GateManager™ Virtual Server Installation and Operations Guide

This document describes how to install the Secomea GateManager Virtual Server based on a VMware Server system or a Microsoft 2008 Hyper-V Server.

The intended audience for this document is a system administrator with intermediate Linux skills and more or less knowledge about using virtual machines.

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- (4.1) Initial public released version.
- (4.2) Updated for RDM 4.2 release



1. Nice To Know Before Reading This Guide

1.1. System Overview

This guide describes how to install and run the Secomea GateManager Server on a VMware Virtual Machine or a Hyper-V server, hosted on an existing Windows or Linux system. The installation includes a pre-configured VMware or Hyper-V *disk image*, for running in the virtual machine. The disk image includes a ready-to-run CentOS Linux operating system and the GateManager installation files.

When you start the virtual machine, you use the *Linux Console* (command line shell) to perform the initial installation and setup tasks.

After that, you will use the *GateManager Console Application* (GateManager administrator interface), and the *GateManager WEB GUI* (server administrator interface) to complete the system configuration and perform day-to-day administrative tasks.

1.2. Soft Dongle (very IMPORTANT)

Soft Dongle or also called License Registration Key for your GateManager Server will be registered to the installation UUID (universally unique identifier generated by the virtual server system (VMware or Hyper-V) plus the public IP address(or DNS name) assigned to your GateManager.

This also means that you can not change the UUID or the public IP address (DNS name) without the need of a new License registration key from Secomea.

The License Registration Key will automatically be installed by the Secomea license server.

More about UUID and License Registration Key in chapter: 4.2.3 <u>Starting the</u> <u>Secomea GateManager Virtual</u> Image and <u>4.4.5 License Key Activation.</u>

1.3. Related Documents

The following guides are available from the Secomea partner website - www.secomea.com

GateManager Setup Guide

Next document to read is the GateManager Setup Guide. The document describes how to configure the GateManager Server.

GateManager Administrator

Second document to read is the GateManager Administrator's guide. The document describe in details the use of GateManager intended for GateManager Administrators.

Upgrade GateManager Server

This document describes how to upgrade your GateManager server to the latest release.

GateManager Console Installation Guide

The Console installation guide will guide you through the installation of the GateManager Console.



2. Network Configuration / Physical Server Location

The following recommendations should give the most painless implementation of the system. If the recommendations can not be accomplished, other scenarios can be possible. Contact <u>support@secomea.com</u> if necessary.

2.1. Simplified Set Up:

The GateManager set up can be simplified if the following is the case:

- GateManager Console is only used from the GateManager local network (use the local IP address of the GateManager Server).
- The Mail, DNS and NTP server is all internally accessible servers.





NAT Router / Corporate Firewall:

Destination NAT – The simplified set up can be limited to only opening one port from the Internet to the GateManager Server. All other ports must be blocked by the corporate firewall to prevent unauthorized use.

From	Outside(*)	to	Inside:	
TCP	443	>	11444(or 443)	(Appliance/LinkManager)
	2255 (**)	>	22	(Secomea Support)

** If in case there is need for Secomea Support you might still need to open a port for SSH connection.

Firewall – the following table list the ports that must be allowed from Linux System private IP address to the Internet:

From Inside to the internet:

TCP 443 (For GateManager audit and license activation)



2.2. Standard and Recommended Set Up:

In this guide, the following configuration is used.



Figure 2 Configuration example

Appliances connect to the GateManager Server public IP address on TCP port 443 (standard https/TLS), 80 (standard TLS over http) or 11444 (Secomea ACM/TLS).

The Corporate firewall / NAT router must be configured to forward connections to any of these ports to the GateManager Server private IP address on TCP port 11444.

NOTE

If a NAT router is not used, all 3 ports are forwarded to the same 3 ports on the GateManager Server. If this is the case make sure that Dynamic Connection Server is enabled – see chapter 10.10 <u>How to enable port 80, 443 and 11444 on GateManager</u>.

GateManager Consoles connect to the GateManager Server on TCP port 8443. The NAT router must be configured to forward connections to port 8443 on the GateManager Server. A Console may also use port 443, but that is already forwarded to port 11444 (or 443) according to the requirements above.

The "**Go to Appliance**" feature uses TCP port range 55000 through 59999. The NAT router must be configured to forward connections to these ports to the corresponding port on the GateManager Server. The installation script will allow you to select a different port range. Remember to configure the NAT router to forward to ports selected under installation if you do not use the default range.

DHCP Server - The Linux System is by default configured as DHCP Client. Both DNS and default gateway is assumed to be provided by the company DHCP server. The DHCP server must provide the Linux System with the same fixed private IP address that is used by the port forwarding rules in the NAT router

Public IP Address - A public accessible IP address must be assigned to the GateManager Server. As mentioned before it is recommended that a



Reverse-DNS record is assigned to this IP address. This will prevent most of the spam-filters/systems to block alert mails from the GateManager Server. Contact you ISP or IP address provider.

NAT Router / Corporate Firewall:

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IMPORTANT: The GateManager MUST be protected by an external Firewall. If the GateManager Server is directly attached to the Internet then the build in firewall must be enabled. This is not part of this document.

Destination NAT – The following ports must be forwarded/nat'ted from the public IP address to the Linux System private IP address. All other ports must be blocked by the corporate firewall to prevent unauthorized use.

