



Universal Mobile Gateway V6

Quick Installation Guide

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14.01.2014
Version 6.0

PVEelectronic

Table of content

Abstract	3
Copyright	3
Produkte Support	3
Overview.....	4
Related Documents	4
Environment	4
System Architecture	4
Server Placement and Connectivity	4
Single Machine	4
Active / Passive Nodes.....	4
Active / Active Nodes	4
SMS, MMS and Messaging Providers	4
Requirements	5
Server / System	5
Operating System	5
Middleware	5
Database / Server	5
Roles and Features	5
Software Installation	6
Server Preparation	6
Setup IIS and SMTP Services.....	6
Middleware	6
UMGateway.....	7
Setup V5	7
Update to V6	7
UMGateway Configuration.....	8
Start Config Tool.....	8
Service State Overview.....	8
General Tree.....	9
Files and Directory Management	9
Alarming / Management	9
Interfaces.....	10
Windows specific Configuration.....	15
Windows SMTP Mail Service	15
SMTP Configuration.....	15
Mail Routing Configuration	17
Setup in SMTP Service	17
Firewall + Ports Overview.....	18
SMS Adapter / GSM Modems	19

Abstract

Copyright

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Overview

The Product Universal Mobile Gateway, also called UMGateway, provide you a bunch of possibilities sending mobile oriented text and multimedia messages to any mobile device. The gateway support you by providing easy to use, full featured synchronous and asynchronous queued interfaces.

Related Documents

- *UMGateway Vx – Architecture*
- *UMGateway Vx – Interfaces*
- *UMGateway Vx - Webservices*

Environment

See details *UMGateway Vx - Architecture*

System Architecture

Server Placement and Connectivity

All frontend (UMGateway) nodes must be run in a network zone allowing direct TCP access to internet based services. This connection is used to directly connect to the mobile service providers. According to the company security requirement it will be often called Yellow or DMZ zone. If a central database is used, this database should not be in the same network zone due to the frontend nodes. The database contains all the configuration, accounting and logging informations used by the frontend servers. All the interfaces should be connected by a HW or d SW load balancer. This allows the operation team to do maintenance without service disruption. The load balancer can be setup to check the system state and queues of the frontend servers and do optimized distribution logic.

Single Machine

In this case no load balancer or dns round robin are required.
File or Database mode possible.

Active / Passive Nodes

To provide connectivity to the interfaces of the frontend servers we recommend the use of a HW or Software Load Balancer setup in failover mode.
File or Database mode possible.

Active / Active Nodes

To provide connectivity to the interfaces of the frontend servers we recommend the use of a HW, SW Load Balancer or a DNS round robin alias.
To use full advantage of accounting features the Database mode is required.

SMS, MMS and Messaging Providers

To setup a direct connect the mobile service providers, the frontend server need to have a direct tcp-socket or http connection to the internet based server endpoint of the mobile service provider. In this installation guide we do the setup by example of a standard EMI/UCP SMS Large Account from Swisscom (Schweiz) AG.

Requirements

Server / System

UMGateway can run on almost all modern server environment provided by customers.

There are no known issues by using any hardware or as well virtualized server.

Our recommendation is to set 2 (V)CPU and 4 GB Ram for each gateway frontend Server.

For separation purposes we recommend the following disk setup:

System (C:) 40 GB

Data (D:) 20 GB

The database can run on a shared environment / existing sql cluster with no issues. The load depend on the real traffic of the frontend servers but there are cache/db offload mechanism integrated to avoid too much load on DB Server side.

Operating System

UMGateway runs on almost all 32 and 64 Bit Windows Operation System and Edition.

Currently we recommend to use a Windows 2008 R2 Server (any Edition!).

The Setup-Steps are written for the use of Windows Server 2008.

Middleware

In file mode there are no specific requirements to Middleware.

The deployment of the enhanced webservices required dotnet 4.5 to be installed on the server.

In Database Mode, the correct sql server client tools have to be installed on the server.

Database / Server

UMGateway do not deliver a binary db file. Instead we deliver zip package including standard SQL and batch files used to crate, install schema and configure the database to be used by the gateway.

The SQL Scripts are compatible for MS-SQL Server starting from Version 2005.

We recommend the use of MS-SQL Server 2008

Roles and Features

Internet Information Server (IIS + IIS6 SMTP Server)

The UMGateway SMTP interface based on the super stable Microsoft SMTP Service provided by IIS.

