

# GateManager™ 5 Server model 9250 Installation STEP 1 for the IT department



This document describes how to install the Secomea GateManager Virtual Image. Supported hypervisor is VMware Player5, Win2008R2/2012-Hyper-V and VMware ESXi5.

The intended audience for this document is an IT administrator with intermediate Linux skills and knowledge about using virtual machines and TCP networking.

**Version: 2.0, 2013**

---

# Table of Contents

<b>1. Prerequisites for Installing According to this Guide</b>	<b>3</b>
1.1. Related Documents	3
<b>2. Prepare Network Configuration / Physical Server Location</b>	<b>4</b>
2.1. The principle of the solution (what ports are used for)	4
2.2. Configuring your Corporate Firewall	5
2.2.1. From Outside (*) to Inside:	5
2.2.2. From Inside to the Internet:	5
<b>3. Fill in GateManager Installation Check List</b>	<b>6</b>
<b>4. Install GateManager Virtual Image</b>	<b>7</b>
4.1. GateManager 5 Server - VMware Player image	8
4.1.1. Download and install VMware	8
4.1.2. Download and install the GateManager VM	8
4.1.3. Start the Secomea GateManager Virtual Image	8
4.2. GateManager 5 Server - Hyper-V Image	9
4.2.1. Download and install Hyper-V	9
4.2.2. Download and install the GateManager VM	9
4.2.3. Starting the Secomea GateManager Virtual Image	9
4.3. GateManager 5 Server – ESXi image	12
4.3.1. Download and install the GateManager VM	12
4.3.2. Starting the GateManager Virtual Machine	12
<b>5. Preserving the GateManager Licenses</b>	<b>17</b>
<b>6. Local IP address of the GateManager</b>	<b>18</b>
<b>7. Verify Installation</b>	<b>20</b>
<b>8. Post Installation Tasks</b>	<b>21</b>
8.1. Inform the appointed GateManager Administrator	21
8.2. Coordinate Backup of the Server	21
<b>APPENDIX A, Backup and Restore</b>	<b>22</b>
Virtual Image backup (one time event)	22
Virtual Image Restore	22
VMWare Server 1.x	22
VMWare Player 4.x/5.x	22
VMWare ESXi Server:	23
Hyper-V Server:	23
Data backup (daily/weekly backup)	23
Data restore (from the daily/weekly backup)	23
<b>Notices</b>	<b>24</b>

---

# 1. Prerequisites for Installing According to this Guide

This guide will assist you to plan for, and successfully complete the installation of a Virtual Image containing preinstalled GateManager 5 server software.

Prerequisites for a fully functional install of the GateManager according to this guide are:

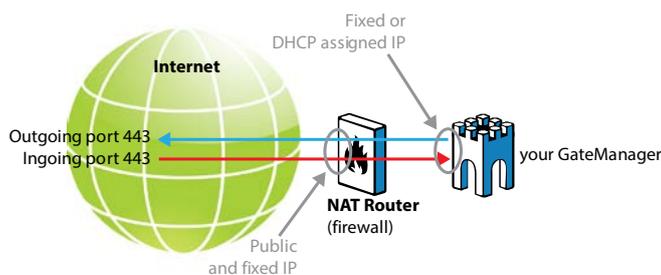
- You have downloaded a virtual image from Secomea as either VMWare, ESXi or HyperV according to your chosen server platform.
- You have the ability/authority to allocate a public Internet address for the GateManager.
- You have the ability/authority to adjust open necessary ports in your Internet firewall to direct traffic to and from the server.
- You have access to a physical Workstation or Server, or a virtualized Server on which you have full administrator rights to install the image.
- 32 GB dynamic storage available for the image, and you have 1-2GB RAM allocated for the image.
- The Internet bandwidth available for the GateManager must be at least 128Kb/s.
- You have the ability/authority to allow relaying of E-mails generated by the GateManager. (In worst case, you can relay via e.g. a Gmail account).

## 1.1. Related Documents

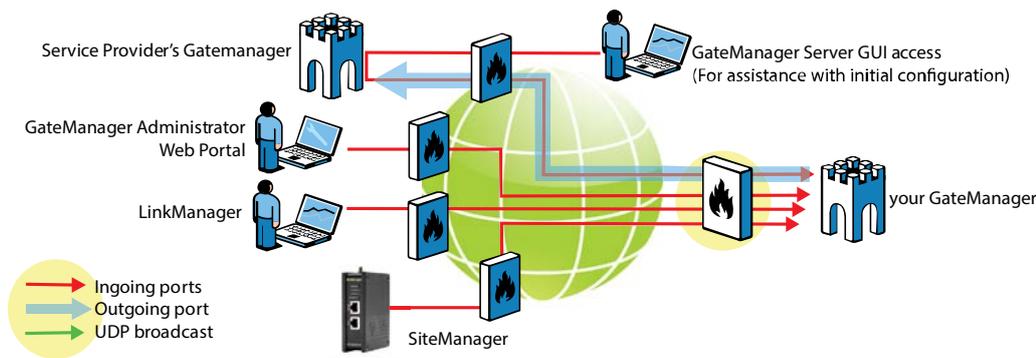
The following guides are available from the Secomea partner website – [www.secomea.com](http://www.secomea.com)

- **GateManager 5 Server Installation STEP 1 (THIS GUIDE)**  
Describes the installation of the server performed by the IT department.
- **GateManager 5 Server Installation STEP 2**  
Describes the necessary steps to configure the GateManager to become operational and to setup backup. The guide is intended for the appointed GateManager Server administrator.

## 2. Prepare Network Configuration / Physical Server Location



### 2.1. The principle of the solution (what ports are used for)



**SiteManagers and LinkManagers** 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 preferably all, or at least port 443 to the GateManager Server private IP address.

**GateManager Administrator Web portal** connects to the GateManager Server on TCP port 443. A **NAT router** must be configured to forward connections to port 443 on the GateManager Server. **IMPORTANT:** The NAT router must NOT do masquerading of incoming connections. The GateManager must be able to determine the original source IP

Through the administrator Web portal the administrator can take access to the web interface of SiteManagers, LinkManagers and web enabled devices connected to the SiteManagers. This feature uses TCP port range 55000 through 59999, and for this feature to work from the outside the **NAT router** must be configured to forward incoming connections to these ports to the corresponding port on the GateManager Server. The installation script will allow you to select a different port range.

**DHCP Server** - The GateManager 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 GateManager System with the same fixed private IP address that is used by the port forwarding rules in the NAT router. (A static IP can be set using the Appliance Launcher. See section 6 Get the Local IP address of the GateManager).

**Public IP Address** - A public accessible IP address must be assigned to the GateManager Server. 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 and account emails from the GateManager Server. Contact you ISP or IP address provider for details.

## 2.2. Configuring your Corporate Firewall

**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.

The following ports must be forwarded or Destination NATed from the public IP address to the Linux System local IP address. All other ports should be blocked by the corporate firewall to prevent unauthorized use.

