



Qualys Gateway Service

User Guide

Version 1.0

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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.

Features

The following features and capabilities are available in this QGS 1.0 release:

- 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 (an upcoming release will offer a caching option)
- SSL/TLS pass-through bypass (an upcoming release will offer a TLS step-up option)
- Can be deployed in High-Availability failover using external 3rd party load balancers (an upcoming release will offer integrated High-Availability without external dependencies)
- 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)

Virtualization Server Requirements and Virtual Machine File Formats

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

Virtual Machine Configuration

- 2 vCPUs
- 8 GB RAM minimum
- 8 GB Disk
- One network adapter
 - IP address configured with a Default gateway
 - QGS Proxy listening port for Cloud Agents: 1080
Port 1080 is fixed in QGS 1.0 (changing the port is available in the next release)
- Available support to connect QGS to upstream proxy server, if required
 - IP/DNS name and port of upstream proxy
 - Optional username/password proxy credentials

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

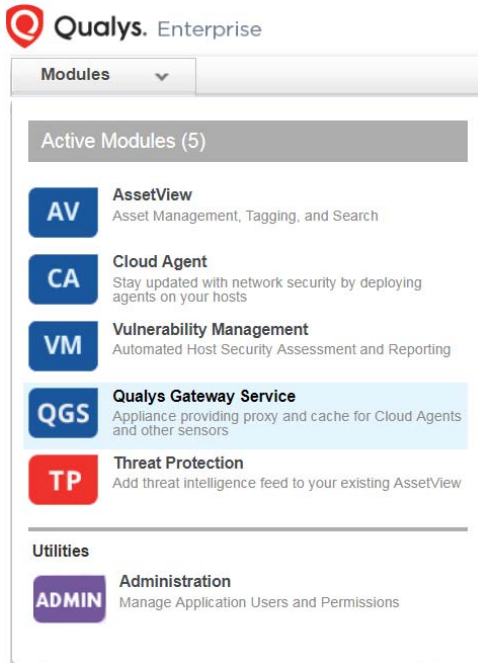
Platform	Cloud Agent	Qualys Gateway Service
US 1	qagpublic.qg1.apps.qualys.com (64.39.104.93:443)	camspublic.qg1.apps.qualys.com (64.39.96.183:443) camspm.qg1.apps.qualys.com (64.39.96.181:443) camsrepo.qg1.apps.qualys.com (64.39.96.182:443)
US 2	qagpublic.qg2.apps.qualys.com (64.39.104.103:443)	camspublic.qg2.apps.qualys.com (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)
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)

Platform	Cloud Agent	Qualys Gateway Service
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)
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)
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)

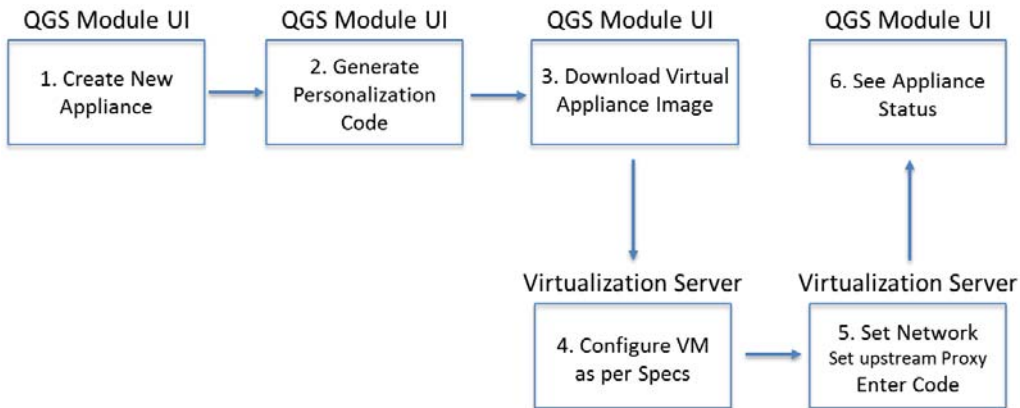
Qualys Gateway Service User Interface Module

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.



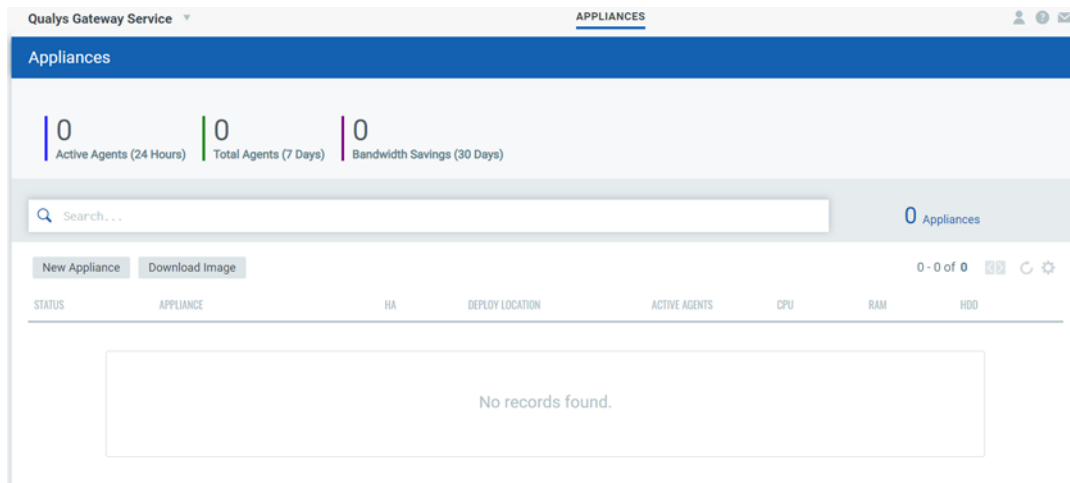
In order to deploy a QGS virtual appliance, log into the Qualys Platform, select the QGS module, and follow the steps below.