There are integrated get/post and soap interfaces from the product but we also provide enhanced Webservices based on IIS and written in dotnet 4. See *UMGateway Vx - Webservices*

Software Installation

Server Preparation

The server is OS-Ready, fully patched and contains virus scanner and monitoring tools.

Setup IIS and SMTP Services

- Start: Server Manager
- Roles: +Add Roles
 - Check: Web Server (IIS)
 - [Add Requested Features]
 - Check: Application Server
 - [Add Requested Features]
 - [Next], [Next]
 - Check: Web Server (IIS) Support
 - [Next], [Next]
 - Check: Application Development
 - Check: Security -> Windows Authentication
 - Check all nodes and subnodes of: Management Tools
 - [Next], [Install]
 - Features: +Add Features
 - Remote Server Administration Tools (Installed)
 - Feature Administration Tools
 - Check: SMTP Server Tools
 - Check: SMTP Server
 - [Next], [Install]

Middleware

- Dotnet Runtime 3.5.1 (from features)
- Dotnet Runtime 4.5 (newest version)
<http://www.microsoft.com/en-us/download/details.aspx?id=40779>
- Power Shell V2 +

UMGateway

Copy the following binary to a temp directory on the server

- UMGateway5.1.8.exe
- Umgservices6.0-Update.zip
- umgRedisDeployment.zip

Setup V5

1. Run (AS ADMIN) UMGateway5.1.8.exe
2. The setup does some system pre-check and inform if missing some components
3. Welcome [Next]
4. I accept the agreement [Next]
5. Enter some user informations (Informational only)
6. Set Program Path: D:\umgateway
7. Set Data Path: D:\umgateway\work
8. Check "Ready to Install" [Next]
9. Setup is installing all components
10. Some Version informations [Next]
11. Do not check start configuration [Finish]

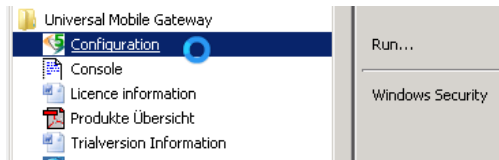
Update to V6

1. Open Umgservices6.0-Update.zip
2. Copy the content (and replace existing) to D:\umgateway\bin
3. Open umgRedisDeployment.zip
4. Copy the content to D:\umgateway\UmgRedis
5. Edit install-redis.cmd
 - a. SET binpath=D:\umgateway\UmgRedis\RedisService.exe
 - b. SET configpath=D:\umgateway\UmgRedis\redis.conf
6. Run the install-redis.cmd

UMGateway Configuration

Start Config Tool

Start configuration tool: -> Start Menu

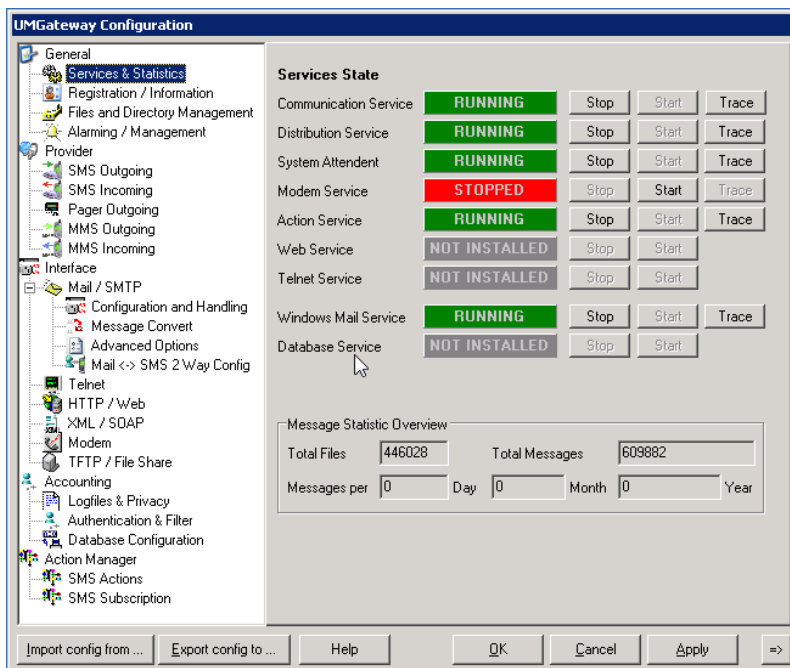


Service State Overview

From this page you can stop, start and look at the real time trace log files.