The ports are marked as follows:

**RED:** Ports that must be opened for the system to work at all.

**BLUE:** Ports that must be opened for obtaining optimal functionality

**GREEN:** Recommended, but only needed for special scenarios

2.2.1. From	Outside (*)	to	Inside:
TCP	<b>80</b>	--->	11444(or 80) (Appliance)
	<b>443</b>	--->	11444(or 443) (Appliance/Web GUI)
	<b>11444</b>	--->	11444 (Appliance)
	<b>55000-59999</b>	--->	55000-59999 (Go To Appliance)
	<b>5900</b>	--->	5900 (VNC support LM Mobile)
	<b>3389</b>	--->	3389 (RDP support LM Mobile)

(\*) 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 access from SiteManager, LinkManager or Administrator portal access is made from the same network as the local address of the GateManager.

Port 5900, 3389 is for connecting by LinkManager Mobile. The port is controlled and secured by the GateManager and is NOT to compare with a common VNC and RDP access to a PC. Only the LinkManager Mobile that request the connection will be allowed using this.

### 2.2.2. From Inside to the Internet:

TCP	<b>25</b>	(SMTP/MAIL *)
	<b>21</b>	(For FTP backup to external server)
	<b>443</b>	(For license control and Web Proxy)
	<b>80</b>	(WEB Proxy **)
TCP/UDP	<b>53</b>	(DNS *)
	<b>123</b>	(NTP *)

(\*) If the GateManager Server is using a DNS server or NTP server or an internal SMTP server for relaying emails – then these ports are not necessary to open.

(\*\*)The WEB Proxy (squid) allows a PC attached to the DEV port on a SiteManager to be able to browse the internet through the GateManager Server.

### 3. Fill in 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, and to not forget topics that should be followed up.

GateManager Installation Data		
<b>Information that must be informed to Secomea, for upgrading the built-in Trial license to a Production license</b>	The public Identification that the GateManager can be reached on from the Internet and which Secomea should create the Software License Dongle.  <b>Either a static IP address:</b>  <b>Or a Fully Qualified Domain Name (FQDN)</b> , which has been publicly registered (ex. gm.<yourcompany>.com ).	_____ _____
	During installation you will be promoted for a <b>hostname</b> for the GateManager Server. This must be formatted as FQDN but does not need to be publicly registered. (eg. gm.<yourcompany>.local )	_____
	IP address of your SMTP(mail) server.  You may also verify that the SMTP server is configured to allow relaying of emails from the GateManager server.	_____
Only if using GateManager as mail forwarder: Ensure that the public IP address - that has been assigned to the GateManager - has a reverse-DNS name appended (rDNS).  It may work without, but there is a risk that mails from the GateManager Server will be considered as spam by the receiver.		<input type="checkbox"/>
NTP time server(s) if NOT using the ones pre-configured in the GateManager (pool.ntp.org):		_____ _____
DNS server(s) - if NOT assigned by a DHCP server:		_____ _____
Corporate firewall has been opened with the required ports		<input type="checkbox"/>

## 4. Install GateManager Virtual Image

The following steps will guide you through the installation. The virtual image is pre-configured with a trial version of a GateManager Server.

It only needs to be started and a few initial configuration tasks performed.

**Jump to the relevant section:**

[GateManager 5 Server - VMware Player image](#)

[GateManager 5 Server - Hyper-V Image](#)

[GateManager 5 Server – ESXi image](#)

## 4.1. GateManager 5 Server - VMware Player image

### 4.1.1. Download and install VMware

Ensure that you have either VMware Server 2.x, VMware Workstation or VMware Player installed on the server.

The VMware products can be found at: [www.vmware.com/download](http://www.vmware.com/download)

### 4.1.2. Download and install the GateManager VM

Download and unzip the GateManager virtual image from the support section of [www.secomea.com](http://www.secomea.com) (requires login). The image is approx 10 MByte.

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.

### 4.1.3. Start the Secomea GateManager Virtual Image

It is expected that the user has a minimum of knowledge related to the VMware 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 Player 5.0

1. Start the VMware Player application
2. Select the menu: **File > Open**
3. Select the GateManager image file with extension **.vmx** and select OPEN and then start the virtual machine.
4. The GateManager virtual image is starting and you should continue with section [5. Preserving the GateManager Licenses](#)

```
sd 0:0:1:0: [sdb] Write Protect is off
sd 0:0:1:0: [sdb] Mode Sense: 00 3a 00 00
sd 0:0:1:0: [sdb] Write cache: disabled, read cache: enabled, doesn't support DP
0 or FUA
sd 0:0:0:0: [sda] Attached SCSI disk
   sdb: sdb1
sd 0:0:1:0: [sdb] Attached SCSI disk
Freeing unused kernel memory: 2444k freed
Write protecting the kernel text: 2444k
Write protecting the kernel read-only data: 452k
e2fsck 1.41.12 (17-May-2010)
/dev/fla1: clean, 218/8388608 files, 538619/8387930 blocks
mount: mounting /dev/fla1 on /store failed: Invalid argument
tune2fs 1.41.12 (17-May-2010)
Creating journal inode: done
This filesystem will be automatically checked every 25 mounts or
180 days, whichever comes first. Use tune2fs -c or -i to override.
kjournald starting. Commit interval 5 seconds
EXT3-fs (sdb1): using internal journal
EXT3-fs (sdb1): mounted filesystem with ordered data mode
e2fsck 1.41.12 (17-May-2010)
/dev/boot: clean, 14/9984 files, 334/9969 blocks

Please press Enter to activate this console. pcnct32 0000:02:00.0 eth0: link up
```

## 4.2. GateManager 5 Server - Hyper-V Image

### 4.2.1. Download and install Hyper-V

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

The following is based on the Windows 2008R2 built-in Hyper-V server. The Image also support Windows 2012 Hyper-V server.

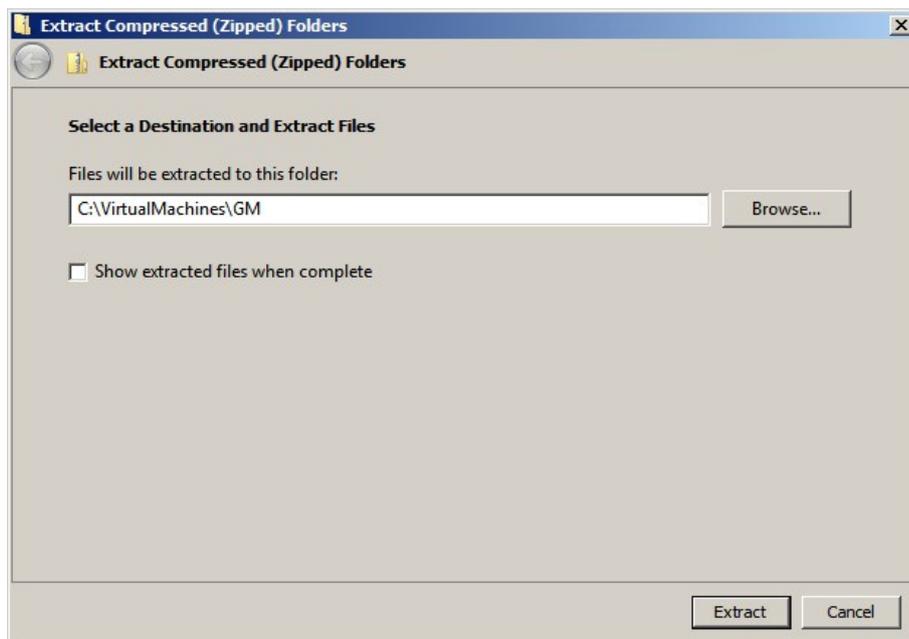
### 4.2.2. Download and install the GateManager VM

Download and unzip the GateManager virtual image from the support section of [www.secomea.com](http://www.secomea.com) (requires login). The image is approx 10MByte.