From	Outside(*)	to	Inside:	
TCP	80	>	11444(or 80)	(Appliance)
	443	>	11444(or 443)	(Appliance/Console)
	11444	>	11444	(Appliance)
	8443	>	8443	(GateManager Console)
	55000-59999	>	55000-59999	(Go To Appliance)
	2255 (**)	>	22	(Secomea Support)

(*)Note: in case the GateManager Server will be accessed from inside the private network where it is located, the destination NAT rules must reflect that. This is the case if the GateManager Server and the GateManager Console/Appliance is on the same network.

** Any external port can be used for SSH instead of the default 22 – using a different external port such as 2255 increases overall security.

Firewall – the following table list the ports that must be allowed from Linux System private IP address to the Internet:

From Inside to the internet:

TCP 25		(SMTP/MAIL *)
21		(FTP traffic for system upgrade)
44	3/11444	(For GateManager audit and license activation)
TCP/UDP	53	(DNS *)
	123	(NTP *)

(*) If the GateManager Server is using internal Mail server, DNS server or NTP server – then these ports are not necessary to open.





3. GateManager Installation Check List

Before you start the actual installation, it is advised to fill the following table so you have the minimum information ready at hand, and prevents you from getting stuck during the installation.

GateManager Installation Data							
Information that Must be in- formed to Secomea	The public Identification that the GateManager can be reached on from the Internet and which Secomea should create the Software Dongle. Either a static IP address: Or a Fully Qualified Domain Name (FQDN), which has been publical- ly registered (ex. gm. <yourcompany>.com). During installation you need a hostname for the GateManager Serv-</yourcompany>						
Informa for	er. This must be a FQDN name but don't need to be public regis- tered. (ex. gm. <yourcompany>.local) Note: if you have no reference - a host name will be assigned by Se- comea.</yourcompany>						
	ceived back from Secomea a GateManager software activation key e publicly accessible IP or FQDN above.						
IP address o	of SMTP server if NOT using the one included with the Linux OS:	··					
NTP time se	ervers if NOT using the ones pre-configured in the Linux OS:	··					
Firewall hav Location.	e been opened ref. section 2 Network Configuration / Physical Server						



4. Installing GateManager Virtual Image

The following steps will guide you through the installation. The virtual image is pre-configured with the Linux System and GateManager Server installation and only need to be started and a few initial configuration tasks fulfilled.

The Installation Steps

Before you can start the installation we will briefly list the process for installing the GateManager Server on a Virtual Machine:

- Prepare the hosting computer by installing a VMware server or the Microsoft Hyper-V Server.
- Find the "Secomea GateManager License Registration (1 of 2)" email that you will have received from Secomea.
- Download the GateManager Virtual Image from Secomea.
- Start the virtual image and perform the configuration tasks.
- Ask Secomea Support to activate your GateManager Server.

4.1. Hyper-V Server

If you are about to install on a Hyper-V server you can step to section 4.3 Installing the Hyper-V Image.

4.2. Download the VMware Server

Before you can start, you will need to install the VMware Server software on the hosting computer. If you haven't already a VMware Player, VMware Server or VMware Workstation running you can download a VMware Server from:

- www.VMware.com/download/server
- Find the download server link and follow the installation instructions.

4.2.1. Download the GateManager Virtual Image

When you buy a GateManager license from Secomea A/S you will receive:

Secomea GateManager Virtual Image download link.

Download and unzip the image to the hosting computer and place it in a suitable folder. The image is approx. 1 GB.

If needed, this image can be provided on a DVD – please contact <u>sales@secomea.com</u>.

Note: If you are using VMware Server 2.x, you will have to place the image file in the "Virtual Machines" folder appointed by the VMware installation.

4.2.2. Secomea GateManager License Registration.

When you purchase a GateManager Server you will receive a registration mail called "Secomea GateManager License Registration". This mail will include the recommended host name that must be used during installation of the server.



4.2.3. Starting the Secomea GateManager Virtual Image

It is expected that the user has a minimum of knowledge related to the VMware Server application, but here is a simple description of how to start the virtual image downloaded in previous chapter. The following is based on using VMware Server version 1.x

- 1. Start the VMware Server application
- 2. Select the menu: File > Open
- 3. Select the file with extension .vmx and press OPEN.
- 4. Start the virtual machine.

GateManager - Virtual Machine					
2	The location of this virtual machine's configuration file has changed since it was last powered on.				
	If the virtual machine has been copied, you should create a new unique identifier (UUID). If it has been moved, you should keep its old identifier.				
	If you are not sure, create a new identifier.				
	What do you want to do?				
	⊙ Create				
	ОКеер				
	O Always Create				
	🔿 Always Keep				
	OK Cancel				

Figure 3 – New image started (VMware Server/Workstation)

5. Select Create

GateMar	nager - VMware Player	\mathbf{X}
2	This virtual machine may have been moved or copied. In order to configure certain management and networking features, VMware Player needs to know if you moved this virtual machine or if you copied it. If you don't know, answer "I copied it". I moved it I copied it	
	OK Cancel	

Figure 4 – New image started (VMware Player)

- 6. Select "I moved it"
- 7. Press OK
- 8. The GateManager virtual image is starting and you are ready to continue to chapter 4.4 Configuring the GateManager for the First Time.



4.3. Installing the Hyper-V Image

Installing and configuring the Hyper-V server itself is not covered by this guide. See your Microsoft Windows documentation.

The following part is based on the Windows 2008R2 build in Hyper-V server.

4.3.1. Download the GateManager Virtual Image

When you buy a GateManager license from Secomea A/S you will receive:

Secomea GateManager Virtual Image download link.