To stop and start services the configuration tool must run under administrator privileges.

To stop the gateway completely you first have to stop the System Attendant, otherwise it start depending services automatic after a view seconds.



This view is the standard running state for a gateway frontend server with no hardware modem and with no local MS-SQL database installed.

For first time configuration please check all the services are stopped.

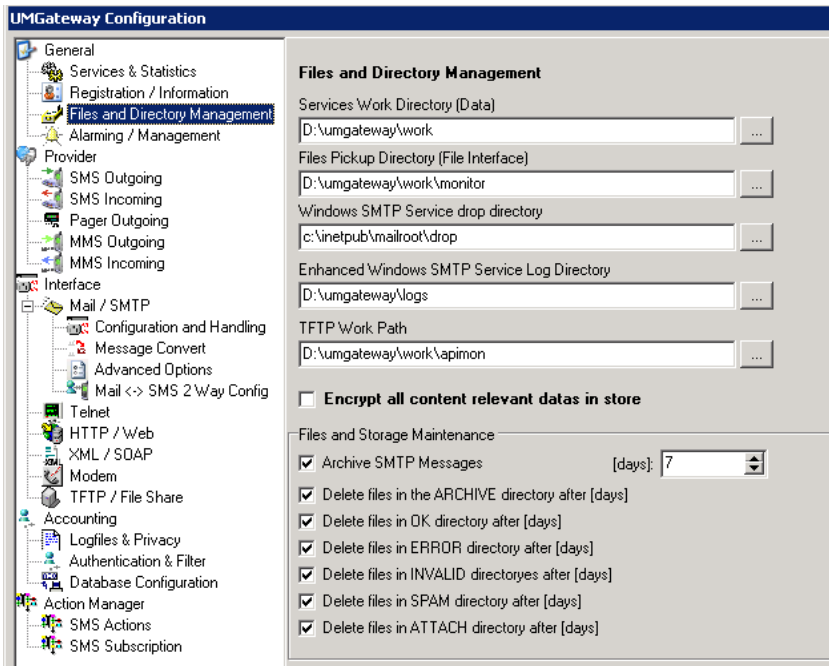
General Tree

Files and Directory Management

In the standard setup (IIS = default path, umgateway on D:\umgateway)

-> Set as followed

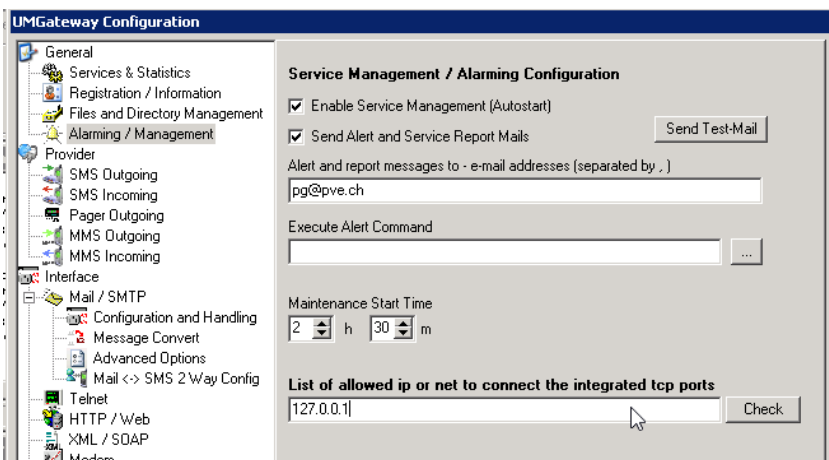
Do not enable Encryption unless you really need to have it. Anyway do not enable this in first time setup because of testing and checking the services.



Alarming / Management

Set a valid mail address receiving system alarms and service notifications.

