

Configuring SMS Gateways on GateManager



This guide explains different type of external SMS gateways that can be configured for a GateManager.

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Document version History

- 1.0 Initial version (originally titled “Using SiteManager as SMS Gateway for_GateManager”)
- 2.0 Added sections with setup of web services and mail SMS gateways, and renamed document
- 2.1 Update on sms-sitemanager.gw script on page 13
- 3.0 In relation to 7.1 added info about how to enable and elaboration of using multiple provider gateways and include/exclude of mobile numbers.

1. Introduction

The advantages of using a SMS-Gateway for your GateManager server are

1. You can activate SMS code as two factor login for LinkManager Mobile and GateManager Administrator accounts.
2. All your SiteManagers (with or without 3G modem) can send Alert notifications as SMS using the GateManager as SMS gateway. Even if your remote SiteManagers are able to send SMS messages via their integrated 3G modems, it may be advantageous having just one central SMS subscription.

GateManager 4250 is natively equipped with an integrated SMS modem, and the GateManager 4260 also has support for a locally attached USB Modem to be used for SMS messages.

But if you have software GateManager model 8250 or 9250, it may not be possible to install a physical USB modem, as these servers typically are located in data centers or on virtualized servers.

All GateManager models therefore support configuration of external SMS gateways.

2. Enabling of SMS services on GateManager

For customers on hosted GateManager

Availability of SMS services depends on your GateManager hosting provider has enabled and offers such services in your region. If available, you must order SMS enabling for your customer domain from your point of purchase. If not available, the only option for using SMS with the Secomea solution is locally from a SiteManager model xx39 (see separate guide).

For customers with own GateManager

For own GateManagers enabling of SMS services is done in the GateManager Portal (Server > Config > SMS Settings) and requires Server Admin rights. Note that from GateManager 7.1 the ability to enable SMS services requires ordering of the SMS Activation license from the your point of purchase.

For GateManager hosting providers

The possibility for enabling SMS services is implicit in the hosting license on the server. Setting up the SMS Gateway is the same as for customers with own GateManager, as described in the following.

3. Using a commercial SMS gateway provider service

Commonly a commercial SMS gateway provider will offer both a URL or web services API for sending SMS as well as mail-to-SMS.

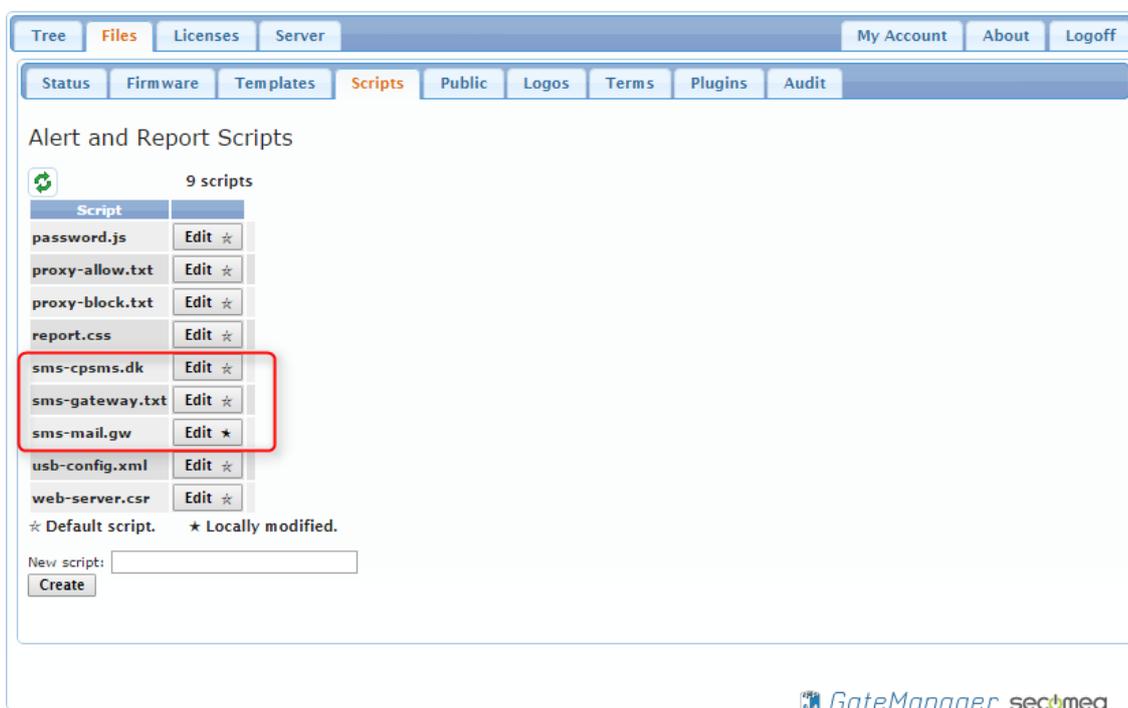
Sign up for a suitable online SMS provider and observe that the price model corresponds to the expected amount of SMS messages your GateManager will generate.

In the following we will demonstrate the principles using the provider Compaya SMS (www.cpsms.dk).

Note: It is always a good idea to test the SMS service without involving the GateManager, e.g. by entering the SMS url in your web browser and verify that you receive an SMS, or create a mail-to-sms email.