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.
 - Start the image.
 - Note: Console access to the running image is required to configure the appliance.
- 5) Use the console-based user interface to configure the virtual appliance (see instructions below).
- 6) Validate that the appliance can successfully communicate with the Qualys Platform.
- 7) Configure Cloud Agents to use the IP or DNS name of the QGS as the agent's proxy. See the Cloud Agent Install Guide for the appropriate proxy configuration instructions.

Qualys Gateway Service Module User Interface



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 will only be calculated in an upcoming release that supports caching services.

Create New Appliance / Generate Personalization Code

← New Appliance

Create Appliance

Registration

Registration

Use the personalization code to complete the configuration of your appliance.

Appliance Details

Appliance Name Required
QGS-Datacenter-SJC

Deployment Location Optional
SJC

Personalization Code

Generate the personalization code to register the appliance. Registering the appliance consumes one of the purchased licenses.

Generate Code 8a64d9ae-61e4-4536-95ea-101ec7ac7d83 [Copy](#)

Cancel Save

View List of Appliances and their Status

Appliances

0 Active Agents (24 Hours) | 0 Total Agents (7 Days) | 0 Bandwidth Savings (30 Days)

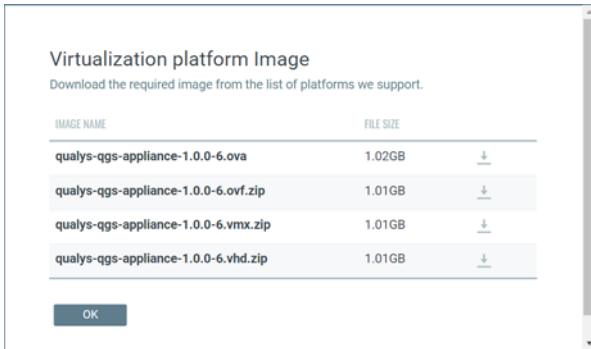
Search...

1 Appliance

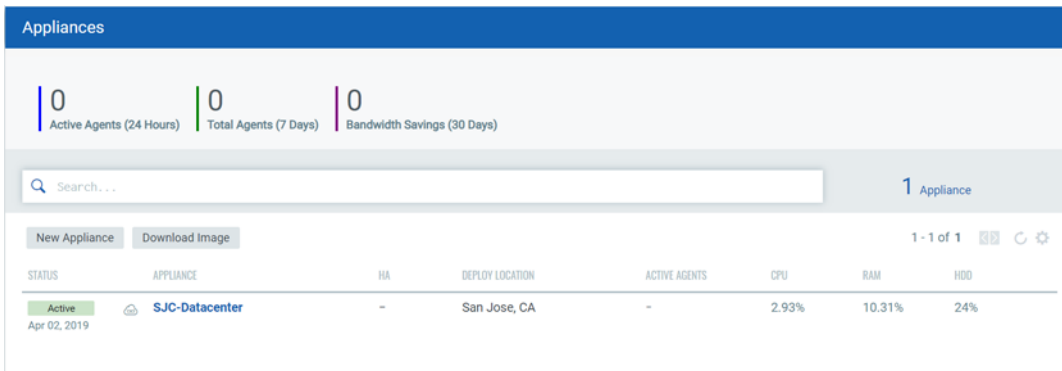
[New Appliance](#) [Download Image](#) 1 - 1 of 1

STATUS	APPLIANCE	HA	DEPLOY LOCATION	ACTIVE AGENTS	CPU	RAM	HDD
Unregistered	QGS-Datacenter-SJC	-	SJC	-	0	0	0