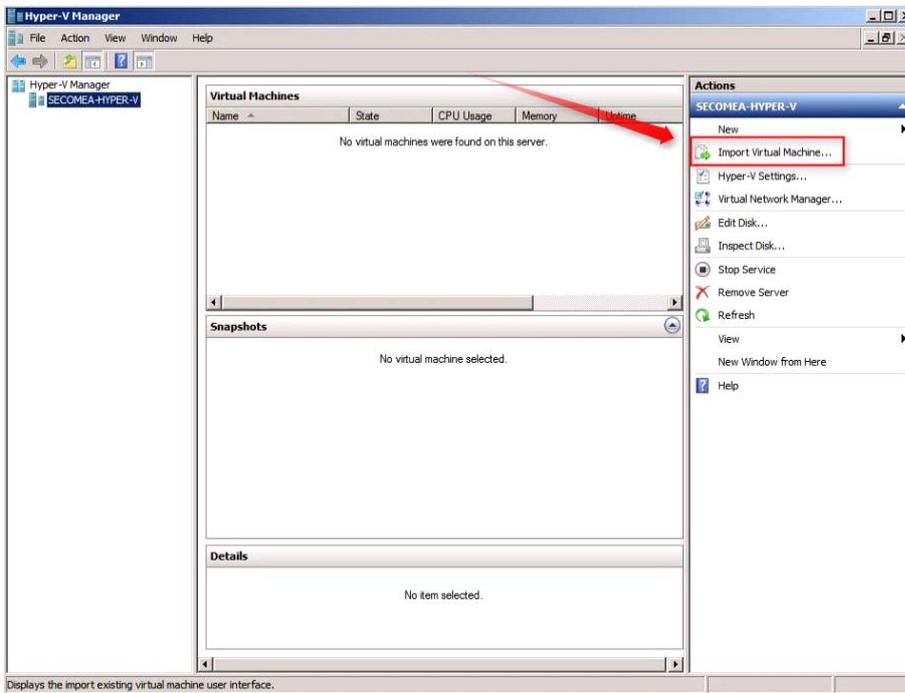
### 4.2.3. Starting the Secomea GateManager Virtual Image

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 GateManager virtual image downloaded in previous chapter.

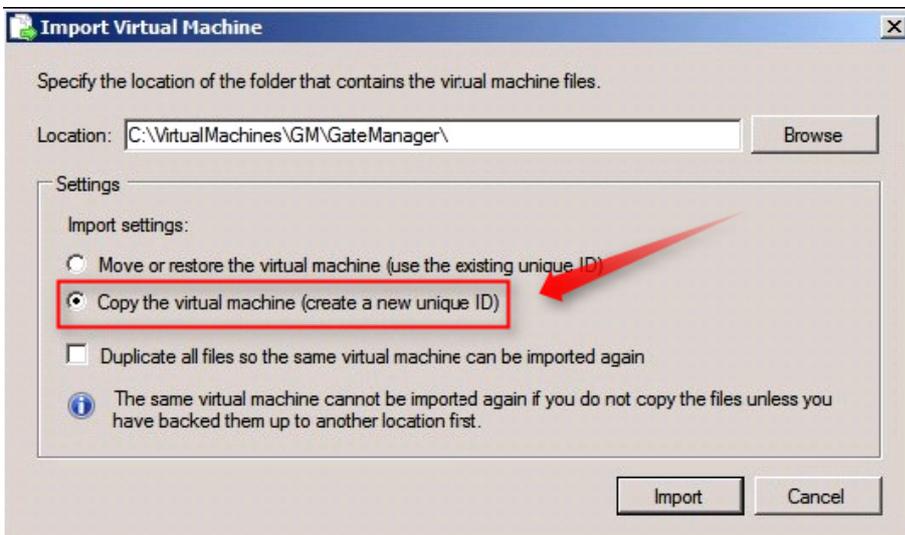
1. Unzip the Secomea GateManager Virtual image in a suitable folder



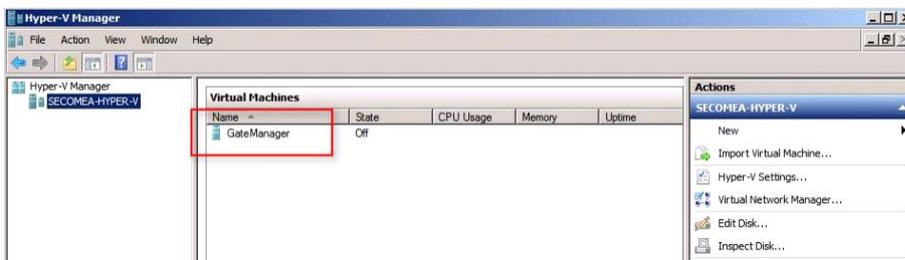
2. Start the Microsoft Hyper-V Manager and select “Import Virtual Machine”



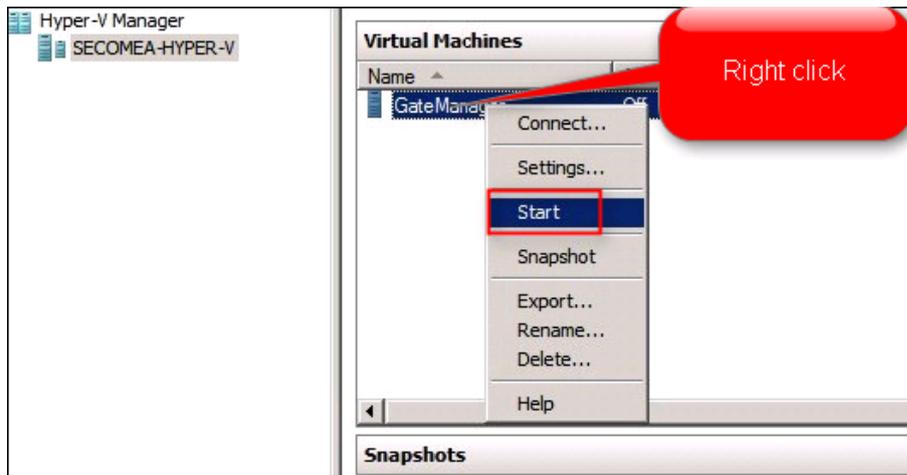
3. Select “Copy the virtual machine” and select **Import**



4. After import, your virtual machine will appear in the list with status “Off”



5. Right click the Virtual machine and select Start



6. 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.



7. The GateManager virtual image is starting and you should continue with section [5. Preserving the GateManager Licenses](#)

### 4.3. GateManager 5 Server – ESXi image

Installing and configuring the ESXi server is not covered by this guide. It is expected that the user has a minimum of knowledge related to the VMware ESXi server and the vSphere Client.

If you haven't already a vSphere client or VMware ESXi Server running, you can download a VMware ESXi Server from:

- <http://www.vmware.com/go/get-free-esxi>
- Login with your account, or create one if you do not already have one, and download the software. Follow the instructions for installation the VMware ESXi Server software provided by VMware.