3.1. GateManager Configuration

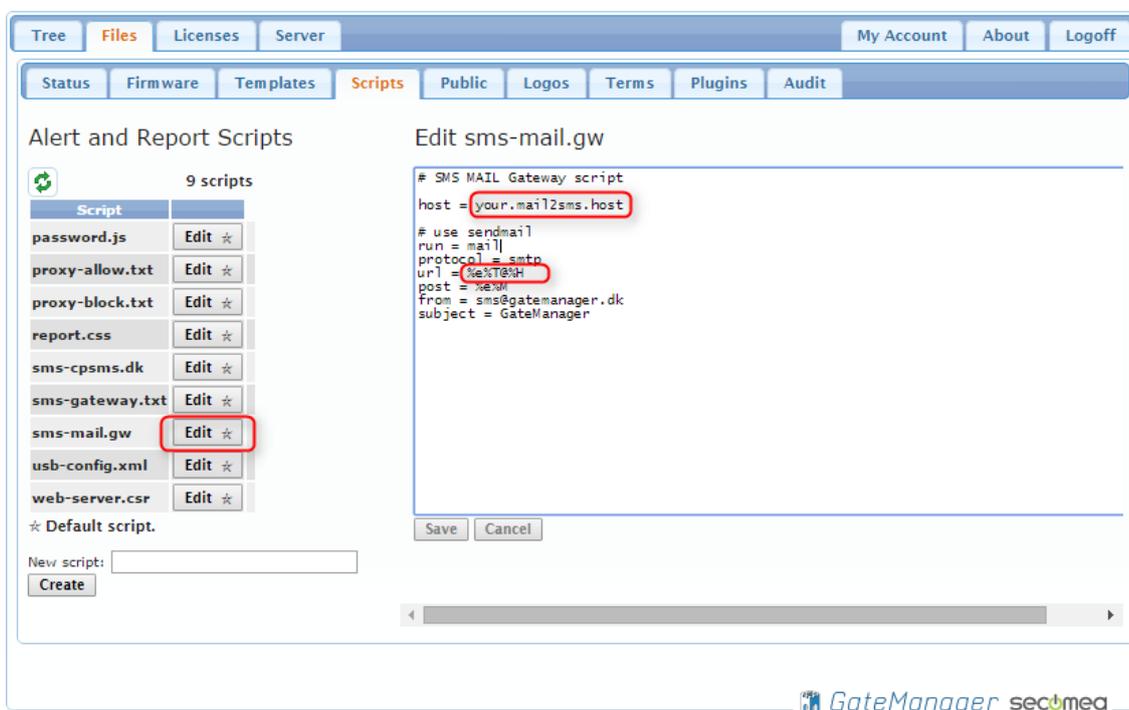
Log on to the GateManager Portal with a Server Administrator account and enter Files > Scripts. Here you will find some default scripts that can be used as templates or inspiration for specific provider scripts:



You can safely Edit one of the existing scripts. You can always restore the original contents of the default scripts. Or you can copy the contents of a default template into a new script that you create.

3.1.1. Using a mail-to-SMS based SMS gateway service

In this example we choose to edit an existing default provider script called *sms-mail.gw*. The parameters to alter would typically be the target host (which substitutes the %H variable) and the url, which is the format of the mail to be converted into SMS. Consult the SMS service providers documentation for details:

