



FORUM SENTRY™ VERSION 9

VMWARE VIRTUALOS INSTALLATION

GUIDE



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INTRODUCTION TO THE VMWARE VIRTUAL OS INSTALLATION GUIDE

Conventions Used

A red asterisk (*) aligned with a field term means that this field is required. In this and other documentation, the Web Administration Interface is referred to as the WebAdmin and the Forum Sentry API Security Gateway is referred to as the 'device', 'product' or 'system'.

UI screens which display a STATUS column represent the following states:

- Green status light = enabled policy.
- Yellow status light = a required functional element of this policy is disabled.
- Red status light = disabled policy.

Throughout this and other documents in the Documentation Set, repetitive actions such as:

- View / edit a policy.
- Enable / disable a policy.
- Delete a policy, rename a policy.
- Limit display of policies with Search or Max Results fields.

are not shown. For more information, refer to the Common Operations section of the Forum Sentry™ Version 9 Web-based Administration Guide.

Minimum Requirements

Forum Sentry VMware VirtualOS minimum requirements are documented in the following helpdesk article:

<https://helpdesk.forumsys.com/hc/en-us/articles/360000895347>

***Note* If using vSphere vMotion, this mechanism needs to be tested in each environment prior to deploying into production. Please contact Forum Systems Support for more information.**

VMWARE INSTALLATION OVERVIEW

The following listing is an overview of the steps necessary to obtain an evaluation or subscriber version of Forum Systems product VMware VirtualOS:

- Request VirtualOS download from the Forum Systems web site at <http://www.forumsys.com> or by contacting support at support@forumsys.com
- Receive VirtualOS download instructions via email.
- Request a Software License.
- Receive the License file.
- Import the License file.
- Access the WebAdmin Interface.

These steps are detailed next.

VMWARE INSTALLATION PROCEDURE

Follow these steps to install and run an evaluation or subscriber version of the Forum Systems VMware VirtualOS product:

Requesting VMware VirtualOS Download

- Contact Forum Systems support at support@forumsys.com to obtain a download link to download the OVA Sentry image
- You will receive an email with the download instructions.

Installing on VMware Workstation or ESX

1. Launch the VMware Console to start a new image.
2. Open the settings for the target Forum Sentry VMware Image.
3. Depending on the type of license you purchased, you will need to ensure that the following limits are adhered to otherwise the system will not start:

FlexMAX License

- a. Memory is 256GB or less
- b. Processors and number of cores is 48 or less
- c. Hard drive is set to a minimum of 200GB, up to 2TB

Flex+ License

- a. Memory is 96GB or less
- b. Processors and number of cores is 24 or less
- c. Hard drive is set to a minimum of 200GB, up to 2TB

Flex License

- a. Memory is 64GB or less
- b. Processors and number of cores is 12 or less
- c. Hard drive is set to a minimum of 200GB, up to 2TB

4. Before you begin setting up the Forum Sentry VMware VirtualOS you will need to determine or obtain the following information
 - a. The IP addresses for 2 virtual interfaces, WAN and MGMT
 - b. The proper DNS and Default Gateway IP addresses
 - c. The username and password for your initial administrative user
 - d. Your enable mode password
5. Right click the instance, select "Open Console" and then start the instance.
6. Once started, you will go into the installation wizard of the Command Line Interface (CLI) from the VMware console window. At this point, you will use the CLI to assign the IP to the MGMT and WAN. For VMWare installations, you will be using 1-Port mode, so the LAN interface is unused. You will also configure several other network settings, the enable password, and the initial administrative user.

7. Once you have completed the CLI installation wizard, you will need to assure that the virtual WAN and MGMT interfaces are mapped to the desired virtual networks within your host environment.
 - a. To do this, you will need to enter enable mode in the CLI by typing “enable”, pressing enter and then entering your enable mode password
 - b. Once in enable mode, you can determine the MAC addresses of the interfaces by typing “show ifconfig | more”
 - c. Record the MAC addresses associated with each interface
 - d. On your VMWare machine, go into the virtual machine settings. There will be 4 interfaces listed, but only 2 of these are used. Determine which is the MGMT and the WAN by matching the MAC addresses of the network interfaces from the output of step C above. Set the appropriate network for WAN and MGMT.
 - e. At this point you should be able to use the “network utils ping” command to ping devices on the various networks to ensure connectivity
8. Once the network settings and initial administrative user are configured and tested, you will be able to access the WebAdmin interface through a web browser at https://<device IP>:5050 where device IP is the IP address set for the MGMT interface.
9. When accessing the WebAdmin, a security alert screen will appear for the default SSL Certificate used by the Forum service. Accept this Certificate to access the WebAdmin interface. The SSL certificate can then be changed from the System->Settings->System page.