The following is based on the vSphere ESXi 5.0 server.

#### 4.3.1. Download and install the GateManager VM

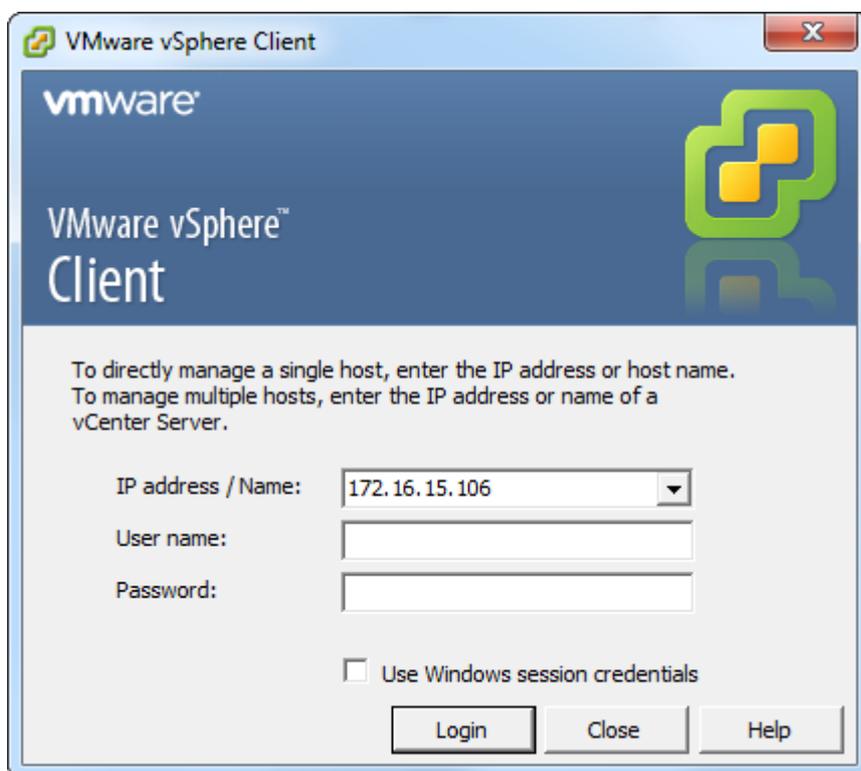
Download and unzip the GateManager virtual image from the support section of [www.secomea.com](http://www.secomea.com) (requires login). The image is approx 10MByte.

#### 4.3.2. Starting the GateManager Virtual Machine

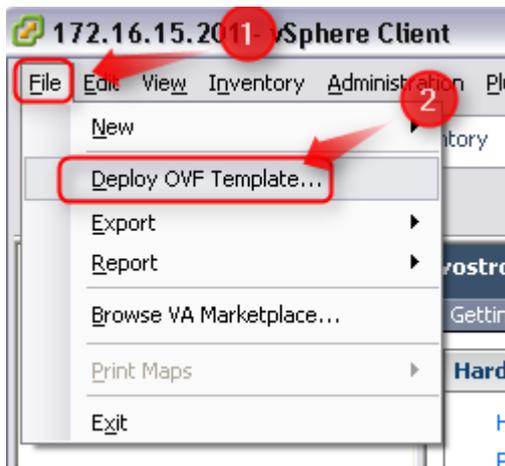
It is expected that the user has a minimum of knowledge related to the VMware ESXi Server application, but here is a simple description of how to start the GateManager virtual image downloaded in the previous section.

The following is based on using VMware ESXi Server version 5.x

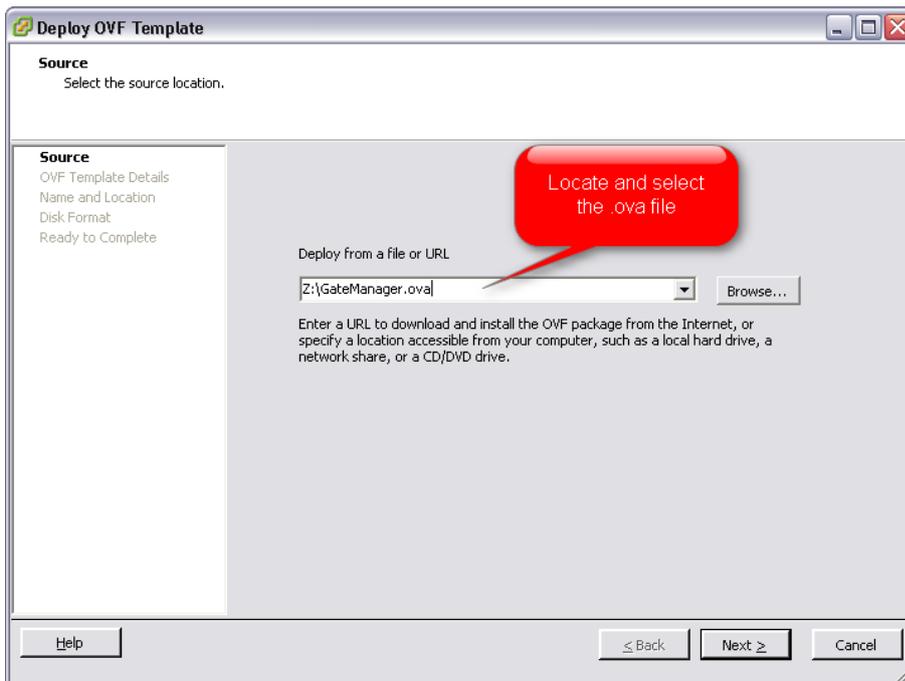
1. Double-Click on the GateManager icon to activate the GateManager Server Console



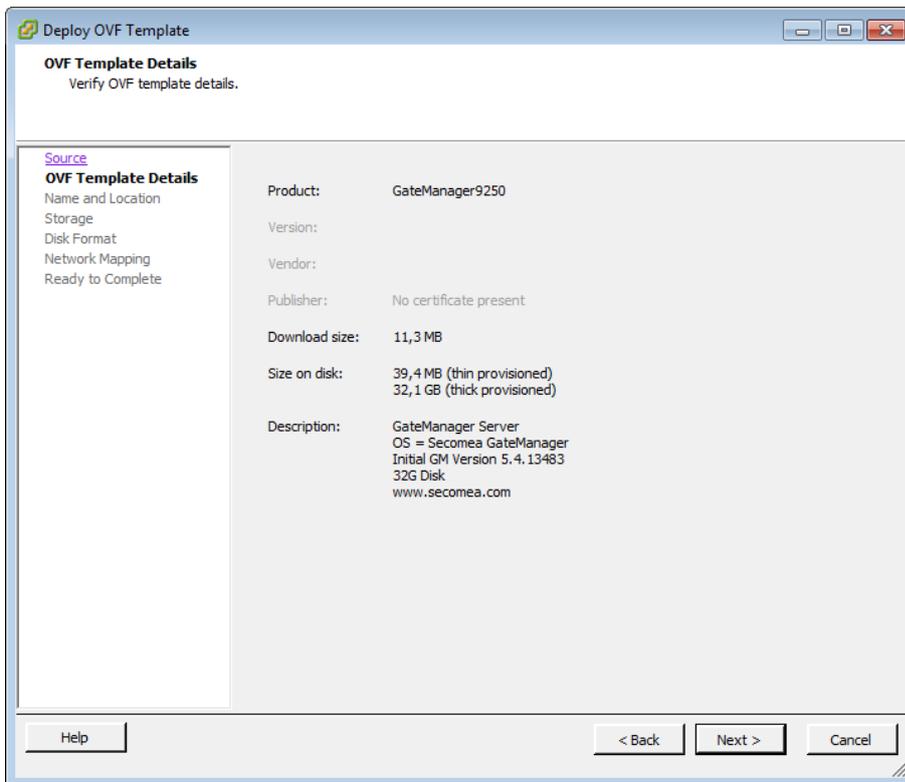
2. Select the menu: File → Deploy OVF Template...