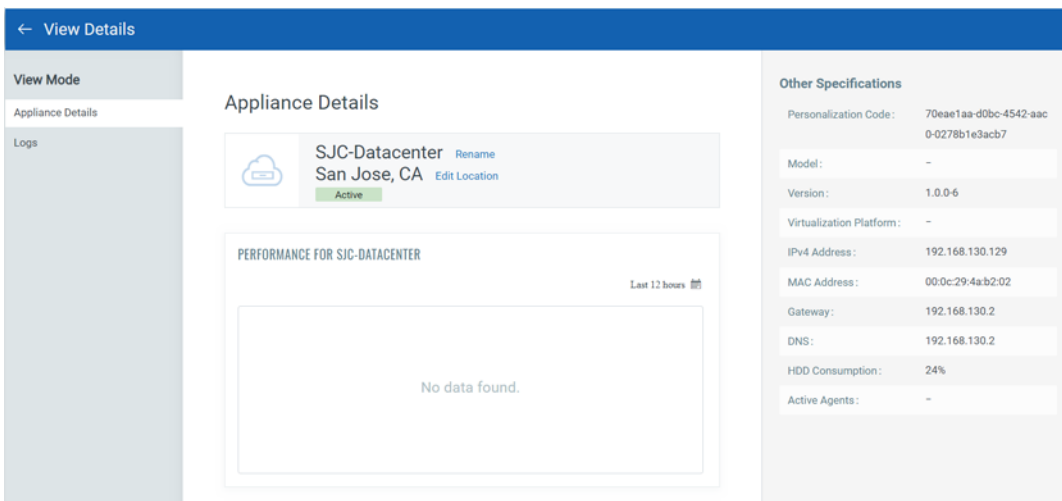
Download Image of the Virtual Appliance



After Successful Setup and Registration, the Appliance has Active Status



View Details, Stats, and Logs of an Active Appliance



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

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

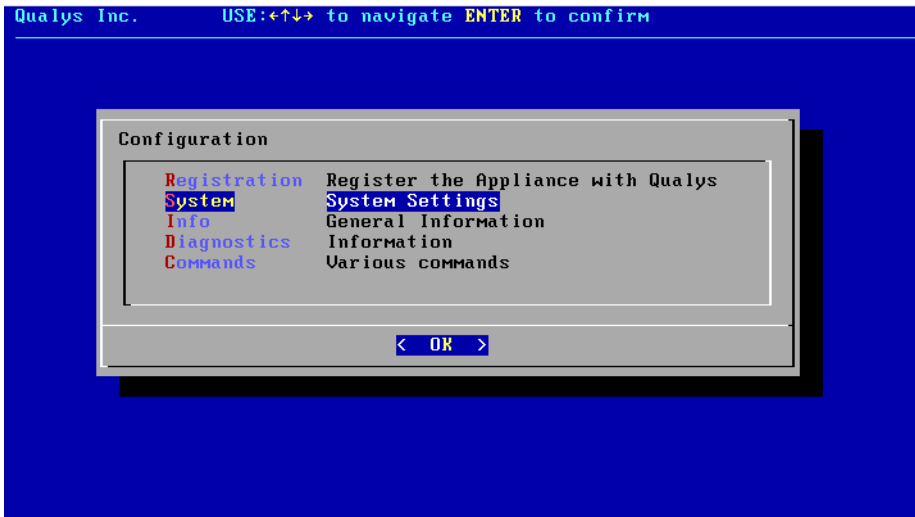
Next we'll document the screens used to configure & manage the Qualys Gateway Service.

QGS virtual appliance starting up

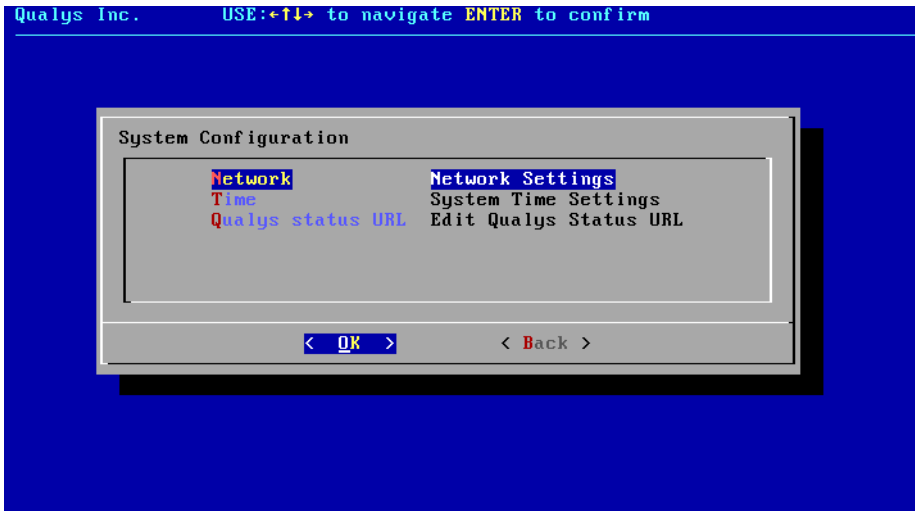
```
11.458732] SELinux: Class iucv_socket not defined in policy.
11.458780] SELinux: Class rxrpc_socket not defined in policy.
11.458827] SELinux: Class isdn_socket not defined in policy.
11.458873] SELinux: Class phonet_socket not defined in policy.
11.458921] SELinux: Class ieee802154_socket not defined 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 qipctr_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
t
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 nmp_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.
```

Main Configuration Menu

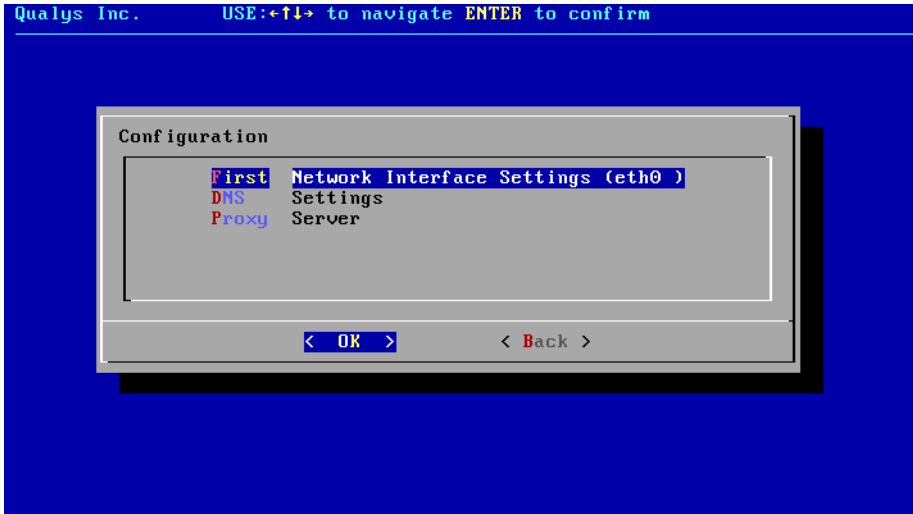
Under System menu, configure Network Settings