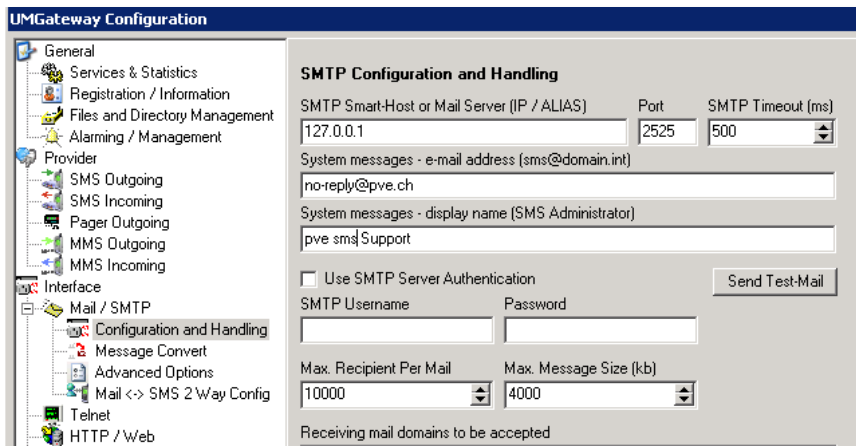
The Test-Mail Function runs after setting up the smtp interface (setting the outbound mailserver)



Interfaces

Mail / SMTP

Please set and test the mail relay server (usually the same as other application uses).



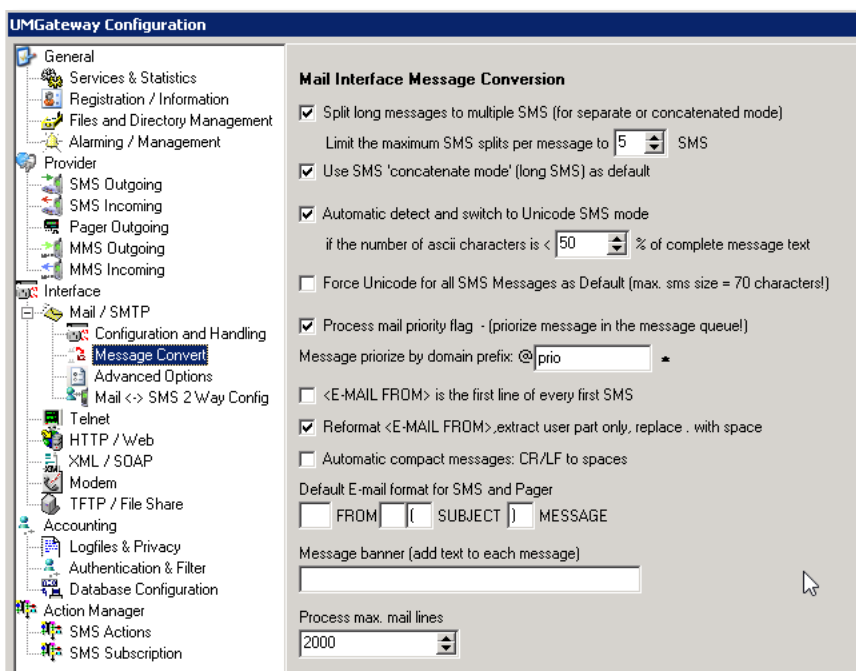
Message Convert

Here you can set the the message conversation and formatting options. How the sms or mms will look like.

Please set the configuration as followed. This gives you a good starting point to use the Gateway.

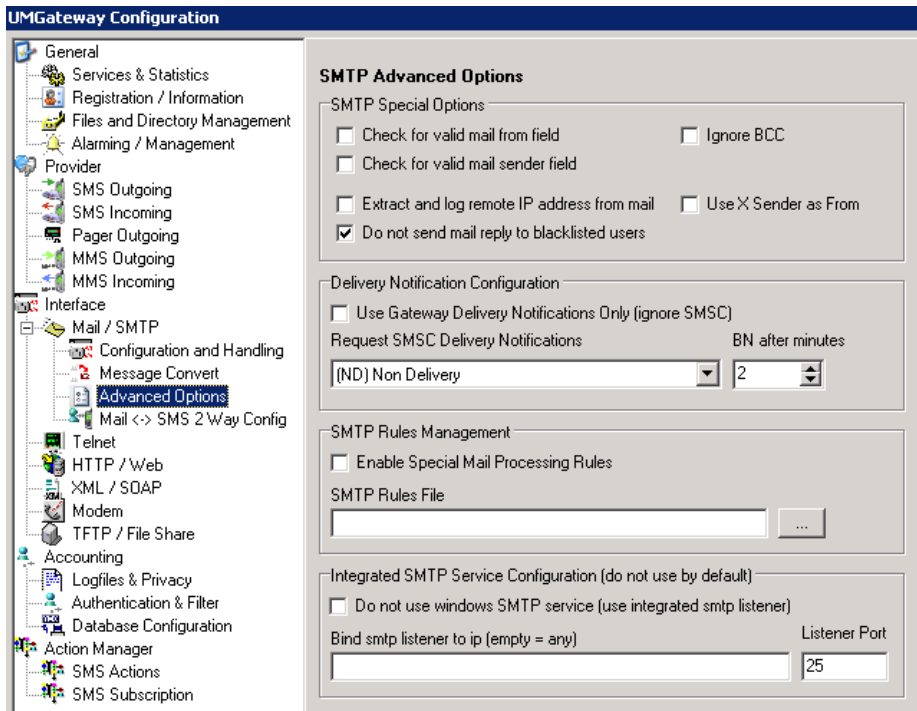
This configuration does split long mail text up to max. 5 sms messages and create long concatenated sms on target mobile phone. 1 SMS = 153 Characters in concatenated mode.