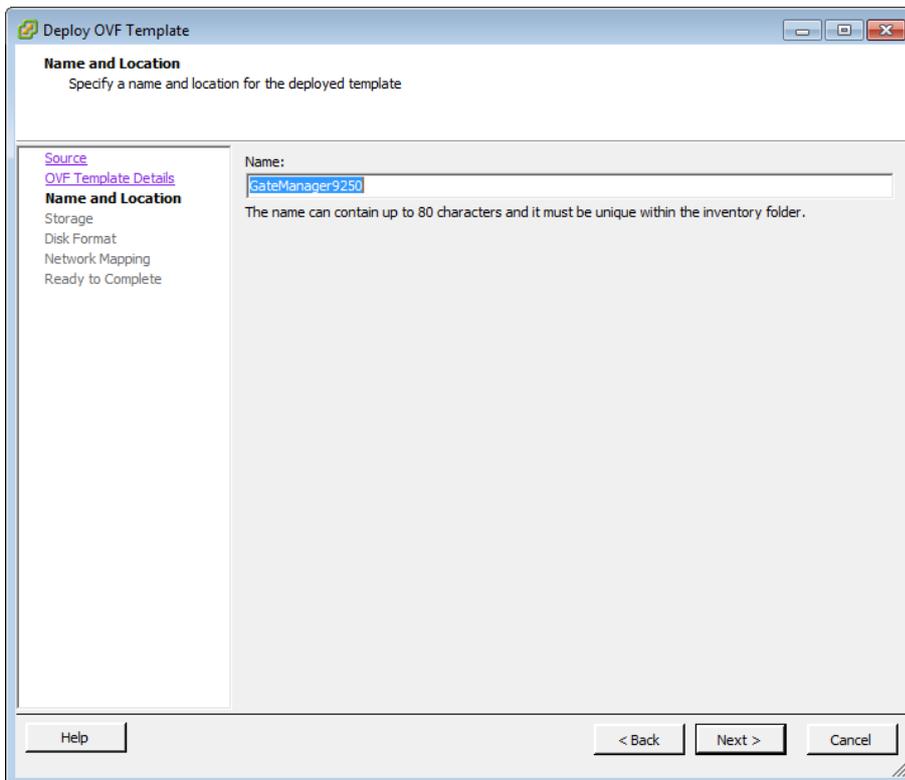
3. Select the file with extension .ova and press Next



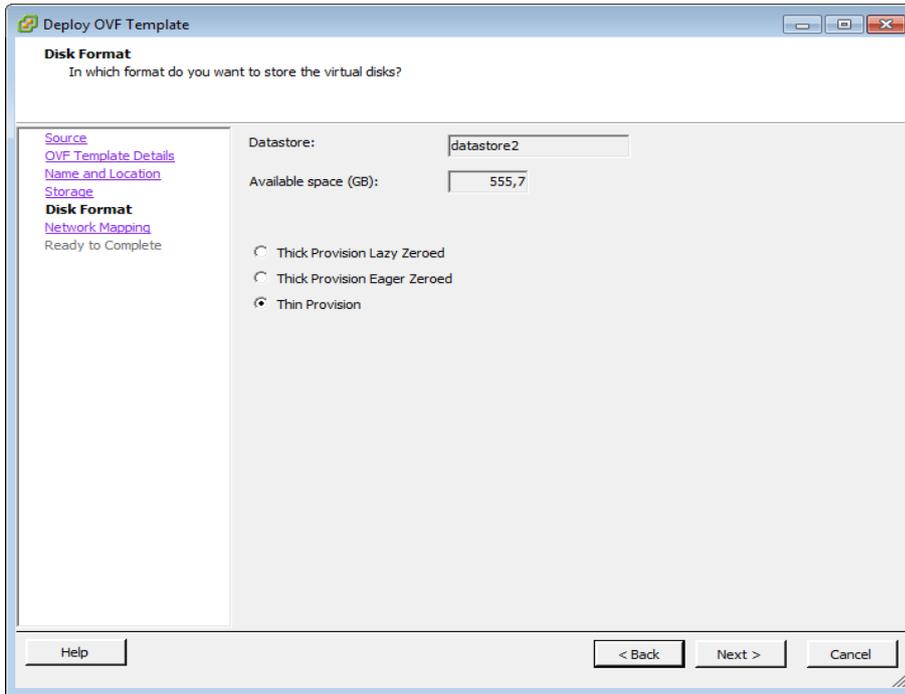
4. Verify the information from the .ova file is correct, and press **Next**.



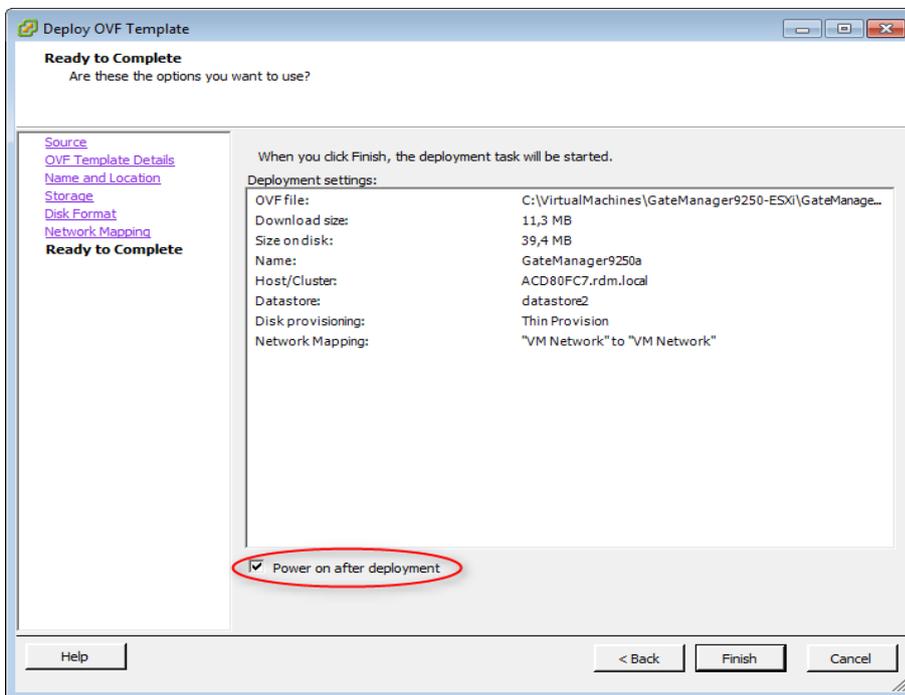
5. Give the virtual machine a unique name, and press **Next**.