Network Configuration



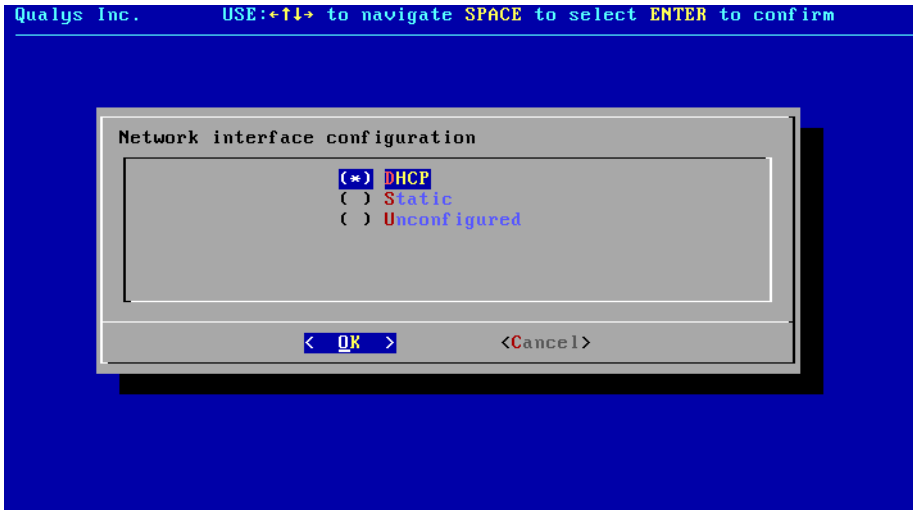
First ethernet interface



DHCP

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

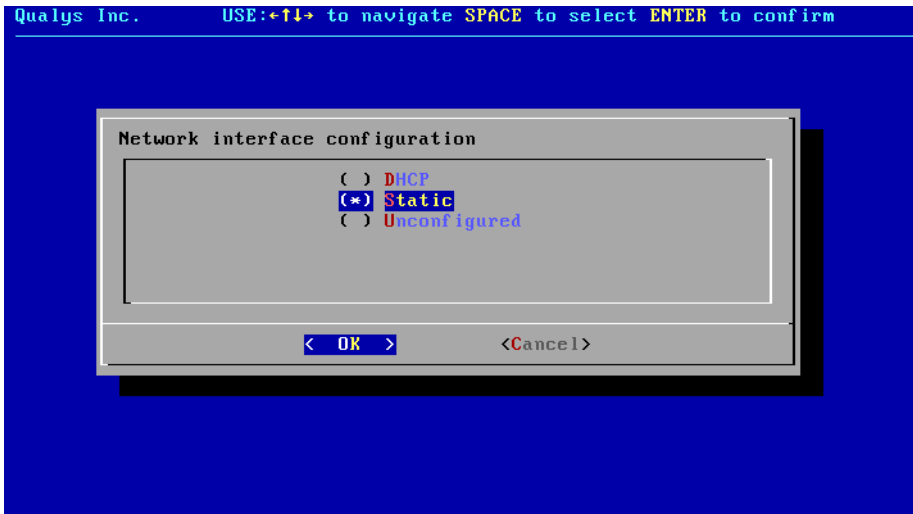
This is the IP of the QGS proxy that Cloud Agents will connect running on port 1080.



Static

If using Static IP, configure the virtual appliance network interface to use Static IP Address.

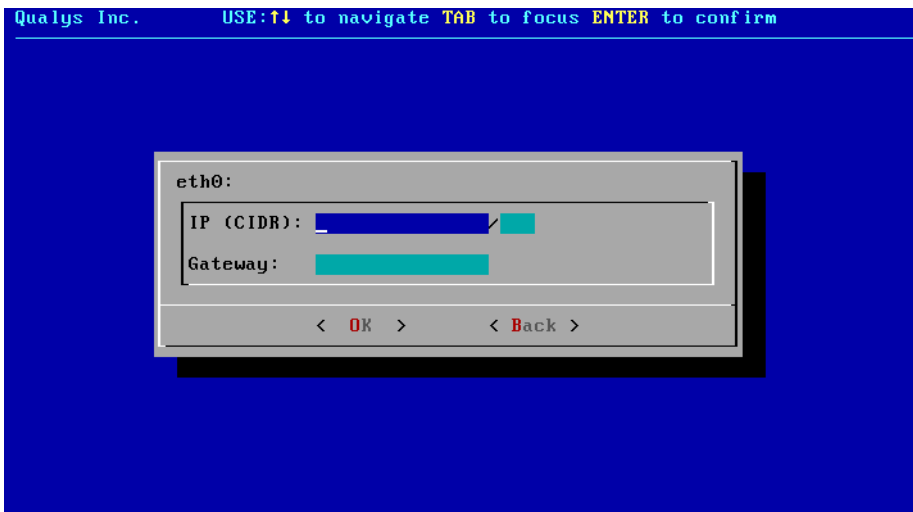
Cloud Agents connect to the Static IP Address on port 1080.



Set static IP address, if used.

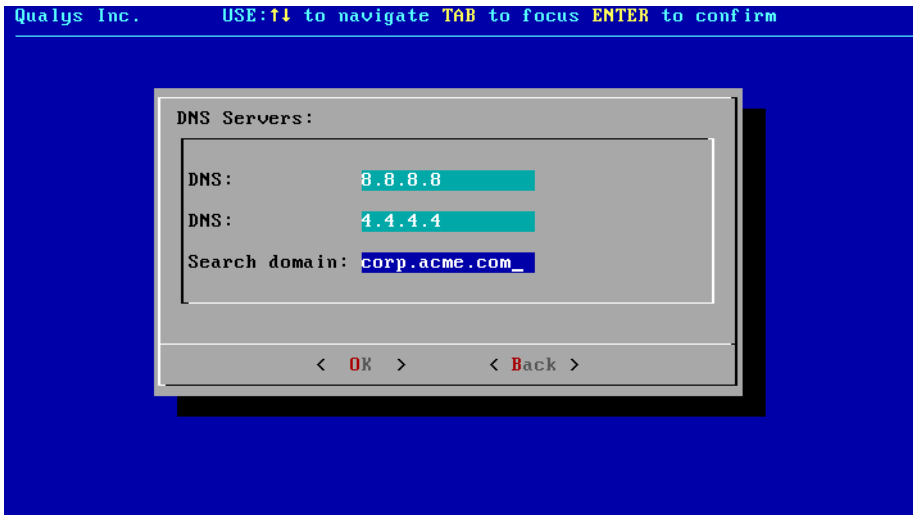
IP address uses a 32-bit netmask, e.g. "/24" for 255.255.255.0

Specify the Default Gateway IP address.