Also the gateway detect the amount non Default GSM Alphabeth characters per message. If the content use more than 50% of Unicode characters the gateway switch to the Unicode mode (80 Characters per SMS). So you can easily send foreign characters to international mobile phones.



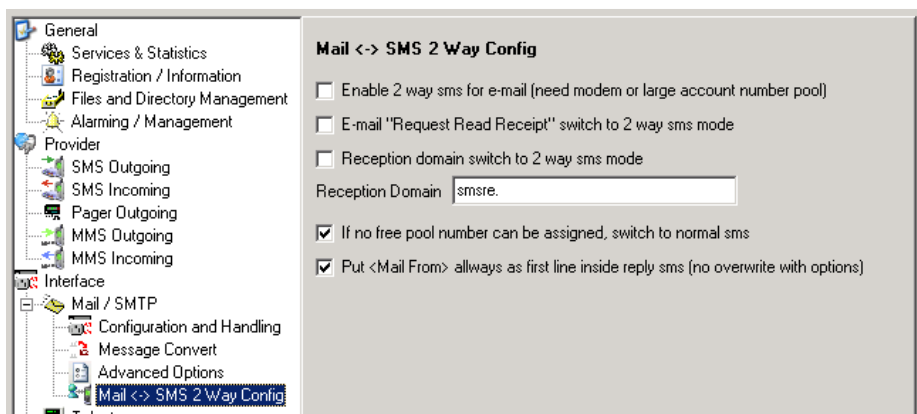
Advanced Options

Please set as you see below



SMS Reply / Mail <-> SMS

If you like to have this feature you can order at least 2 global reply numbers to your SMS Large Account, set the number in the modem config and enable this feature.



Logfiles and Privacy

Set you logfile directory all the accounting and tracing logfiles will be stored in.

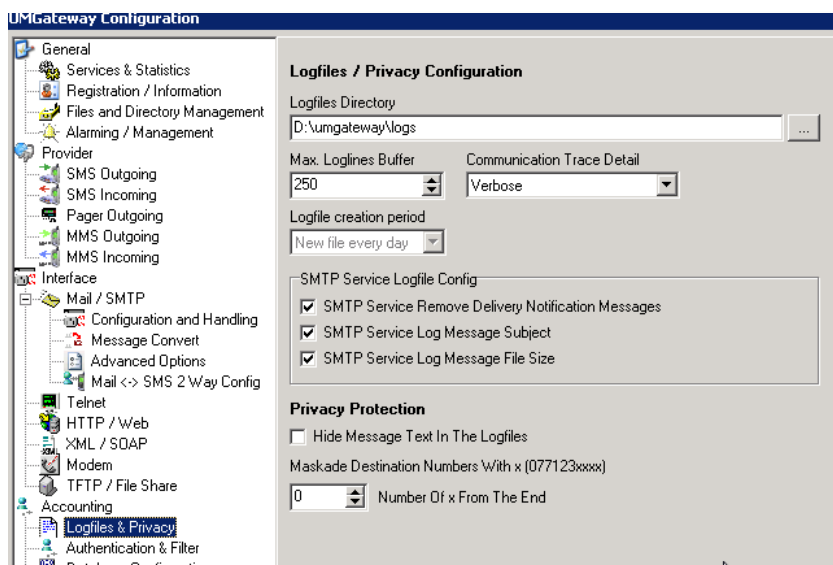
In this directory a subdirectory will contain the trace logs from the services. This traces will be automatically removed after a definition time (see **Files and Directory Management**)

For first time setup please set the Communication Trace Detail to Verbose.