Download and unzip the image to the hosting computer and place it in a suitable folder. The image is approx. 1 GB.

If needed, this image can be provided on a DVD – please contact sales@secomea.com.

4.3.2. Secomea GateManager License Registration.

When you purchase a GateManager Server you will receive a registration mail called "Secomea GateManager License Registration". This mail will include a recommended host name that must be used during installation of the server.

4.3.3. Starting the Secomea GateManager Virtual Image

It is expected that the user has a minimum of knowledge related to working with Microsoft Hyper-V server, but here is a simple description of how to start the virtual image downloaded in previous chapter.

1. Unzip the Secomea GateManager Virtual image in a suitable folder

ctract Compressed (Zipped) Folders	
🔢 Extract Compressed (Zipped) Folders	
Select a Destination and Extract Files	
Files will be extracted to this folder:	
C:\VirtualMachines\GM	Browse

Figure 5 – Unzipping the GateManager virtual Image

- 2. In this example the files are unzipped in the folder shown above.
- 3. Press Extract
- 4. Start the Microsoft Hyper-V Manager





Figure 6 – Importing the Virtual Machine

5. Import the unzipped Secomea GateManager Vitual Image

Import Virtual Machine	×
Specify the location of the folder that contains the virtual machine files. Location: C:\VirtualMachines\GM\GateManager\	Browse
Settings Import settings: Move or restore the virtual machine (use the existing unique ID) Copy the virtual machine (create a new unique ID) Duplicate all files so the same virtual machine can be imported again Image: The same virtual machine cannot be imported again if you do not copy the files have backed them up to another location first.	s unless you
Import	Cancel

Figure 7 – Importing the Virtual Machine

- 6. Select "Copy the virtual machine"
- 7. Press Import





Hyper-V Manager						
File Action View Window	Help					_[8]
♦ ♦ 2 0 0 0						
Hyper-V Manager	Virtual Machines			201	4115	Actions SECOMEA-HYPER-V
	Name * GateManager	Off	CPU Usage	Memory	Uptime	New
		_				Hyper-V Settings
						Virtual Network Manager
						Inspect Disk

Figure 8 – GateManager image is imported to the Hyper-V server

8. The Virtual image is ready to be started.

📑 Hyper-V Manager	S		
SECOMEA-HYPER-V	Virtual Machin	nes	
	Name 🔺		Right click
	GateManag	Connect	
		Settings	
	1	Start	
		Snapshot	
		Export	
		Rename	
		Delete	
	•	Help	
	Snapshots		

Figure 9 – Start the GateManager Virtual Server

9. Right click on GateManager and select Start

teManager				
	Created:	09-06-2010 17:52:53	Heartbeat:	No Contact
	Notes:	None	Memory Usage:	2049 MR

Figure 10 – Launching the GateManager Server Console

10. Double-Click on the GateManager icon to activate the GateManager Server Console.and you are ready to continue to chapter: 4.4 Configuring the GateManager for the First Time.

4.4. Configuring the GateManager for the First Time

When the GateManager Server Linux System is started for the first time a few pre-configuration tasks will be performed.

4.4.1. Log on





Figure 11 – GateManager Linux System login screen

Default Linux login is:

- > Username = root
- > Password = root1234

4.4.2. GateManager Server Name

A GateManager Server host name must be assigned. This is important in relation to the enrollment on the license server hosted by Secomea A/S.

```
骨 GateManager
CentOS release 5.4 (Final)
Kernel 2.6.18-164.el5 on an i686
localhost login: root
Password:
Last login: Mon Feb 22 10:39:29 on tty1
Welcome to GateManager Virtual Machine installation
First: you must set a host name for your server
- preferably to the public DNS name assigned to the server,
  such as gm.<company-name>.com
Next: GateManager installation program will start
- if you need to rerun the installation you find it in
 /usr/local/ins/<version>/install.sh
Finally: your installation need to be activated by Secomea A/S
 contact www.secomea.com - you need to report the
  configured host name according to <First> step.
New hostname:
```

Figure 12 – Linux System first time start screen

When you login to the Linux System for the first time, the GateManager Installer will be started automatically, and you will be prompted with the welcome text shown above.

- Type in the GateManager Server hostname according to the Registration mail from Secomea – see 4.2.2 <u>Secomea GateManager License Registration</u>. Example: gm.companyXYZ.com or gm.corporate-domain.com
- 2. Press ENTER to continue.



Figure 13 – GateManager Installer first screen

3. Press ENTER to accept default location.

[input] This version of GM backend has already installed. Do you want to rec onfigure GM backend?(y,n)

Figure 14 – GateManager Installer reconfiguration screen

4. Press Y and ENTER to reconfigure the pre-installed GateManager

4.4.3. Complete the configuration

- Follow the installation script and provide appropriate values for the parameters when asked:
 - a.Directory for installing the GateManager backend
 (10 GB free space required)(default:
 /usr/local/gatemanager)

This parameter specifies the location where the GateManager server is installed. Unless the installation for some reason has been moved don't change it.

b. SMTP server address for e-mail notifications from the GM Server (default: localhost)

The GateManager needs an SMTP server for sending notifications and certificates to the GateManager users. As default the installation will use the local *sendmail server* this parameter is set to <code>localhost</code>.