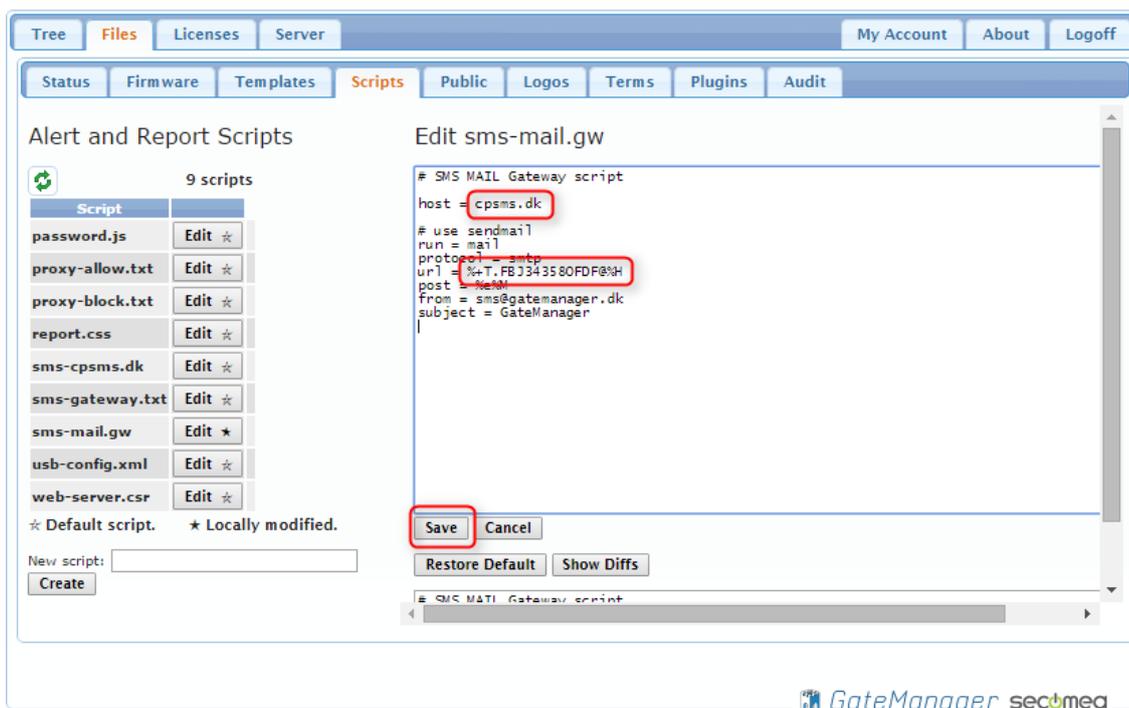


The screenshot shows the GateManager interface with the 'Scripts' tab selected. On the left, a list of scripts is shown, with 'sms-mail.gw' highlighted and its 'Edit' button circled in red. The main area displays the configuration for 'Edit sms-mail.gw'. The script content is as follows:

```
# SMS MAIL Gateway script
host = your.mail2sms.host
# use sendmail
run = mail
protocol = smtp
url = %H
post = %H
from = sms@gatemanager.dk
subject = GateManager
```

The values 'your.mail2sms.host' and '%H' are circled in red. Below the script content are 'Save' and 'Cancel' buttons.

In the case of the CPSMS service, we just enter the host name of the provider (the part after @ in the email). The mail format for CPSMS is "<mobile no>.<cps account key>@cpsms.dk"..



The screenshot shows the GateManager interface with the 'Scripts' tab selected. On the left, a list of scripts is shown, with 'sms-mail.gw' highlighted and its 'Edit' button circled in red. The main area displays the configuration for 'Edit sms-mail.gw'. The script content is as follows:

```
# SMS MAIL Gateway script
host = cpsms.dk
# use sendmail
run = mail
protocol = smtp
url = %H.T.FB3343580FDF@%H
post = %H
from = sms@gatemanager.dk
subject = GateManager
```

The values 'cpsms.dk' and '%H.T.FB3343580FDF@%H' are circled in red. Below the script content are 'Save', 'Cancel', 'Restore Default', and 'Show Diffs' buttons. The 'Save' button is circled in red.

For other commercial SMS online gateways, the mail format may be different. It will typically be the url that differ. Consult the web services specification of the product and alter the script accordingly.

Explanation of the GateManager script variables can be found in the comments of the sms-gateway.txt script:

The screenshot shows the GateManager web interface. The navigation menu includes 'Tree', 'Files', 'Licenses', 'Server', 'My Account', 'About', and 'Logoff'. The main menu includes 'Status', 'Firmware', 'Templates', 'Scripts', 'Public', 'Logos', 'Terms', 'Plugins', and 'Audit'. The 'Scripts' section is active, showing a list of 9 scripts:

Script	Action
password.js	Edit ☆
proxy-allow.txt	Edit ☆
proxy-block.txt	Edit ☆
report.css	Edit ☆
sms-cpsms.dk	Edit ☆
sms-gateway.txt	Edit ☆
sms-mail.gw	Edit ☆
usb-config.xml	Edit ☆
web-server.csr	Edit ☆

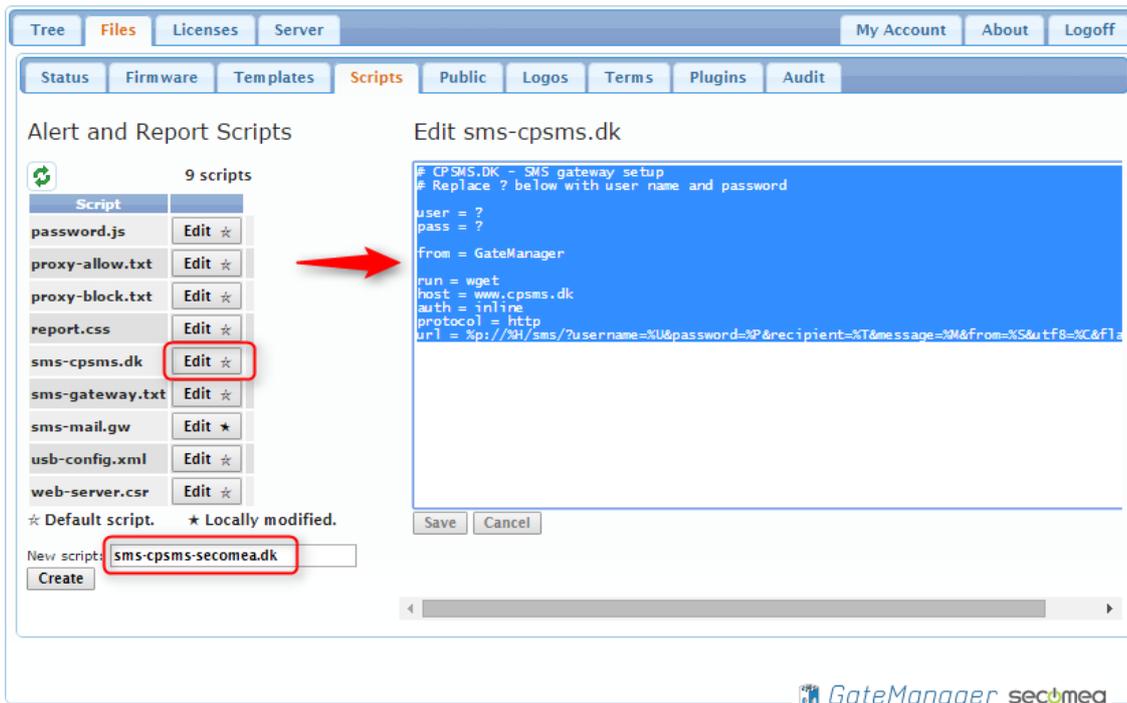
Below the list, there are options for 'New script:' and a 'Create' button. The 'Edit sms-gateway.txt' window is open, showing the following code:

```
run = wget
# URL template (GET method)
# %p: protocol, %H: host[:port], %U: user, %P: pass, %T: mobile no, %S: from,
# %C: 1 if message is utf-8, 0 otherwise
# %F: 1 if flash message, 0 otherwise
url = %p://%H/sms/?
username=%U&password=%P&recipient=%T&message=%M&from=%S&utf8=%C&flash=%F
# URL template (POST method)
#
# url = %p://%H/sms/
# post = username=%U&password=%P&recipient=%T&message=%M&from=%S&utf8=%C&flash=%F
# MAIL to SMS template:
# %e: toggle url escape (default on)
# url is recipient email, post is email body
#
# run = mail
# protocol = plain
# url = %e%T@%H
# post = %e%M
```