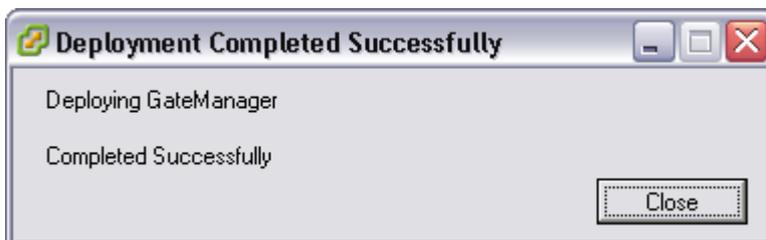
6. Select the format of the virtual disks. If you are unsure about what to choose, we recommend selecting "Thin Provision".



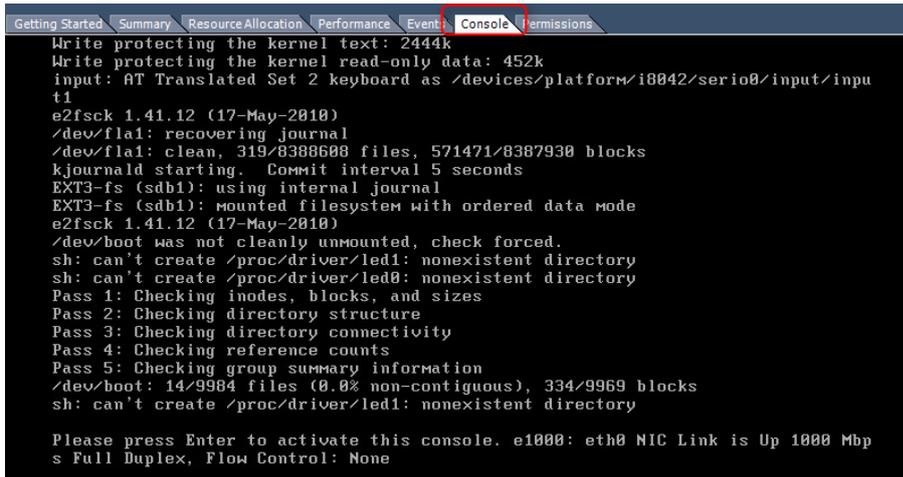
7. Verify the details is correct, and check "Power on after deployment", and press **Next**.



8. Await the deployment to be completed, and press **Close**.



9. After the deployment, the Virtual machine will power On, and you can access the console by selecting the machine in the left column in vSphere, and then the tab "Console" in the right column.



```
Getting Started Summary Resource Allocation Performance Events Console Permissions
Write protecting the kernel text: 2444k
Write protecting the kernel read-only data: 452k
input: AT Translated Set 2 keyboard as /devices/platform/i8042/serio0/input/inpu
t1
e2fsck 1.41.12 (17-May-2010)
/dev/fla1: recovering journal
/dev/fla1: clean, 319/8388608 files, 571471/8387930 blocks
kjournald starting. Commit interval 5 seconds
EXT3-fs (sdb1): using internal journal
EXT3-fs (sdb1): mounted filesystem with ordered data mode
e2fsck 1.41.12 (17-May-2010)
/dev/boot was not cleanly unmounted, check forced.
sh: can't create /proc/driver/led1: nonexistent directory
sh: can't create /proc/driver/led0: nonexistent directory
Pass 1: Checking inodes, blocks, and sizes
Pass 2: Checking directory structure
Pass 3: Checking directory connectivity
Pass 4: Checking reference counts
Pass 5: Checking group summary information
/dev/boot: 14/9984 files (0.0% non-contiguous), 334/9969 blocks
sh: can't create /proc/driver/led1: nonexistent directory

Please press Enter to activate this console. e1000: eth0 NIC Link is Up 1000 Mbp
s Full Duplex, Flow Control: None
```

## 5. Preserving the GateManager Licenses

Make sure that proper measures are taken to ensure that the MAC address of the GateManager virtual machine image does not change during operation. This could happen in case of fail-over setups, where the backup machine may assign a different MAC address to the virtual NIC. In rare cases it may also occur for a single server installation when recovering from a power failure.

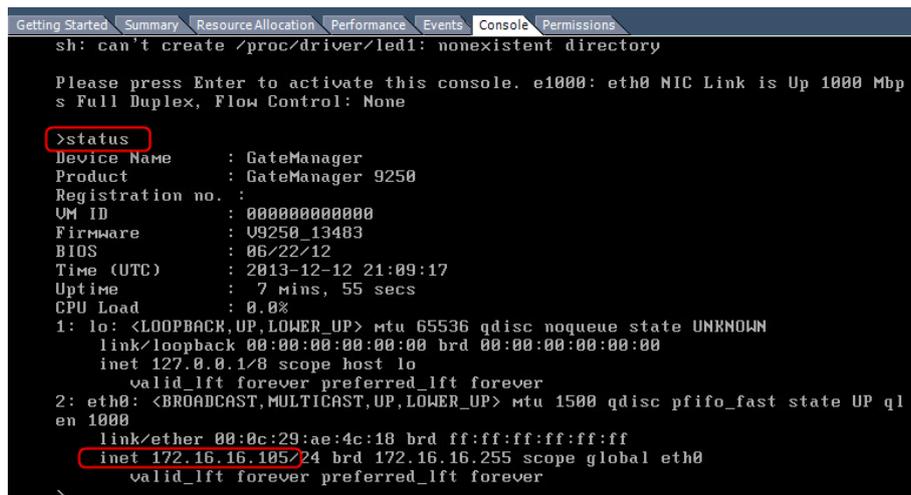
Especially for ESXi - you should consider at this point to manually define a MAC for the virtual machine, but typically you would leave it at "Auto" and let VMware assign it automatically, which will in most cases work fine. If you want to ensure that the currently auto assigned MAC address is guaranteed for this virtual machine, you may consider manually editing the .vmx configuration file to define the MAC address as static. Consult the VMware knowledge base for procedures and syntax specific to your ESXi product and version. The same actions and considerations should be taken concerning any hypervisor system.

**NOTE:** if the MAC address of the GateManager virtual image changes after the license key is applied (Ref. the GateManager 5 Server Installation STEP 2 guide), the GateManager will lose the licenses and only be operational in trial mode.

## 6. Local IP address of the GateManager

The GateManager is default configured as DHCP client and from the GateManager Console it is now possible to read the IP address:

Press <ENTER> and type **status**



```
Getting Started | Summary | Resource Allocation | Performance | Events | Console | Permissions
sh: can't create /proc/driver/led1: nonexistent directory

Please press Enter to activate this console. e1000: eth0 NIC Link is Up 1000 Mbp
s Full Duplex, Flow Control: None

>status
Device Name      : GateManager
Product         : GateManager 9250
Registration no. :
UM ID          : 000000000000
Firmware       : U9250_13403
BIOS           : 06/22/12
Time (UTC)     : 2013-12-12 21:09:17
Uptime        : 7 mins, 55 secs
CPU Load       : 0.0%
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
     valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP ql
   en 1000
   link/ether 00:0c:29:ae:4c:18 brd ff:ff:ff:ff:ff:ff
   inet 172.16.16.105/24 brd 172.16.16.255 scope global eth0
     valid_lft forever preferred_lft forever
>
```

If there is no DHCP server available for the GateManager installation or the IP address needs to be statically assigned, you will have to use the Appliance Launcher to configure a static IP address.