If in case an external mail server is required this parameter should point to a running SMTP server. See also 5.3.3 SMTP server (IM-PORTANT).

c.GM Server hostname sent (in HELO packet) to SMTP Server (default: localhost)

Some SMTP servers require (for SPAM filtering) that the SMTP HELO message header includes a valid DNS name. This parameter specifies the DNS name included in the HELO header.

d.E-mail address for notifications sent from the GM
 Server (default: gm@gatemanager.dk)

The "From" field for all emails originating from GateManager will contain the value specified here.

Note:

The address will typically be gatemanager@<your_corporate_domain>. Some SMTP servers may be configured to block mail relaying for clients that do not have a registered email account on the mail server. If this is the case contact the administrator of the SMTP server to create the mail account or to open for relay. Alternatively consider using a different SMTP server for this purpose.

e. Amount of RAM to allocate to GateManager Server. Recommended 75% of the available RAM. Minimum 512M (default: 1500)



f.Public IP address or DNS name for "Go to Appliance" from GM Console

Specify the public IP address or DNS name assigned to the GateManager Server.

g.Port range for "Go To Appliance" from GM Console (default: 55000-59999)

The GateManager will use a port within the range specified when the user invokes "Go to Appliance" functionality. This difference between minimum and maximum values must be at least 5.

h. Enable relay services (default: yes)

Only change this option if you know your are not going to use Relay Services.

The configuration of the GateManager Server is complete.

After the installation has completed the system will ask to reboot



Figure 15 – GateManager Installer final screen

1. Press Y and ENTER to reboot and activate the settings

4.4.4. Post installation

When the system has rebooted you should login to the Linux System and change the root password.

```
login as: root
root@172.16.15.102's password:
Last login: Tue Feb 9 10:14:29 2010 from snmptrap.server.rdm.dk
[root@gm ~]#
```

Figure 16 – GateManager change password screen

The screen will show that the hostname has changed. In this example, the name was changed to *gm.secomea.com* and therefore the prompt will show the "gm" part of the host name.

1. Change the ROOT password

[root@gm ~]# passwd

Figure 17 – GateManager change password screen

Linux command:

> passwd and press ENTER



[root@gm ~]# passwd Changing password for user root. New UNIX password: Retype new UNIX password: passwd: all authentication tokens updated successfully. [root@gm ~]#

Figure 18 – GateManager change password screen

2. Follow the instructions on the screen.

For security, it is recommended that the password consists of at least 10 characters including numbers and letters.

The GateManager Server should now be installed and is ready to get a License Key from Secomea.

3. Continue to the next section.

4.4.5. License Key Activation

When a GateManager Server has been installed for the first time it will need a GateManager License Key installed by Secomea A/S.

Note: This procedure might change in later version, so keep updated.

You only have to send a mail or call Secomea Support and inform that the server is ready to be activated.

1. Send a mail to:

support@secomea.com with the text

"GateManager Activation request: GateManager Host Name(*)"

or call

+45 8870 8650

(*) The GateManager Host Name is the chosen host name from the Secomea GateManager License Document. In case it has been necessary to choose a different host name, this must be included in the mail. Refer to chapter <u>4.4.2 GateManager Server Name</u>.

4.4.6. GateManager Server is Ready

Until the GateManager Server has a License key installed, it will not be operational.

You will receive a mail from Secomea when your GateManager installation has been activated.

To see if GateManager Server is ready, refer to chapter: 10.2 <u>How to</u> monitor the GateManager Server ready state.

The GateManager Server should now be ready and you can continue with the next section.

4.5. Attach the GateManager Server Agent

It is not necessary to attach the GateManager Server Agent to use GateManager, but it is recommended to do so to gain full functionality.

About the GateManager Server Agent

This Agent is your connection to the GateMananger Administrator WEB GUI. You will use that for installing LinkManager floating license keys or if you



need to customize server specific settings. These settings are not covered in this guide.

GateManager Console

You can download the GateManager Console from the Secomea website. Here you also find the Console installation guide. See <u>www.secomea.com</u> partner login. You must have the GateManager Console installed on your administrator PC before you can continue.

Activating the GateManager Server Agent

The GateManager Server Agent is activated by performing an "Attach to domain" as follows:

1. Start the GateManager Console and select logon

🕀 🖃 🗋 🔶 🔶	Connection name:	gm.secomea	
Million a Rati St		Host:	Port:
No.a 12 Postalación	Primary:	130.226.210.162	8443
ma an state de la	Secondary:	6	8443
	🗌 🗌 Use a proxy ser	ver	
078120 01551-512-110	Server:	Port:	
(in a)	88		
化化化素乙基医疗率	User ID:	Password:	
1111033			
111111111			
118			
m.secomea	▲ 31		

Figure 19 – GateManager Console Setup screen

2. Select the Setup menu (button) and modify the GateManager Address

The GateManager Address must be the public IP address assigned to the GateManager project or the private IP address of the GateManager server in case you are connected locally.

To identify the private IP address assigned to the GateManager Linux System use:

Linux Command:

> ip addres	s
Login	
Authentication method	X.509 Certificate 🔹
Connection to server	gm.secomea (https://130.226.210.16 🔻
Certificate	C:\admin.gmc
Password	****
Setup	Connect Cancel



Figure 20 – GateManager Console Login

- 3. The default Owner certificate is the admin.gmc certificate that is included in the GateManager Virtual image zip file.
- 4. Press Connect

🔋 gm.secomea - admin - Gate	eManage	r 4.1		
Session View Appliances Alerts	Profiles	A <u>c</u> counts	<u>D</u> omains	Eirmwar
Appliances View	A P	📑 🖓 🕞 🕞	teManage	er-Secon
🔁 📫 🖬 🔎 📌 🗳 🥏		Details	Configur	ation Prof
		4		
Domain#1	1			
📃 🦳 🏅 GateManager-Secomea	λ A/S@(Genera	Section —	
Go to Appliance				
	Comman	d		
	Attach A	lert Rule(s)		
	Attach Pi	rofile(s) to	Appliance(s	;)
	Detach P	rofile(s) fro	m Appliance	e(s)
	Attach/M	love Appliar	ice to Doma	ain
	Delete Aj	ppliance(s)		
	Replace.			