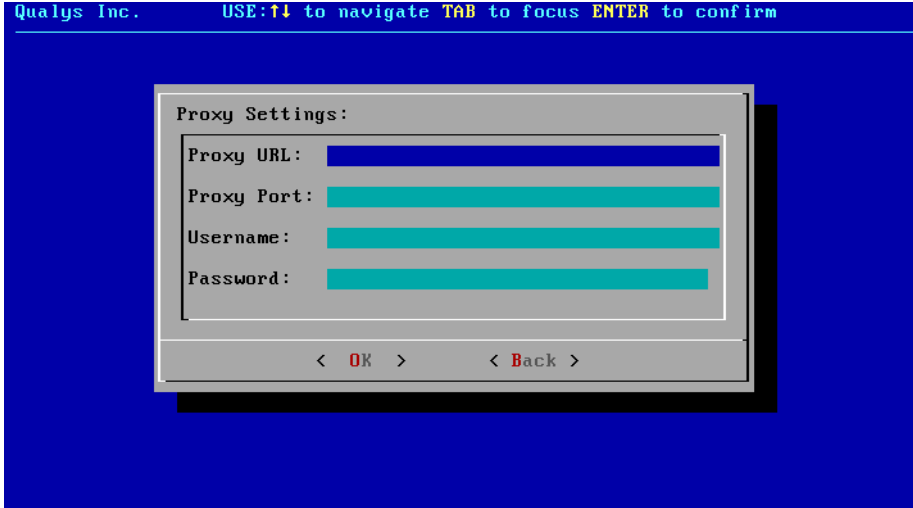
DNS Servers

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

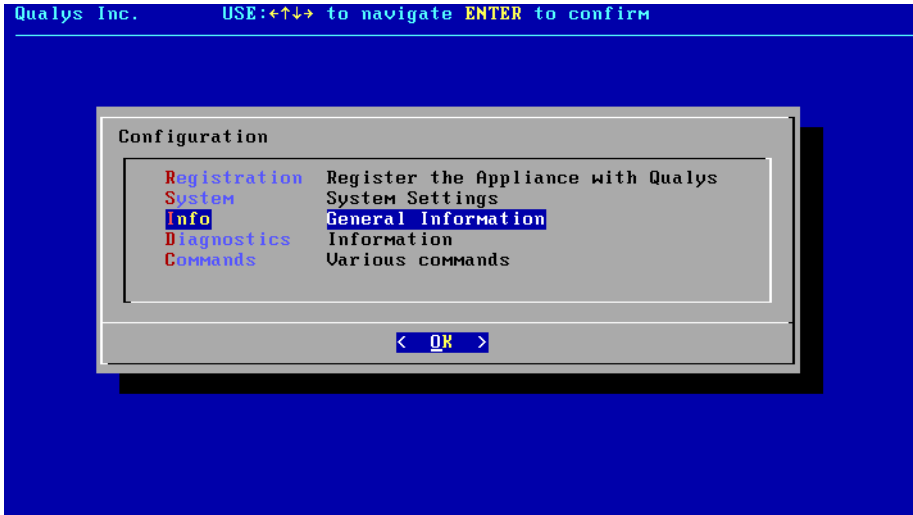


Proxy Servers

Configure upstream Proxy Server, if using proxy chaining.