Download the free Windows tool – Appliance Launcher – here:

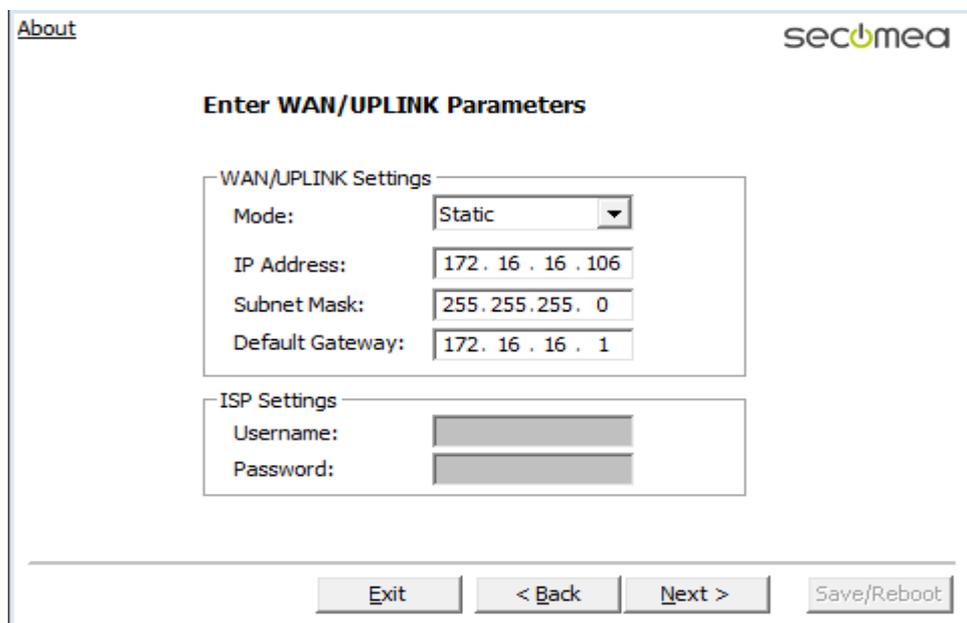
<http://www.secomea.com/industry/support/download-appliance-launcher/>

(Appliance Launcher version 5.4 or newer is needed.)

For the Appliance Launcher to reach the GateManager it need to be launched from a Windows PC on the same broadcast network as the GateManager.

Note: If the GateManager prompts for password, it means that the GateManager has been operational and the password has been changed in the GateManager Portal (see the STEP 2 guide)

The Local GateManager IP address is entered as the WAN/Uplink address.



About secomea

### Enter WAN/UPLINK Parameters

WAN/UPLINK Settings

Mode:

IP Address:

Subnet Mask:

Default Gateway:

ISP Settings

Username:

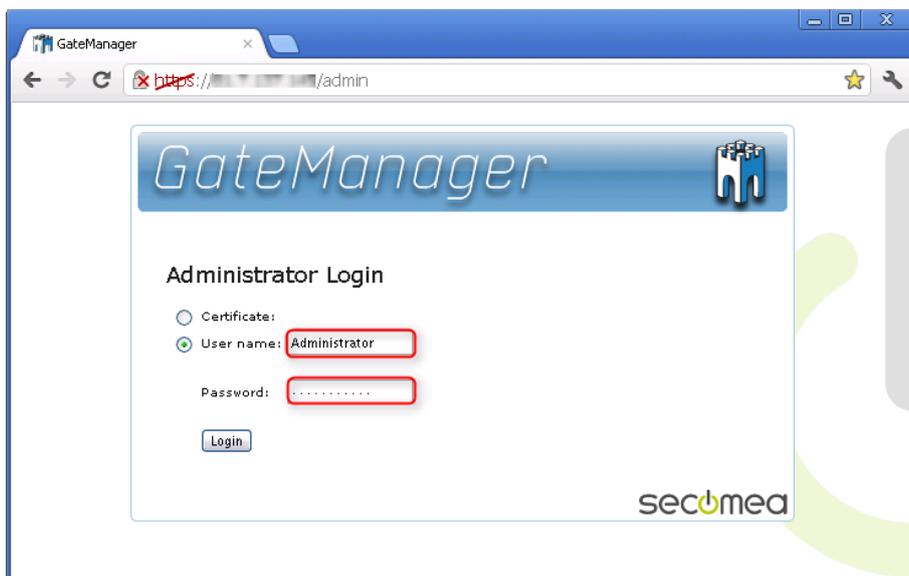
Password:



## 7. Verify Installation

The basic installation of the GateManager 5 is complete and the GateManager Administration Web Portal should be possible to launch using the local IP address (see previous chapter):

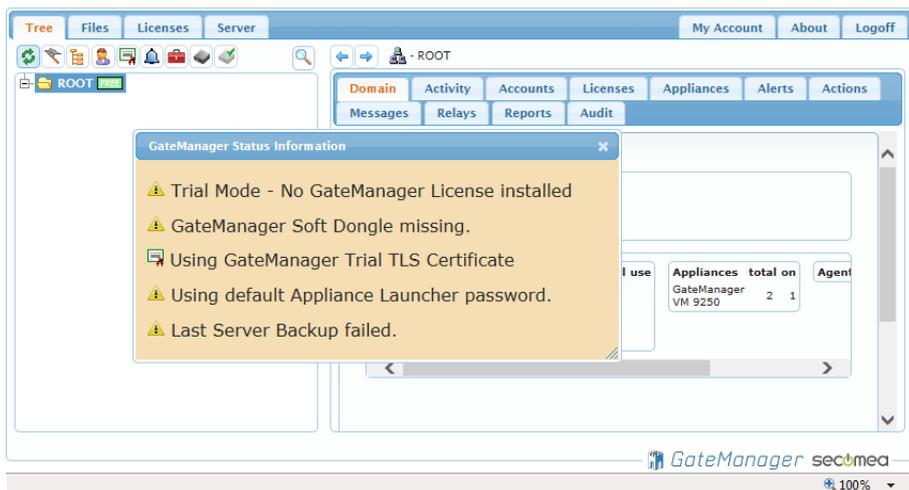
**https://<local IP>/admin**



Default login is

- User name: **Administrator**
- Password: **gatemanager**

You should see a screen like this, which means the server is running as expected.



## **8. Post Installation Tasks**

### **8.1. Inform the appointed GateManager Administrator**

The server installation is finished and next step is for the GateManager Administrator to set up the GateManager server via the Web GUI.

You should pass on the following information:

1. The checklist sheet from section 3. This is needed in order to set up mail settings and determine the browser path to the GateManager

### **8.2. Coordinate Backup of the Server**

Refer to Appendix A on how to coordinate a backup strategy with your appointed GateManager administrator.