Figure 21 – GateManager Server Agent is not attached yet

The GateManager Server agent is not activated; this is indicated by the red question mark ($\ref{eq:server}$).

- 5. Right click on the GateManager Server Agent
- 6. Select Attach/Move Appliance to Domain
- 7. Press Finish button.



Figure 22 – GateManager Server Agent is attached to ROOT domain



The GateManager Server Agent is now ready to be used.

4.5.1. Change the GateManager WEB GUI password

Final step is to set a secure password for the GateManager Server WEB GUI access. Even though it is only the GateManager Console user with access to the GateManager Server Agent that can launch the GateManager Server WEB GUI – it is always important to change a default password.

1. Right click on the GateManager Agent



Figure 23 – GateManager WEB GUI

2. Select Go to Appliance and launch the http service



Figure 24 – GateManager WEB GUI

3. Type in the User name (admin) and Password (default: admin)







Figure 25 – GateManager WEB GUI

4. Press the EDIT button and change the password.

Congratulation you have completed the first step of installing the GateManager Virtual Server and made the first initial configuration.

Now it is time to continue to the next step. Domains must be created, user accounts configured, alert rules created, and other high-level administrative tasks - such as uploading firmware which users can push to appliance. All this is explained in the document:

GateManager Setup Guide.

This guide continues with some nice-to-know information.



5. APPENDIX A, Deployment Requirement Details

5.1. GateManager Virtual Machine Disk Image specification

Secomea GateManager VMware or Hyper-V Virtual Image.

Note: We use the term **GateManager Virtual Image** as a shorthand for the GateManager Virtual Machine Disk Image.

5.1.1. Virtual Machine Guest OS: CentOS Linux

The virtual machine is running CentOS Linux version 5.4.

If necessary it can be downloaded from:

http://isoredirect.centos.org/centos/5/isos/i386/

Note: We simply use the term **Linux System** to refer to the GateManager Virtual Machine Guest OS.

5.1.2. Standard services:

SMTP mail relay, NTP client, DHCP Client, SSH Server

5.2. Hosting Computer Requirements

5.2.1. Hardware

Disk allocation:

Dynamic expansion, up to 16 GByte

Memory:

- Minimum 1 GB RAM (for 500 appliances)
- Allocate 2 GB for server with 5000 appliances

5.2.2. Software

VMware Server

The GateManager virtual image will run on either VMware Player, VMware Server 1.x/2.x or VMware Workstation but it is recommended to use VMware Server.

Download the VMware server from:

www.VMware.com/download/server

5.3. Networking Requirements

5.3.1. Firewall/NAT router

For security reasons it is advised to place the GateManager Server in a DMZ behind a firewall.

5.3.2. GateManager Server IP address and host name

The GateManager requires that the Linux System has a dedicated public IP address, and preferably an associated FQDN (Full Qualified Domain Name), such as demo.gatemanager.dk. If located behind a NAT router/firewall, it also needs a fixed private IP address with suitable port-forwarding rules from the public IP address.



Refer to section <u>2</u> <u>Network Configuration</u> for detailed info about the network setup.

5.3.3. SMTP server (IMPORTANT)

The GateManager needs a SMTP server (mail server or mail forwarder) to be able to send alert notifications, and to issue certificates. The FQDN or IP address of the SMTP server must be specified during GateManager installation. The following options exist:

- 1. Use an external SMTP server (Internally or hosted by you ISP)
- 2. Use the pre-configured local sendmail server included in the Linux System.

To prevent the mail from the local sendmail server to be registered as spam-mail you will have to make sure that the public IP address - that has been assigned to the Linux System - has a reverse-DNS name appended (rDNS).

Refer to section <u>10.4</u> <u>How to verify SMTP server</u> for details on verifying outgoing mail access.

5.3.4. NTP Server

To ensure proper operation of scheduled commands, date and time on the server should be accurate. Hence the server should periodically synchronize its time with an external NTP time server.

The Linux System is pre-configured with certain NTP servers and should need no additional work.

For more info on the preconfigured time servers and how to verify, refer to section 10.5 How to configure NTP (time synchronization).

5.3.5. Bandwidth Requirements

The GateManager will at its maximum configuration of 5000 connected appliances consume an average bandwidth of approximately 128Kbit/s. This is based on the default heartbeat interval of 30 minutes, and normal administrative console access.

Intensive console use and/or frequent appliance backups will increase the bandwidth need.

Additionally, bulk firmware and profile distributions will generate peak loads that may affect the effective processing of heartbeats if bandwidth is constrained.

5.4. GateManager Console

Besides the GateManager Server software, you also need the GateManager Console application which is used by administrative users of a GateManager installation.

Installing the GateManager Console for the first time involves simply running the Console installer program. The Console can be downloaded from the Secomea website. Once a GateManager Console is installed on a machine and configured, the GateManager will automatically update the Console with every backend update

The Server Setup Guide explains how to use the Console to create the first users and give them credentials; the Administrator's Guide describes how to use the Console for daily administration of appliances and users.