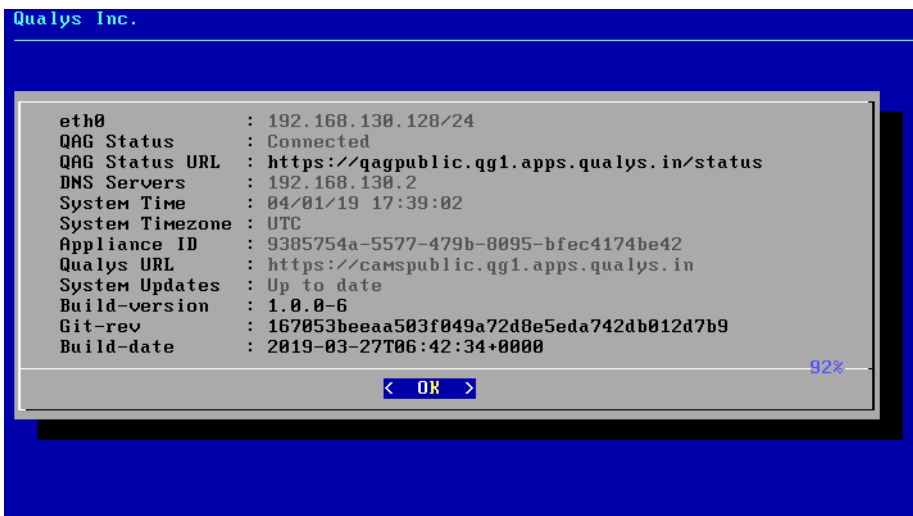
Info



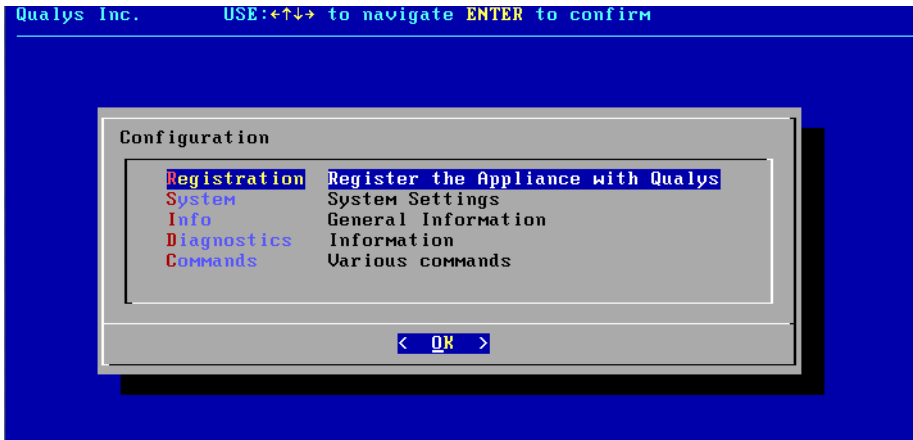
QAG Status: Connected

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

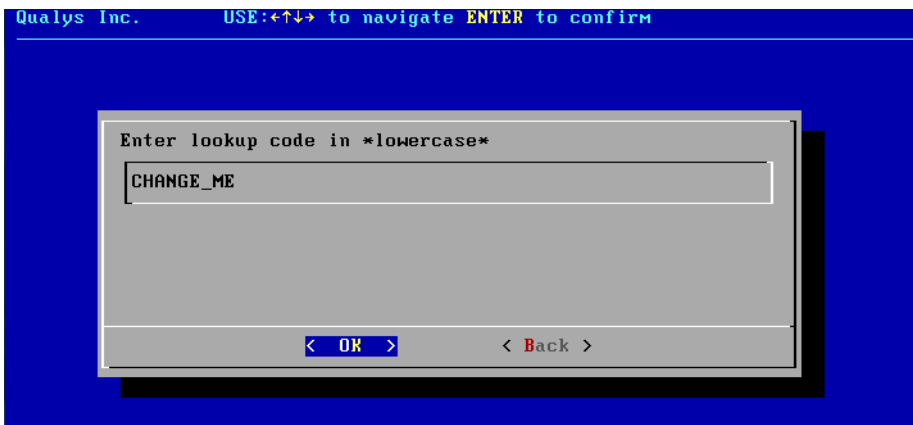
If the status is not “Connected”, verify network connectivity and firewall settings.



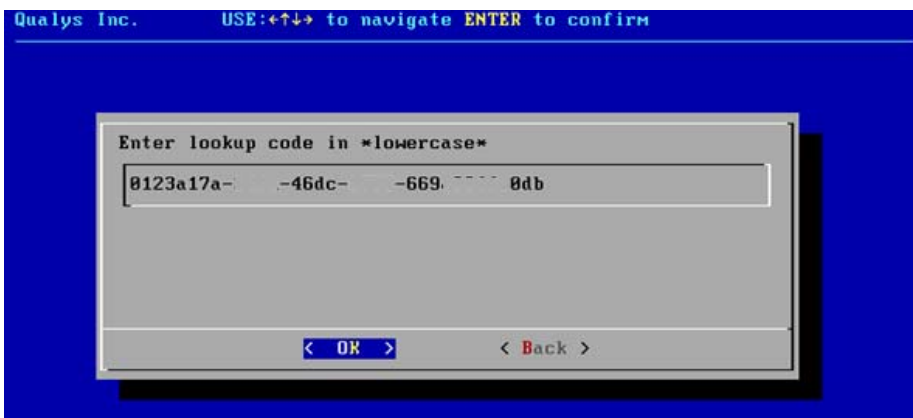
Registration



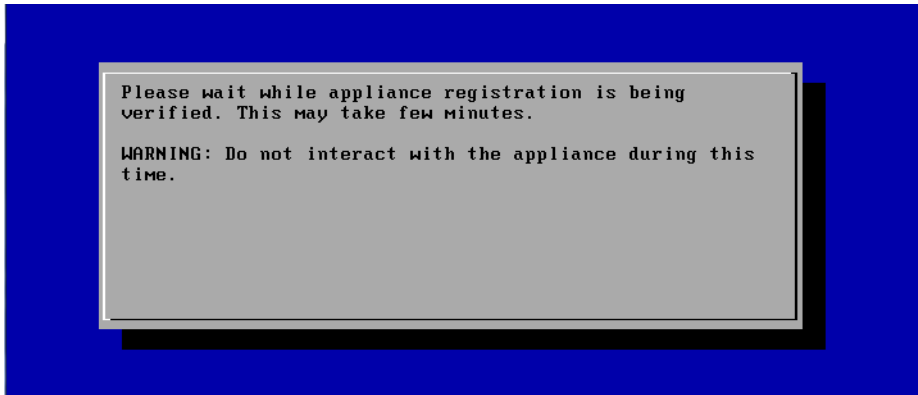
Enter the Personalization Code generated in the QGS User Interface module.



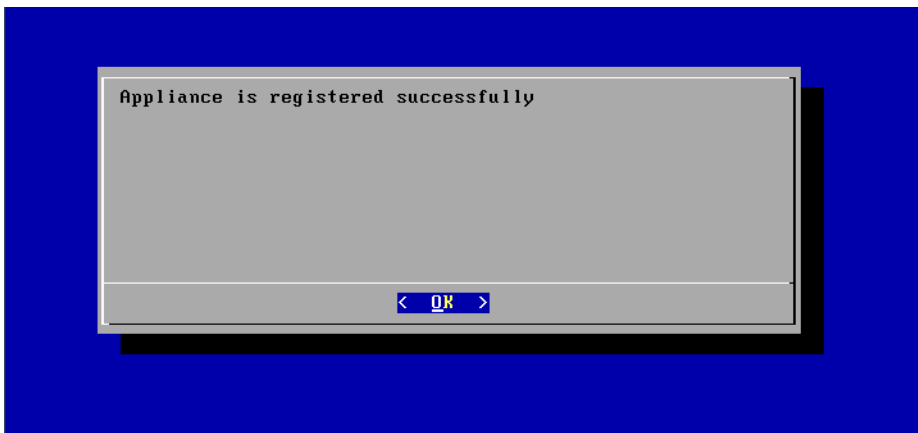
Here's an example of a redacted Personalization Code.