Requesting a Software License

If you do not have licensed software, the License Warning screen appears with instructions on how to obtain a license key to enable Forum Sentry product and features. The information required to obtain an evaluation license includes your Contact Name, Company Name, email address of Primary Contact and the displayed unique server ID. You can click directly on the licenses@forumsys.com to auto-populate your email client with the information shown. Otherwise, please copy and paste the text into your email rather than sending a screenshot of the screen. Please also include your PO reference from your purchase.

LICENSE WARNING

A license for the server was not detected. To obtain a license, please email licenses@forumsys.com or contact Forum Systems Customer Service an

- Name
- Company Name
- Purchase Order
- Email Address
- Server ID — 001DE138F8DF
- Product — Sentry
- Product Version — 8.3.340

REGISTER

License File: No file selected.

Figure 1: Example License Warning Screen.

Receiving and Importing License

Once the Primary Contact receives the license file, the license.xml file needs to be imported on the server running the software. An email will be provided to the Primary Contact with example instructions as follows:

This email contains your evaluation license for Forum Systems product. Please follow the instructions below to license your installation.

- 1) Detach the license.xml file attached to this email
- 2) Access the Sentry WebAdmin interface, go to:
<https://<device ip>:5050> where device IP is the IP address set for the MGMT interface
- 3) Import the license file from the WebAdmin interface.

Documentation is accessible from the Help link in the WebAdmin interface.

If you have any questions, please contact Forum Systems support at support@forumsys.com or visit <https://helpdesk.forumsys.com>.

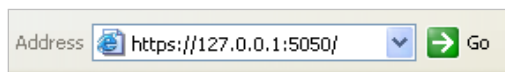
Shutting Down a VMware Instance of Forum Sentry

Never shut down a Forum Sentry instance from the VMware Console via Power controls. This can cause unsafe shutdown and result in policy loss or corruption. Instead, always use the “Shutdown” feature from the WebAdmin System->Settings->Control screen, or use the “shutdown” command from CLI enable-mode - either of these mechanisms will ensure a clean shutdown of the system.

Launching the WebAdmin Interface

Follow these steps to launch the WebAdmin interface:

1. Logon to the WebAdmin interface by pointing your web browser to `https://<device ip>:5050` where device IP is the IP address set for the MGMT interface
2. If you are accessing the WebAdmin interface for the first time, the default SSL Certificate Security Alert screen appears. Click **Yes** to accept the SSL Certificate.
3. The Forum Systems LOGON screen appears:
 - In the User Name field, enter a **user name**.
 - In the Password field, enter a **password**.
 - Click **Logon**.



Licensed Elements, Supported and Available Features

The bottom of the General screen lists licensing information and a listing of supported features.

License Manager Terms

The following table displays the terms and definitions included in the License Manager:

LICENSE TERM	LICENSE ELEMENT
Forum Systems Model	Platform identification for the software.
Serial Number	Unique server identification.
Licensed to	Company name which software is registered to.
License Expiration	Date license expires.
Product Version	Version number of the product.
Server Start Date / Time	Date and time the software was installed on the server.
Server Up-Time	Length of time the software has been running since the last restart.

Forum Sentry – VMware Network Requirements / Port Matrix

Source	Destination	Protocol / Port	Direction	Required?	Purpose
API Clients	Forum Sentry	TCP 443*	Inbound	Yes	HTTPS/API traffic to Sentry
API Clients	Forum Sentry	TCP 80*	Inbound	Optional	HTTP/API traffic if configured
Forum Sentry	Backend API Servers	TCP 443*	Outbound	Yes	Proxied HTTPS traffic to protected APIs
Forum Sentry	Backend API Servers	TCP 80*	Outbound	Optional	HTTP backend services if configured
Administrators	Forum Sentry	TCP 5050	Inbound	Yes	Sentry administrative UI
Administrators	Forum Sentry	TCP 22	Inbound	Optional	SSH/CLI administration, if enabled
Forum Sentry	DNS Servers	UDP/TCP 53	Outbound	Usually	DNS resolution
Forum Sentry	NTP Servers	UDP 123	Outbound	Recommended	Time synchronization
Forum Sentry	Syslog/SIEM	UDP/TCP 514 or TCP 6514	Outbound	Optional	Syslog / TLS Syslog
Forum Sentry	LDAP/AD	TCP 389	Outbound	Optional	LDAP authentication/directory lookup
Forum Sentry	LDAP/AD	TCP 636	Outbound	Optional	LDAPS
Forum Sentry	Identity Provider	TCP 443	Outbound	Optional	OAuth/OIDC/SAML/JWKS/identity services
Forum Sentry	OCSP Responder	TCP 80/443	Outbound	Optional	Certificate revocation checking
Forum Sentry	CRL Distribution Point	TCP 80/443	Outbound	Optional	CRL retrieval
Forum Sentry	SMTP Server	TCP 25/465/587	Outbound	Optional	Email notifications