System requirements for running the GateManager Console



- Computer: Any suitable computer running Windows 32 or 64 bit operation system. GateManager Console comes with its own Java[™] 2 Runtime Environment (J2RE).
- RAM: utilize approximately 128MB (256MB recommended free memory)



6. APPENDIX B, GateManager Re-configuration

Re-configuring the GateManager Server can be necessary if a new public IP address has been assigned or a new SMTP server has been assigned to the project.

If the "first time" installation process got interrupted you will also need to run the re-configuration.

To perform a re-configuration you will run the installation script. The script is by default located in the install folder (/usr/local/ins). If in case the GateManager has been upgraded, this location might be different.

Do NOT attempt to edit the configuration files of the GateManager manually, but always run the installation script, and have that do the changes.

6.1. Before Re-configuring GateManager

Before the GateManager can be re-configured you will have to stop the server.

- 1. Stop the GateManager Server.
 - > service gatemanager stop
- 2. Start the installation script

```
> cd /usr/local/ins/4.2.10205.207 (*)
```

> ./install.sh

(*) the number 4.2.10205.207 represents the actual installed version. If the server has been upgraded you must locate the actual version number.

- 3. Follow the steps described in chapter GateManager installation steps
- 4. Re-start the GateManager server

> service gatemanager start

6.2. GateManager Installation Steps

1. Follow the installation script and provide appropriate values for the parameters when asked:

```
a.Directory for installing the GateManager backend
  (10 GB free space required)(default:
    /usr/local/gatemanager)
```

This parameter specifies the location where the GateManager server is installed. Unless the installation for some reason has been moved don't change it.

b. SMTP server address for e-mail notifications from the GM Server (default: localhost)

The GateManager needs an SMTP server for sending notifications and certificates to the GateManager users. As default the installation will use the local *sendmail server* this parameter is set to localhost.

If in case an external mail server is required this parameter should point to a running SMTP server. See also 5.3.3 SMTP server (IM-PORTANT).

c.GM Server hostname sent (in HELO packet) to SMTP Server (default: localhost)



Some SMTP servers require (for SPAM filtering) that the SMTP HELO message header includes a valid DNS name. This parameter specifies the DNS name included in the HELO header.

d.E-mail address for notifications sent from the GM
 Server (default: gm@gatemanager.dk)

The "From" field for all emails originating from GateManager will contain the value specified here.

Note:

The address will typically be gatemanager@<your_corporate_domain>. Some SMTP servers may be configured to block mail relaying for clients that do not have a registered email account on the mail server. If this is the case contact the administrator of the SMTP server to create the mail account or to open for relay. Alternatively consider using a different SMTP server for this purpose.

- e. Amount of RAM to allocate to GateManager Server. Recommended 75% of the available RAM. Minimum 512M (default: 1500)
- f.Public IP address or DNS name for "Go to Appliance" from GM Console

Specify the public IP address or DNS name assigned to the GateManager Server.

g.Port range for "Go To Appliance" from GM Console (default: 55000-59999)

The GateManager will use a port within the range specified when the user invokes "Go to Appliance" functionality. This difference between minimum and maximum values must be at least 5.

h. Enable relay services (default: yes)

Only change this option if you know your are not going to use Relay Services.

The re-configuration of the GateManager Server is complete.



7. APPENDIX C, GateManager Upgrade

7.1. Upgrading GateManager Server

Secomea continuously release updated application notes that in details describe the steps to take in upgrading the current GateManager to the latest released version.

Search the Secomea website (<u>www.secomea.com</u>) for the application note:

Upgrading_GateManager_Server_X.X.pdf



8. APPENDIX D, Starting, Stopping and Getting Status

There are two different ways to get status information about the GateManager and carry out selected commands.

- Use Linux System commands directly on the GateManager virtual machine, as shown in this guide.
- Use the GateManager Console (as described in the Server Setup Guide and the Administrator's Guide). Not all tasks can be performed using the GateManager Console.

8.1. Before Starting the GateManager Server

IMPORTANT

Before starting the GateManager Server, it will need a valid GateManager License Key installed (also called a Soft Dongle).

If the license Key is not present, the GateManager Server will stop working 15 minutes after start up.

8.2. GateManager Server Service Commands

Linux commands

Start the GateManager Backend (both Server and Proxy):

> service gatemanager start

Stop the GateManager Backend (both Server and Proxy):

> service gatemanager stop

Restart the GateManager Backend (both Server and Proxy):

> service gatemanager restart

Get status of the GateManager Backend (both Server and Proxy):

> service gatemanager status

Get configuration of the GateManager Backend (both Server and Proxy):

> service gatemanager config

8.3. Stopping the GateManager Virtual Machine

Before you stop or down the GateManager Virtual machine you should first stop the GateManager server and next halt the Linux OS.

Linux commands

Stop the GateManager Server:

> service gatemanager stop

Stop the Linux System:

> halt

The virtual machine is now ready to be stopped if is doesn't stop by it self (depending of the virtual server system).



9. APPENDIX E, Backup and Restore and Fail-over

9.1. Backup and Restore

Backup and restoring the GateManager Server based on the virtual host system (VMware or Hyper-V) is not covered in this guide..

The backup and restore strategy based on GateManager's own backup script is distributed in a separate Application Note:

"GateManager Backup and Restore strategy"

9.2. Restoring

If you are about to restart a backup copy of you GateManager image it will be important that you don't create a new unique identifier (UUID) during start up.