## APPENDIX A, Backup and Restore

Two different backups should be prepared:

1. One time backup of the Virtual Image
2. Daily/weekly backup of data

A full restore or reestablishing of the server would require reinstalling the backup version of the Virtual Image, followed by a restore of the latest data backup via the GateManager Administrator Web portal.

### Virtual Image backup (one time event)

Because the License key is bound to the UUID of the virtual image it is important that a copy of the virtual image is made just after the GateManager administrator has received the GateManager Soft Dongle from Secomea and installed it via the GateManager Administration Web Portal.

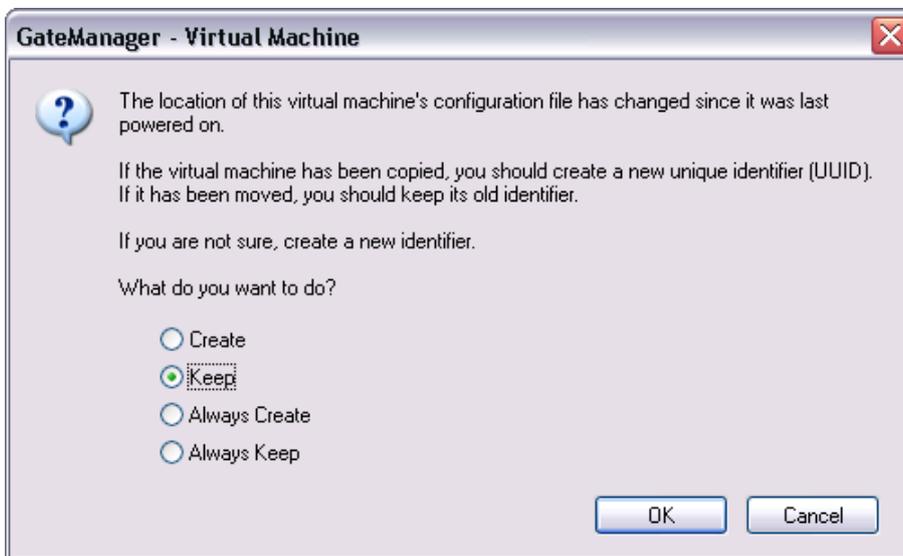
You must therefore coordinate with your appointed GateManager administrator that he informs you when this has been done.

### Virtual Image Restore

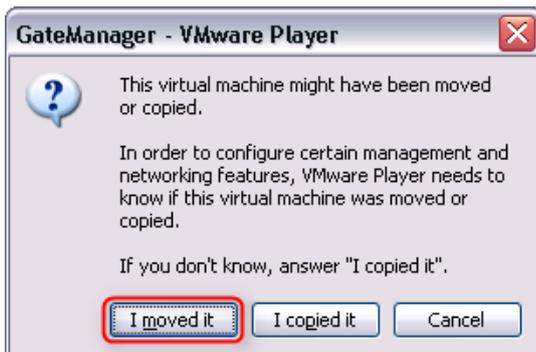
It is important to select the “move” option and NOT the “Copy”.

Following is screenshots from the various Virtual server products:

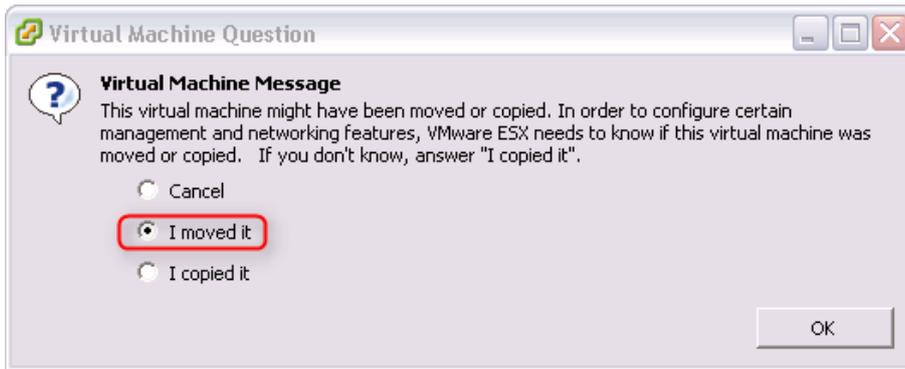
#### VMWare Server 1.x



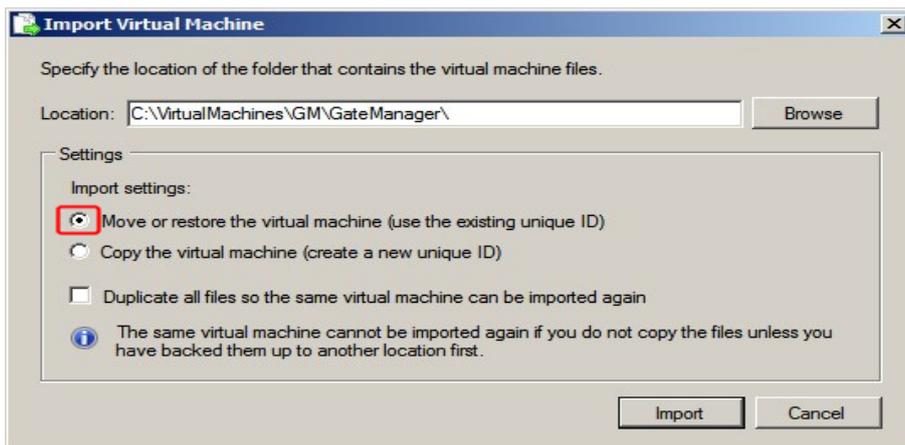
#### VMWare Player 4.x/5.x



## VMWare ESXi Server:



## Hyper-V Server:



## Data backup (daily/weekly backup)

The Backup and Restore of the GateManager data is setup by the GateManager administrator in the GateManager Administrator Web Portal (ref. the STEP 2 guide)

This backup is based on a schedule that submits an archive of the database to a FTP server.

The GateManager administrator may ask for you help to establish a FTP server.

## Data restore (from the daily/weekly backup)

Data restore is done by your appointed GateManager administrator by retrieving the latest backup file from the FTP server, and restore it via the GateManager Administrator Web Portal.

---

## Notices

### Publication and Copyright

© Copyright Secomea A/S 2012-2013. All rights reserved.

You may download and print a copy for your own use. As a high-level administrator, you may use whatever you like from the contents of this document to create your own instructions for deploying our products. Otherwise, no part of this document may be copied or reproduced in any way, without the written consent of Secomea A/S. We would appreciate getting a copy of the material you produce in order to make our own material better and – if you give us permission – to inspire other users.

[www.secomea.com](http://www.secomea.com)

### Trademarks

SiteManager™, LinkManager™, GateManager™ and TrustGate™ are trademarks of Secomea A/S. Other trademarks are the property of their respective owners.

### Disclaimer

Secomea A/S reserves the right to make changes to this document and to the products described herein without notice. The publication of this document does not represent a commitment on the part of Secomea A/S.

Considerable effort has been made to ensure that this publication is free of inaccuracies and omissions but we cannot guarantee that there are none.

The following statements do not apply to any country or state where such provisions are inconsistent with local law:

SECOMEA A/S PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SECOMEA A/S SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGE ALLEGED IN CONNECTION WITH THE FURNISHING OR USE OF THIS INFORMATION.