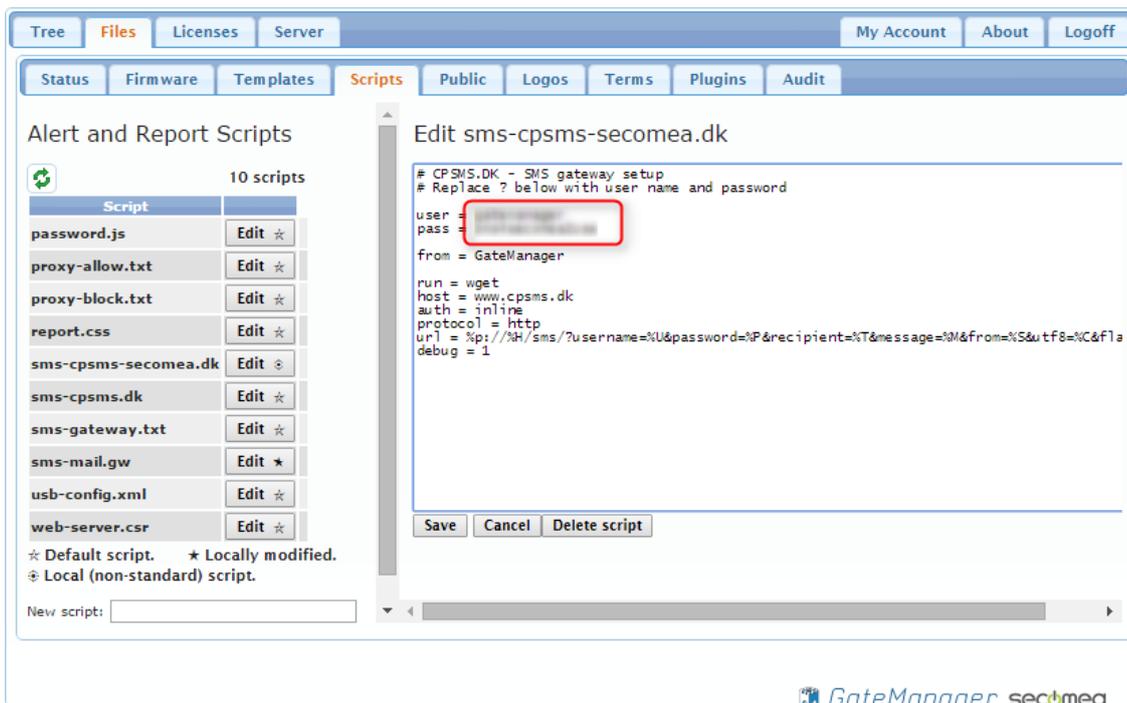
The code is displayed in a text area with 'Save' and 'Cancel' buttons below it. The GateManager logo and 'sec@mea' branding are visible at the bottom right of the interface.

3.1.2. Using a URL (web services API) based SMS gateway

In this example we choose to copy the contents of the default script `sms-cpsms.dk` into a new script called `sms-cpsms-secomea.dk`



Now we Edit the new script and insert the username and password that applies to our personal CPSMS account.



For other commercial SMS online gateways, the Web Services may be different. It will typically be the url that differs. Consult the web services specification of the product and alter the script accordingly.

3.1.3. Activate the SMS Script

1. Enter the **Server > Config** and select Edit. Locate the SMS Settings and make sure that **SMS #1** is set to "gateway" and you enter the name of the edited or created script.

NOTE: You should omit the prefix "sms-", so in this case the script is called *sms-cpsms-secomea.dk*, you must enter "cpsms-secomea.dk"

The screenshot shows the GateManager Configuration web interface. The 'Server' tab is selected, and the 'Config' sub-tab is active. The 'SMS Settings' section is expanded, showing the following configuration:

Parameter	Value
Enable SMS Services:	<input type="checkbox"/>
SMS Wakeup Charges:	<input checked="" type="checkbox"/>
SMS Relay Port:	0
Default number prefix:	+45
Max send retries:	3
SMS #1 Driver:	gateway
Device port/GW script:	cpsms-secomea.dk
SIM Pincode:	
Service Center Number:	
SMS #2 Driver:	off
Device port/GW script:	
SIM Pincode:	
Service Center Number:	

Buttons: Cancel, Save, Restart server: . Test SMS section includes Mobile: , Flash SMS: , Send SMS, and Restart SMS Gateway buttons.