Creating a new UUID will require that your GateManager get reactivated by Secomea according to chapter: 4.4.5 <u>License Key Activation.</u>

During startup of the GateManager virtual image you must select KEEP as shown on figure below:

GateMar	nager - Virtual Machine 🛛 🔀
2	The location of this virtual machine's configuration file has changed since it was last powered on.
	If the virtual machine has been copied, you should create a new unique identifier (UUID). If it has been moved, you should keep its old identifier.
	If you are not sure, create a new identifier.
	What do you want to do?
	 Create Keep Always Create Always Keep
	OK Cancel

Figure 26 – Starting a backup copy using VMware select Keep

During startup of the backup copy and selecting KEEP will maintain the GateManager Server License Key intact.





Figure 27 – Starting a backup copy using VMware Player select I copied it.

If you are using a VMware Player you must select the "I copied it" option to keep the GateManager Server License Key intact.

ation	: C:\VirtualMachines\GM\GateManager\ Browse
Setting	js
Impo	rt settings:
• N	Nove or restore the virtual machine (use the existing unique ID)
0 0	Copy the virtual machine (create a new unique ID)
	Duplicate all files so the same virtual machine can be imported again
0	The same virtual machine cannot be imported again if you do not copy the files unless you

Figure 28 – Starting a backup copy using Hyper-V select - Move

If you are using Hyper-V Server you must select the Move option ot keep the GateManager Server License Key intact.

9.3. Fail-over Strategy

To minimize down time of the GateManager, a failover strategy should be planed. Fail-over strategy is not covered in this document.

A fail-over strategy should be handled by the virtual server system.

The Fail-over strategy based on GateManager's own scrip is distributed in a separate Application Note:

> "GateManager Backup and Restore strategy"



10. APPENDIX F, FAQ and Nice to Know

10.1. Change the Host Name

During first time configuration of the GateManager Server virtual image a specific host name is configured. In case this host name need to be reconfigured this is the procedure:

Linux Commands:

- > sethostname "new.host.name"
- > reboot

To make sure that the host name has been changed it is recommended that the system is rebooted as shown above.

10.2. How to Monitor the GateManager Server Ready State.

Linux Command:

> service gatemanager status	
[root@gm ∕]# service gatemanager status ***GateManager Status*** GateManager Proxy Status	
Proxy's master process ID: 3378	
Proxy version: 4.1.1	4
Connected to the Server:	No
Number of devices connected: 1	
Connected to Local GateManager at 172	.16.15.91 (acm)
Connected to Audit GateManager at 130	.226.210.164 (acm)
Proxy started at: 2010-	
GateManager Server Status	
Server's process ID: 3396	
-	02-24 14:21
[root@gm /]# ~_	

Figure 29 – GateManager Server not ready

Connected to the Server: No - indicate that the GateManager Server is not yet ready.

[root@gm gatemanager]# service gatemanager status
GateManager Status
GateManager Proxy Status
Proxy's master process ID: 2527
Proxy version: 4.1.14
Connected to the Server: Yes
Number of devices connected: 1
Connected to Local GateManager at 172.16.15.91 (acm)
Connected to Audit GateManager at 130.226.210.164 (acm)
Proxy started at: 2010-02-24 14:11
GateManager Server Status
Server's process ID: 2541
Server started at: 2010-02-24 14:11
[root@gm gatemanager]# _

Figure 30 – GateManager Server is ready

Connected to the Server: Yes - indicate that the GateManager Server is ready.



10.3. Does the Linux System Have a GUI

Yes the GateManager Virtual image is using CentOS Linux that includes a GNOME graphical user interface. If in case you are familiar with GNOME or similar Linux GUI's you probably can find good advantage of this interface if you need to change or reconfigure the Linux OS.

To start the GUI

Linux Command:

> startx

Note - that the graphical user interface takes up quite a lot of memory and it is recommended to logoff the GUI when no longer needed.

Various error messages might be shown during start and stopping the GNOME interface. This is to be seen as informational info and should not harm the functionality.

10.4. How to Verify SMTP Server Access

The GateManager can be configured by one of the following two methods:

1. Using an external SMTP server (Internally or hosted by your ISP)

During the installation you have specified the SMTP servers FQDN or IP address.

You can check if the GateManager server can access the mail server by making a telnet on port 25 to the SMTP server, from within the GateManager server. If it responds like this, it would be OK:

```
[root@gm ~]# telnet 172.16.14.12 25
Trying 172.16.14.12...
Connected to 172.16.14.12 (172.16.14.12).
Escape character is '^]'.
220 mail.secomea.com ESMTP Exim 4.63 Fri, 04 Jun 2010 15:15:37
```

2. Using the pre-configured local send-mail server included in the Linux System.

During the installation you have specified "localhost" as GateManager SMTP server. This is the default choice.

To prevent the mail from the local send-mail server to be registered as spam-mail you will have to make sure that the public IP address - that has been assigned to the Linux System - has a reverse-DNS name appended (rDNS). You can check it by opening a command prompt and ping the public IP address, though which the mail would leave the GateManager server:



10.5. How to Configure NTP (time synchronization)

Time synchronization is by default enabled in the GateManager virtual Machine image. You can verify if there are access to the publically placed servers by stopping and starting the NTP daemon:





The default time servers are as follows:

0.pool.ntp.org

1.pool.ntp.org

2.pool.ntp.org

Changing the default setting can be done by editing the ntp.conf text file:

Linux Commands:

> vi /etc/ntp.conf

Refer to section 10.6 for editing text files in Linux.

