register the Appliance with Qualys System Settings General Information Information Various commands
			<u>< 0x ></u>

QAG Status: Connected

QAG Status: Connected shows that QGS can connect to the Qualys POD.

If the status is not **Connected**, verify network connectivity and firewall settings.

Git-rev : 167053beeaa503f049a72d8e5eda742db012d7b9 Build-date : 2019-03-27706:42:34+0000	0.00
<mark>< ۵۸ ></mark>	-92%

Registration

Configuration	
Registration System Info Diagnostics Commands	Register the Appliance with Qualys System Settings General Information Information Various commands
	<u>< 0</u> x >

Qualys	Inc. USE:+↑↓→ to navigate ENTER to confirm	
	Enter lookup code in *lowercase*	
	CHANGE_ME	
	L	
	COR > C Back >	

Enter the Personalization Code generated in the QGS User Interface module.

Here's an example of a redacted Personalization Code.

Enter lookup c	ode in *lowercase*		
0123a17a-	-46dc669,	Ødb	

Registration in process

Please wait while appliance registration is being verified. This мау take few minutes.
WARNING: Do not interact with the appliance during this time.

Successful Registration

Appliance is registered	successfully
	<u>< 0</u> ∦ >

Diagnostics

talys	Inc.	USE:←↑↓→ to navi	gate ENTER to confirm	
	Diagnost	ics		
		<mark>Containers</mark> Images Units Logs Stats	Docker containers Docker images Services units Logs Container Stats	
		<u>< 0</u> K >	< Back >	

Containers

NAMES	STATUS	COMMAND
HAPROXY	Up 17 minutes	"/entrypoint.sh"
CONFD-HAPROXY	Up 17 minutes	"/usr/local/bin/confd -wat
cams-logstash	Up 17 minutes	"/usr/share/logstash/bin/l
Squia-2 CAMSD	Up 17 minutes Up 17 minutes	/docker-entrypoint.sn "/sbin/init" 63%

Images

REPOSITORY	TAG	IMAGE ID
cams-haproxy	0.1.0-47	a397bd13a1
camslocal:443/cams-haproxy	0.1.0-47	a397bd13a1
camslocal:443/cams-keepalived	0.1.0-47	8cd941c6d3
cams-keepalived	0.1.0-47	8cd941c6d3
camslocal:443/cams-squid	0.1.0-47	9042e180e2
		35% -

Units

Units]	
	cams-logstashcams-rsyslogcams-rsyslogCAMSDHAPROXY-reloadHAPROXY-watchHAPROXY-watchHAPROXYinternal-proxyqualys-appliance-initsquid-1squid-2	Active active active failed active active active active inactive active active active	
	<mark>< 0K ></mark> < 1	ack >	

Logs

View log file of the virtual appliance. (Logs are also uploaded to the QGS UI Module.)

Logs are sorted with most recent descending.

Navigation and search commands are defined in the UI.

Don't worry to delete or archive logs! The QGS appliance will automatically clean up its logs and disk space as it reaches capacity.

Proxy

Executes a network connection test through a configured upstream proxy.

Stats

View utilization of the virtual appliance services.

Qualys Inc.	USE:1↓ to scroll ENT	ER to exit	
			1
CONTAINER ID	NAME	CPU %	MEM USAGE 🗡 📗
960eb4df3552	HAPROXY	0.02%	2.285MiB /
1e480d9ab0f3	CONFD-HAPROXY	0.00%	1.656MiB /
f5459536ba9a	cams-logstash	2.45%	501.1MiB /
ffe47a1b904e	squid-2	0.01%	160.4MiB /
f18fac5251ac	CAMSD	0.00%	7.055MiB /
			66%
	< <u>EXII</u>	2	

Commands

Qualys	Inc.	USE∶←↑↓→	to navigate ENTER to confirm
	Conf	iguration	
		Registration System Info Diagnostics	Register the Appliance with Qualys System Settings General Information Information Uarious commands

Ping

Ping is required to perform the connectivity checks. So, make sure that ping is enabled for IPs/URLs mentioned in Network Configuration section.

	Inc. US	SE:←↑↓→ to navigate ENTER to confirm	
		1	
	Configurati	ion	
		Ping Perform IPv4 Ping	
		Reboot Reboot Shutdown Shutdown	
		Reset Reset	
	L		
		< OK > < Back >	
Qualys	Inc IIS		
		SE:←T↓→ to navigate ENTER to confirm	
		SE:+T↓→ to navigate ENIER to confirm	
		SE:←T↓→ to navigate ENIER to confirm	
	FODN on IP	SE:+T↓→ to navigate ENTER to confirm	
	FQDN or IP	v4	
	FQDN or IPv 8.8.8.8_	v4	
	FQDN or IP(8.8.8.8_	SE:+TI+ to navigate ENTER to confirm	
	FQDN or IP(8.8.8.8_	SE:+TI+ to navigate ENTER to confirm	
	FQDN or IP(8.8.8.8_	v4	
	FQDN or IP	v4	
	FQDN or IP	v4 COK > < Back >	

Reset appliance

Reset appliance to its original unconfigured state.

Warning: All configurations and log files will be deleted.

Reset app			
Warning : original	this action will re state.	eset appliance to its	
Do you wa	nt to continue ?		
			_
	< Yes >	< No >	

Reset network interface

Reset network interface of virtual appliance.

Note: This only resets the network configuration of the appliance.

Qualys Inc.	USE:←†↓→ to navigate ENTER to confirm
Reset	t network configuration?
Do ya	ou want to also reset network interfaces?
νοτηg	y so can prevent access to this machine ?
	<u>⟨Y</u> es> < No>

Diagnostics Mode

The QGS Appliance supports a Diagnostic mode to help accelerate Qualys Customer Support troubleshooting and problem resolution, primarily for initial network setup and registration issues. The Diagnostic mode is a user-initiated command that creates an encrypted report archive for the customer to collect and submit to Qualys Customer Support. The Diagnostics command creates a one-time generated password to download the encrypted report archive from the QGS appliance using SFTP.

1) On the local console-based user interface, select the Diagnostics menu

Qualys	Inc. USE:↔	↑↓→ to navigate ENTER to confirm
	0 Ciaman til	
	Registration Registration System Info Diagnostic Commands	on Register the Appliance with Qualys System Settings General Information S <mark>Information</mark> Various commands
		< <u>0</u> ₭ >

2) Executing the Diagnostics mode will trigger the appliance to create the encrypted report archive and generate a one-time random password to access the appliance to copy the diagnostics archive.

3) Connect to the appliance using SFTP using the diagnostics username and one-time random password.

Diagnostics report is quailable usa SETP using:	1
Username => diagnostics Password => 2b145a22	
<u>< 0</u> x >	

4) Download the encrypted report archive from the appliance to a system of your choosing.

5) Upload/attach the encrypted report archive to a Qualys customer support case.