2. Reboot the GateManager by checking the **Restart server** box and click Save.

Note: The reboot is required only for the very first time a new SMS service or a new script is enabled on a GateManager. If you make changes to the sms script you just have to restart the SMS gateway by pressing the [Restart SMS Gateway] button.

3. Test the installation using the **Test SMS** feature for verification.

3.1.4. Using different SMS gateways depending on Country code

It is possible to activate different provider scripts based on the mobile numbers country code. This is done by creating a SMS gateway script that will activate provider specific scripts based on certain criteria

Imagine that you want use the provider script "cpsms.dk", but only for +45, +44 and +332 numbers, and another provider script "kapsystem.com" for +1 numbers, while any other number should use the script "twilio.com"

You would then define a new sms script called e.g. "sms-generic".

In this script you define each provider in a [provider] gateway section whose contents are identical to the existing "single provider" scripts:

```
[cpsms]
include = cpsms.dk

[kap]
include = kapsystem.com

[twil]
include = twilio.com
```

Selection of a specific gateway based on mobile number prefix is done by this code following the provider gateway section:

```
{+1}
gw = kap

{+45,+44,+332}
gw = cpsms

{}
gw = twil
```

The last {} section matches anything other number, which in this case will be serviced by the provider "twilio.com"

3.1.5. Blocking certain country codes or zones

In relation to the above, you may want to specifically block mobile numbers for specific regions or zones.

For instance, if you want to allow SMS to country code +298, but want to block all other numbers for Zone 2 (Africa), i.e. +2xx, you can define as follows.

```
{+298}
gw = kap

{+2}
drop = 1

gw = kap
{}
```

If you actually wanted to only allow numbers for specific country codes or zones, and block everything else you can define as follows, which will allow all numbers of Zone 4 (Europe, +4x) and China (+86), and block all others;

```
{+4,+86}
gw = kap

{}
drop = 1
```

For more information about zones refer to <http://www.wtng.info/wtng-cod.html>

4. Using a SiteManager as SMS gateway

4.1. Prerequisites

- SiteManager model **xx39** (such as a 1039 with integrated 3G modem)
- SiteManager firmware: Release 5.8 build 14514 or newer
- SiteManager's Uplink1 port must be connected to a network where it is accessible from the GateManager's local interface.
- A SIM installed in the SiteManager with a flat-rate SMS subscription.
- A GateManager server model 4250, 4260, 8250 or 9250.
- GateManager firmware: Release 5.8 build 14514 or newer

4.2. SiteManager setup (xx39 model)

Connect the SiteManager's Uplink1 port to a network, where the GateManager's local interface can access the SiteManager's Uplink1 IP address.

4.2.1. Setting up the SiteManager UPLINK2 interface:

The screenshot shows the SiteManager web interface. The navigation bar includes 'SETUP', 'System', 'GateManager', 'VPN', 'Routing', 'Maintenance', 'Status', 'Log', and 'HELP'. The 'System' and 'UPLINK2' menu items are highlighted with red boxes. The main content area is titled 'UPLINK2' and displays the status 'UPLINK2 is DOWN (UPLINK is default)'. Below this, there is a configuration form with the following fields:

Mode:	SMS Only
APN:	[internet]
SIM PIN Code:	****
IP Address:	0.0.0.0
Subnet Mask:	255.255.255.255
Default Gateway:	0.0.0.0
Priority:	Second
Probe Type:	Any
Probe Hosts:	
Probe Port (TCP):	80
Probe Interval A:	180 seconds
Probe Interval B:	180 seconds
SMS Wakeup Parameters:	
SMS Wakeup Secret:	Wakeup

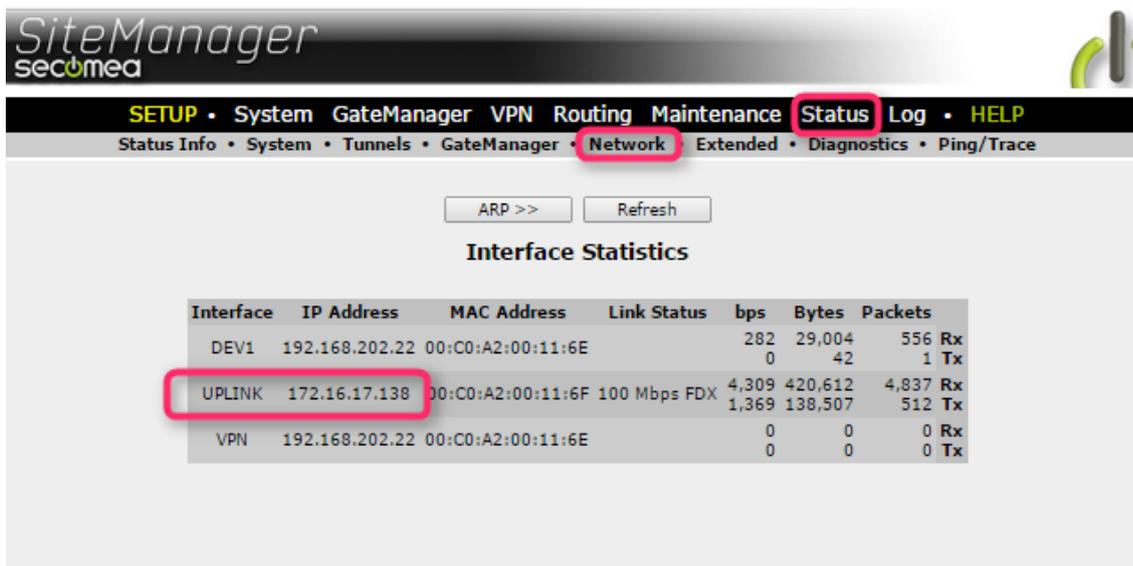
Configure the UPLINK2 interface with the ISPs SMS subscription parameters.