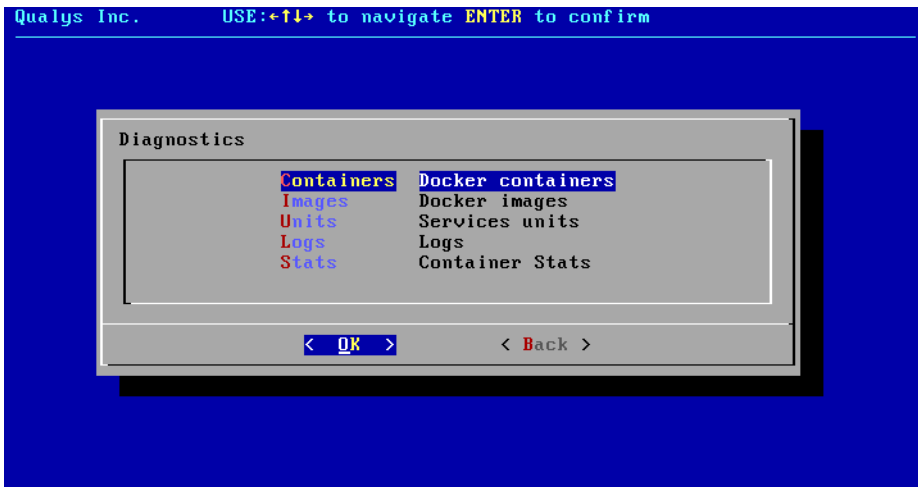
Registration in process



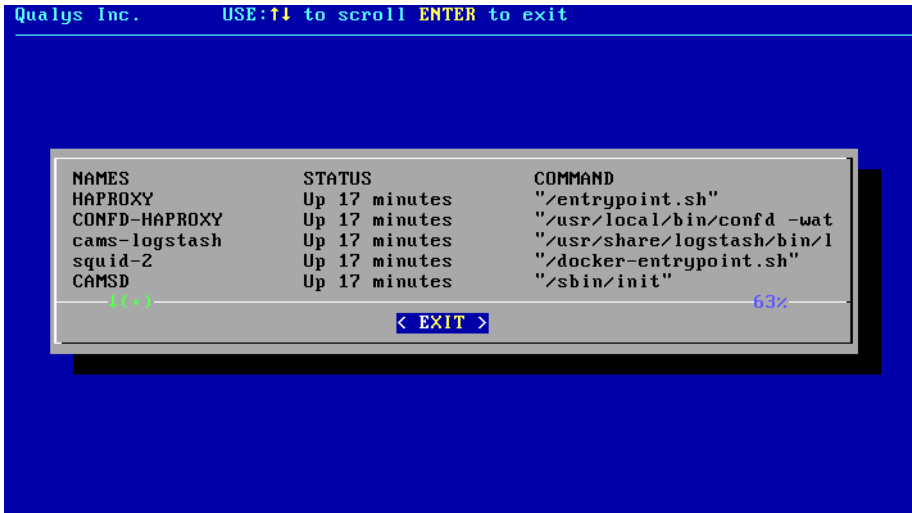
Successful Registration



Diagnostics



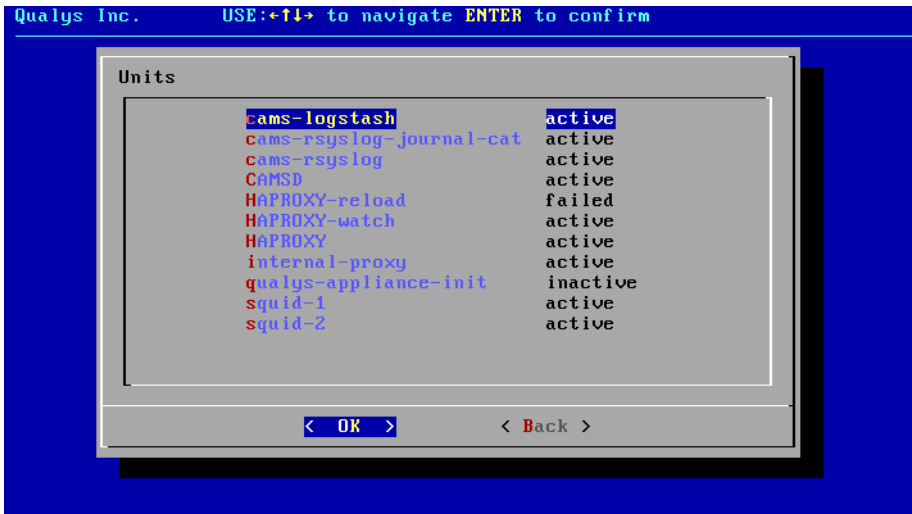
Containers



Images



Units

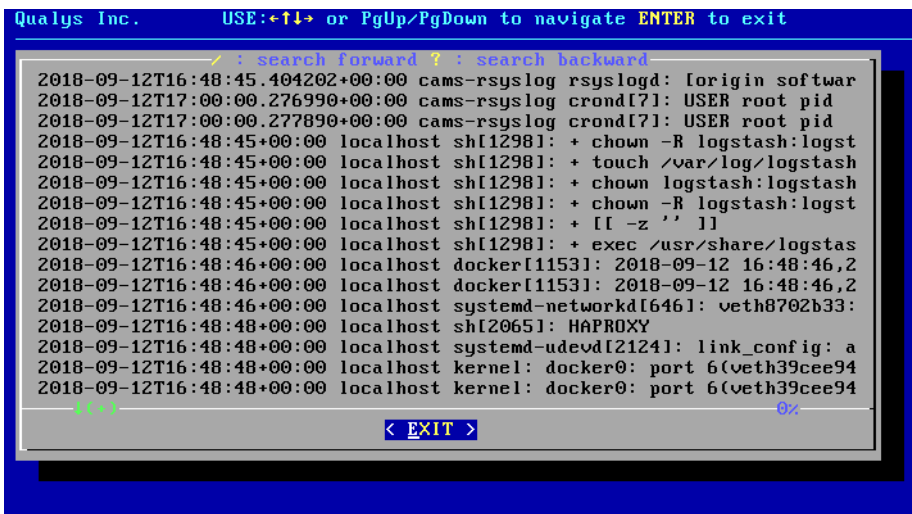


Logs

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.



Stats

View utilization of the virtual appliance services.

Qualys Inc. USE:↑↓ to scroll ENTER to exit

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% < EXIT >

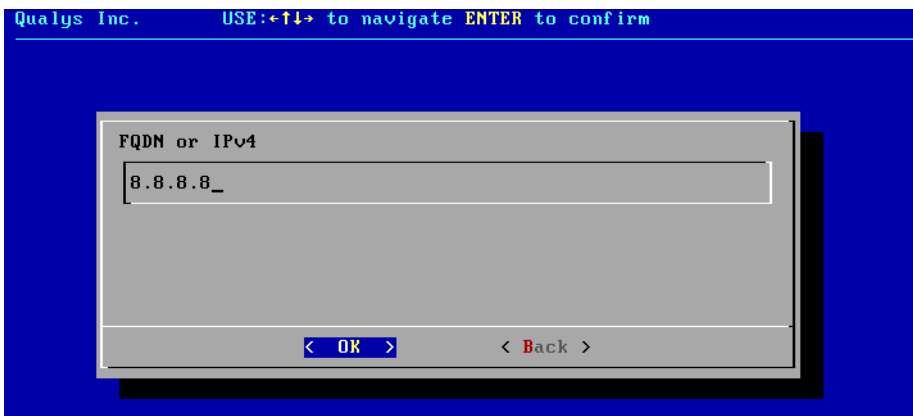