10.6. How to Edit Text Files in Linux

Edit files using the vi editor.

For example, to start editing the run.conf file use the following command:

> vi /usr/local/gatemanager/jboss/bin/run.conf

Commands:

i	enter insert mode
<esc></esc>	exit insert mode
ZZ	save and exit (note : use upper case ZZ)

10.7. Customize Mail Templates

It is possible to customize the content of the emails sent to the users when account certificates are created, renewed or about to expire.

The templates are located at:

/usr/local/gatemanager/templates/

certificate-mail.txt.template

expired-certificate-mail.txt.template

To make your own editions of the mail template do the following:

Copy the template:

> cd /usr/local/gatemanager/templates/

> cp certificate-mail.txt.template certificate-mail.txt

Edit the mail text and make your changes:

> vi certificate-mail.txt

Hint! press 'i' in the "vi" editor to enter insert mode.

press <ESC>ZZ to save and exit the "vi" editor. That's all you need to know.

10.8. How to Change RAM Allocated to the GateManager Server

To change the amount of RAM allocated to the Server reconfigure the GateManager Server (see How to reconfigure the GateManager Server on page 34).



10.9. How to Re-configure the GateManager Server

To change parameters values specified during GateManager installation:

- 1. Run the install.sh script as described in GateManager on page 22.
- 2. Provide new values for the parameters when asked.
- 3. When done, restart the GateManager.

10.10. How to Enable Port 80, 443 and 11444 on GateManager

If there is no NAT router between the Internet and the GateManager Server, enable port 80 and 443 on the GateManager Server

Using the GateManager WEB GUI

- 1. Launch the GateManager WEB GUI
- 2. Locate the Proxy conf button:

👷 Favorites 🛛 🍘 GateManager Administrator Login	
GateManager [™]	secomea
GateManager Server Administration	
Status Users Domains Admin conf Proxy conf Relay conf Routes Licenses Logo	ff
Edit Proxy Settings	
ap_ports=80,443,11444	~

Figure 31 – GateManager Server WEB GUI

3. If not already there, type in the value: ap_ports=80,443,11444 (no spaces).

Restart j	proxy	J		
Status	Save	Show All	Cancel	

Figure 32 – GateManager Server WEB GUI

4. Select the reboot option and press SAVE button.

Using the Linux commandline on the GateManager Server:

- 1. Type:
 - > vi /usr/local/gatemanager/proxy/proxy.conf

If the file does not exist, it will be created.

Open the configuration file for editing by

- 2. type i to enter insert mode.
- 3. Enter the line
- 4. ap_ports=80,443,11444
- 5. Press ESC
- 6. Save and exit by pressing <shift> + ZZ
- 7. Restart the GateManager Proxy to make the changes take effect.



10.11. How to Transfer Your Backup using FTP

The following example shows the Linux commands to use if you want to copy a backup file from the GateManager backend to an FTP server:

```
>ftp <ip-address of the ftp server>
Name (...): <login name>
...
Password: <login password>
...
ftp> binary
ftp> put /usr/local/gatemanager-3.5.tar.gz
150 . . . /gatemanager-3.5.tar.gz
ftp> quit
```

10.12. What Should I do if Installation Fails?

If the GateManager installation fails, remove the installed GateManager completely and install it from scratch.

To remove GateManager completely use the following command:

> rm -rf /usr/local/gatemanager

10.13. Where can Information be found about GateManager Server Problems?

Log files are located at:

```
/usr/local/gatemanager/jboss/server/default/log/
```

boot.log, gmserver.log, server.log, proxy.log

and

/var/log/messages

10.14. Linux for Dummies

If in case you are not a Linux geek you may want to try the built-in Midnight Commander (Norton Commander lookalike). From here you can browse edit and search files on the GateManager Linux console in a more understandable way (some users say [©])

10.14.1. Midtnight Commander

Linux Commands:

> mc



Left File	Comma	nd Options	Right		
<-/usr/local/in:	s	v>	<-/usr/local		
Name	Size	MTime	Name	Size	MTime
1	UPDIR		Z	UPDIR	
/4.1.0.206			/bin	4096	
/utils		Feb 10 18:06	∕etc	4096	
GM_Back [~] .tar.g:			/games	4096	
gm_4.1.~.tar.g	z 140470K	Feb 10 18:00	∕gatemanager	4096	
			∕include	4096	
			∕ins		Feb 10 18:05
			∕lib	4096	
			✓libexec	4096 4096	
			∕sbin		Dec 29 17:11
			∕share	4096	
			/src	4000	riar 5 2005
		l I			I.
,			∕gatemanager		
	9027M	(76%) of 126-	ya cemanayer.	9027M	(76%) of 126
int: Are some of			? Look at Options,		
root@gm local]#	gour kei	JS HOC WOLKING	. LOOK at options,	Learn Ke	ys.

Figure 33 – Midnight Commander screen

IMPORTANT! Be aware that from this tool you can easily delete the entire system including GateManager and Linux operation system. Use with care.

10.14.2. WinSCP or another SSH client

Another nice-to-have tool is a tool to transfer files easily between your PC and the Linux System / GateManager Server. WinSCP is one such tool using an SSH/SFTP connection to the Linux System.

The login is the linux root account: User name "root" and password is the one you specified in chapter 4.4.4 Post installation.

See: http://winscp.net/



11. Notices

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Secomea A/S Denmark

CVR No. DK 31 36 60 38

E-mail: <u>sales@secomea.com</u>