The SiteManager has a known list of APN settings but in case a match is not detected for your ISP you will have to enter the APN manually.

It is recommended to set the Mode to SMS only but it is not a requirement.

4.2.2. Set the UPLINK1 IP address

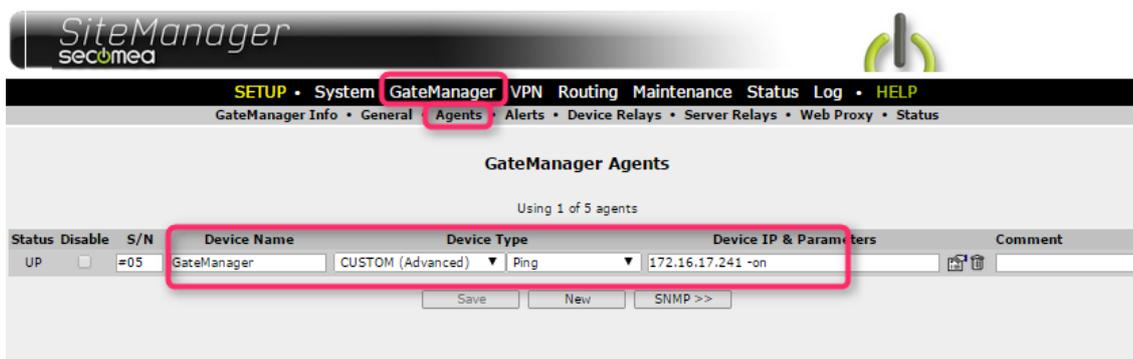
You can configure a static IP address for Uplink1, but if you connect the SiteManager to a network with a DHCP server, you just have to verify which address it has received under Status>Network:



The screenshot shows the SiteManager interface with the 'Status' menu item highlighted. The 'Network' sub-menu is selected, displaying 'Interface Statistics'. A table lists the following data:

Interface	IP Address	MAC Address	Link Status	bps	Bytes	Packets
DEV1	192.168.202.22	00:C0:A2:00:11:6E		282	29,004	556 Rx
				0	42	1 Tx
UPLINK	172.16.17.138	00:C0:A2:00:11:6F	100 Mbps FDx	4,309	420,612	4,837 Rx
				1,369	138,507	512 Tx
VPN	192.168.202.22	00:C0:A2:00:11:6E		0	0	0 Rx
				0	0	0 Tx

4.2.3. Securing the connection



The screenshot shows the SiteManager interface with the 'GateManager' menu item highlighted. The 'Agents' sub-menu is selected, displaying 'GateManager Agents'. A table lists the following data:

Status	Disable	S/N	Device Name	Device Type	Device IP & Parameters	Comment
UP	<input type="checkbox"/>	#05	GateManager	CUSTOM (Advanced)	Ping	172.16.17.241 -on

For the GateManager to be allowed to use the SiteManager as SMS-gateway you will have to create an agent specifying the IP address of the GateManager.

If the SiteManager and GateManager are not on the same local network you can specify the public IP address of the GateManager meaning that all devices from the public IP address of the GateManager are allowed to use the SiteManager as SMS-gateway. This should not be a problem because it will only be the GateManager using the public IP address.

4.2.4. Configure Alert options

From the SiteManager's perspective it is acting as SMS gateway as described in the separate guide "Working with SMS and Email alerts", and have to be configured accordingly:

SiteManager
secu^omea

SETUP • System GateManager VPN Routing Maintenance Status Log • HELP

GateManager Info • General • Agents Alerts • Device Relays • Server Relays • Web Proxy • Status

Alerts

GateManager has gateway support for SMS and Email alerts

Input Port	State	GateManager Action	Local Alert Action
IN 1	OFF	None	Disabled
IN 2	OFF	None	Disabled

Alert Mode: Enabled

Alert Identification: None

Email Alert Gateway: SiteManager

SMS Alert Gateway: SiteManager (UPLINK2)

SMS Service Center Number: (SIM: +4540390999)

Input 1 Alert: Disabled

Alert Recipients: Test

Alert ON Text:

Alert OFF Text:

Input 2 Alert: Disabled

Alert Recipients: Test

Alert ON Text:

Alert OFF Text:

Agent Alerts TCP Port: 26864

Agent Alerts UDP Port: 26864

Agent Alerts Recipients:

Agent Alerts User Name: UsErNaMe

Agent Alerts Password:

Save SMTP >>

Alert Identification: Set to *None* to prevent this SMS-Gateway to add any information to the SMS. This is already handled by the SMS coming from the GateManager system.

SMS Alert Gateway: Set to *SiteManager (UPLINK2)*

SMS Service Center Number: This number is automatically recorded from your SIM card if not then set is as informed from the documentation from your ISP.

Agent Alerts TCP Port: No need to change – default is 26864 and also used by the GateManager.