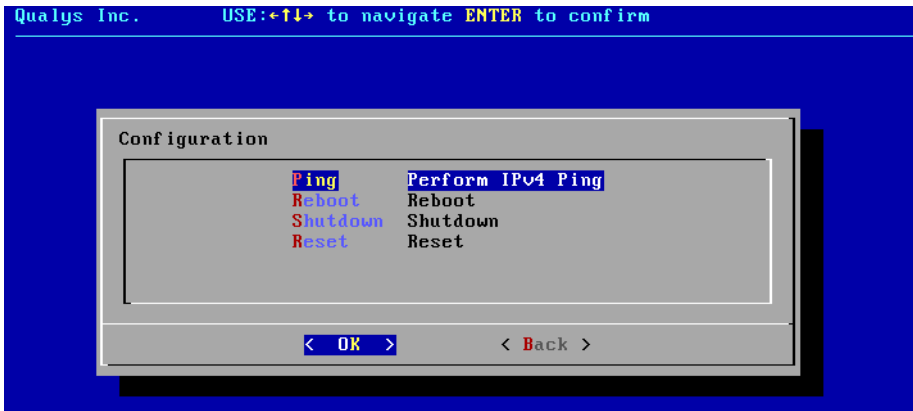
Commands

Qualys Inc. USE:←↑↓→ to navigate ENTER to confirm

Configuration	
Registration	Register the Appliance with Qualys
System	System Settings
Info	General Information
Diagnostics	Information
Commands	Various commands

< OK >

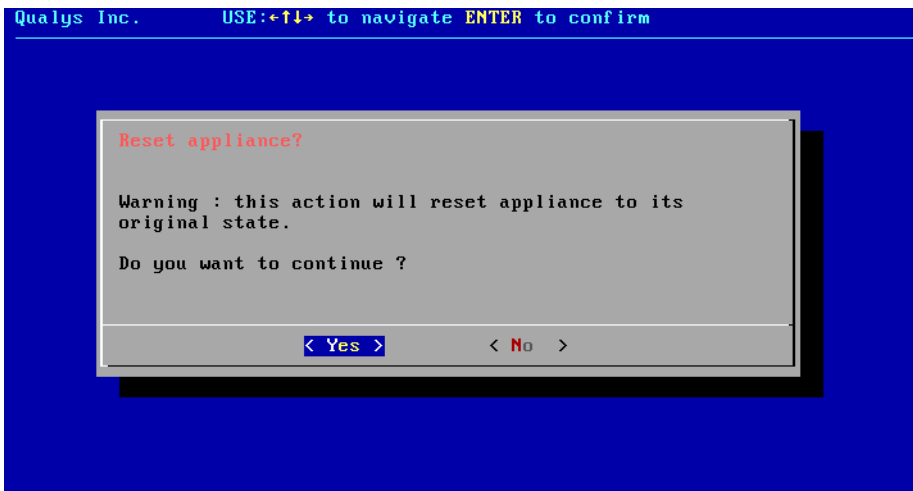
Ping



Reset appliance

Reset appliance to its original unconfigured state.

Warning: All configurations and log files will be deleted.



Reset network interface

Reset network interface of virtual appliance.

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