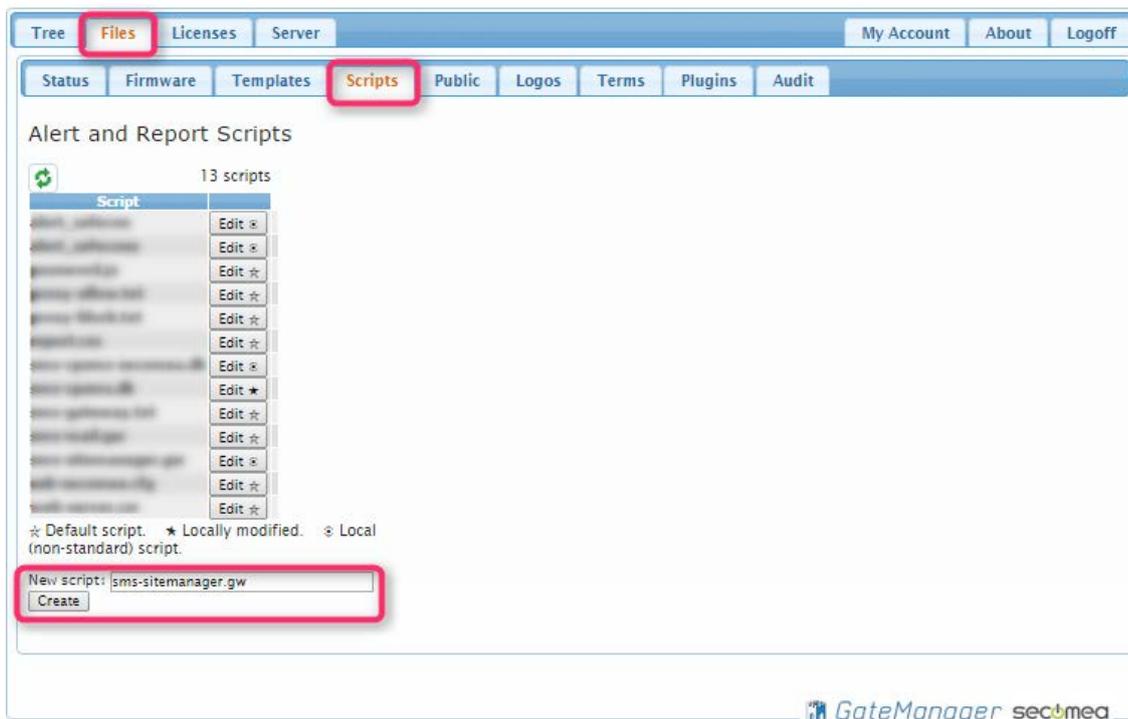
Agent Alert User Name: Specify a user name that is allowed to send SMS messages. This is to be used later when the GateManager Server is configured.

Agent Alerts Password: Specify a password that is required for the above user to send SMS messages. This is to be used later when the GateManager Server is configured.

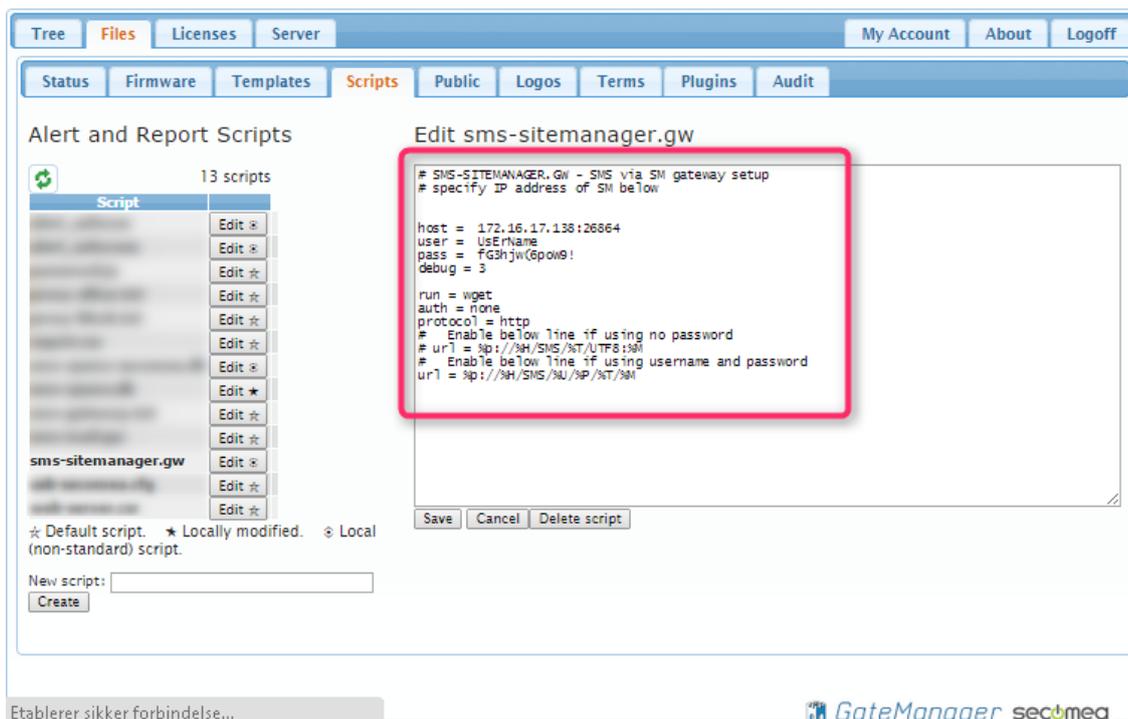
4.3. GateManager Configuration

Log on to the GateManager Portal with a Server Administrator account.

Create a script called *sms-sitemanager.gw*



In the field paste in the text below and correct the **host**, **user** and **pass(word)** settings to match your installation:



```
# SMS-SITEMANAGER.GW - SMS via SM gateway setup
# specify IP address of SM below
```

```

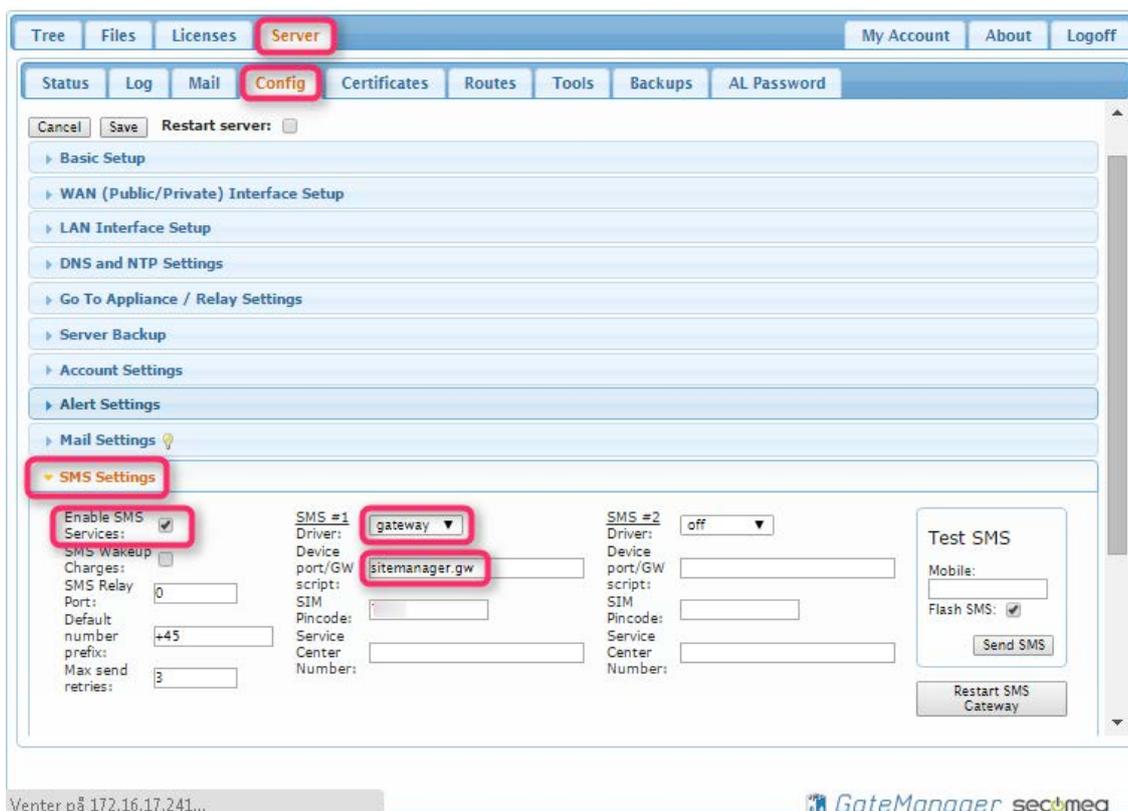
# IP address of your SiteManager
host = 172.16.17.138:26864
# a user name of your own choice
user = UsErName
# a password of your own choice
pass = fG3hJw(6p0W9!
debug = 3
run = wget
auth = none
protocol = http
# Enable below line if using no password
# url = %p://%H/SMS/%T/UTF8:%M
# Enable below line if using username and password
url = %p://%H/SMS/%U/%P/%T/%M

```

4.3.1. Activate the SMS Script

1. Enter the **Server > Config** and select **Edit**. Locate the SMS Settings and make sure that **SMS #1** is set to “gateway” and you enter the name of the edited or created script.

NOTE: You should omit the prefix “sms-“, so in this case the script is called *sms-sitemanager.gw*, you must enter “sitemanager.gw”



2. Reboot the GateManager by checking the **Restart server** box and click **Save**.
Note: The reboot is required only for the very first time a SMS service is enabled on a GateManager. If you make changes to the sms script you just have to restart the SMS gateway by pressing the [Restart SMS Gateway] button.
3. Test the installation: use the **Test SMS** feature for verification.

4.4. Troubleshooting

The SiteManager system log will show if there is any problems regarding configuration or sending of SMSes.

4.4.1. Username and password do not match:

```
Receive SMS request from agent GateManager at 172.16.17.241 (tcp)
cron.warn SMS[1793]: Unauthorized SMS request from 172.16.17.241
```

4.4.2. If you forgot to configure an agent on the SiteManager:

```
Discard SMS request from unknown agent at 172.16.17.241 (tcp:17:0:0)
```

4.4.3. Successful SMS transmittal message:

```
Receive SMS request from agent GateManager at 172.16.17.241 (tcp)
SMS sent to mobile modem after 4 sec.
tcp 172.16.17.241: SMS Alert to +4541397171: GateManager SMS Test
```

5. Limitations:

- SMS messages may be truncated to 40 characters. You will have to make your own tests to verify what limit your installation has.
- Flash SMS may not be supported by your SMS provider. Typically if specifying Flash SMS on the GateManager and the provider does not support that, the SMS will be send as an ordinary SMS.
NOTE: For the same reasons Flash SMS support has been removed from GateManager 7.1

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