In regular mode set it to Full.

For privacy reasons you can mask the destination phone numbers in the log and accounting files with trailing numbers of X. -> Set it to 4 if needed to hide the last 4 digits of the phone number.

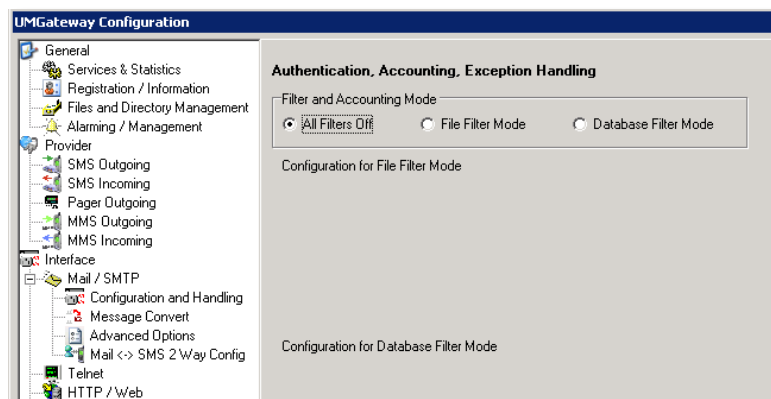
After first time setup you should Enable the Hide Message In The Logfiles



Authentication and Filter

Here you can define the complete accounting and user or domain specific configuration of the gateway. In filemode there is a unix style demo configuration file in the configuration folder you can adapt to the needs you have. See as well the document *Accounting, Filter and SMTP Rules*

First time setup should be set to All Filters Off



SMS Interface Outgoing

Here you have to enter the information for the mobile service provider.

In the configuration below we set a new Swisscom Large Account.

You will get:

a Protocol Identifier (must be EMI / UCP not Premium)

a ShortID (normally 5 Digits)

a UCP Password (some combination of characters and digits)

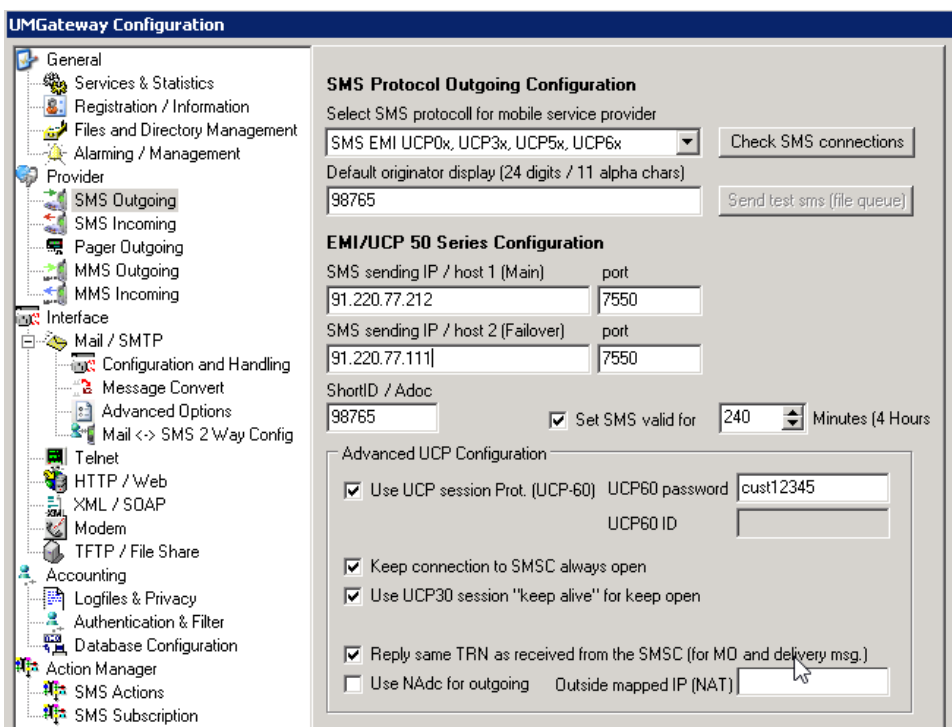
One or two IP Adresses and Ports of the SMSC Inbound Proxy. If you get only one IP, please set the same ip and port of both textboxes.

The Default originator often is set to the ShortID or a main phone number of the company.

For example Swisscom use: +41800800900

Please check the connections!

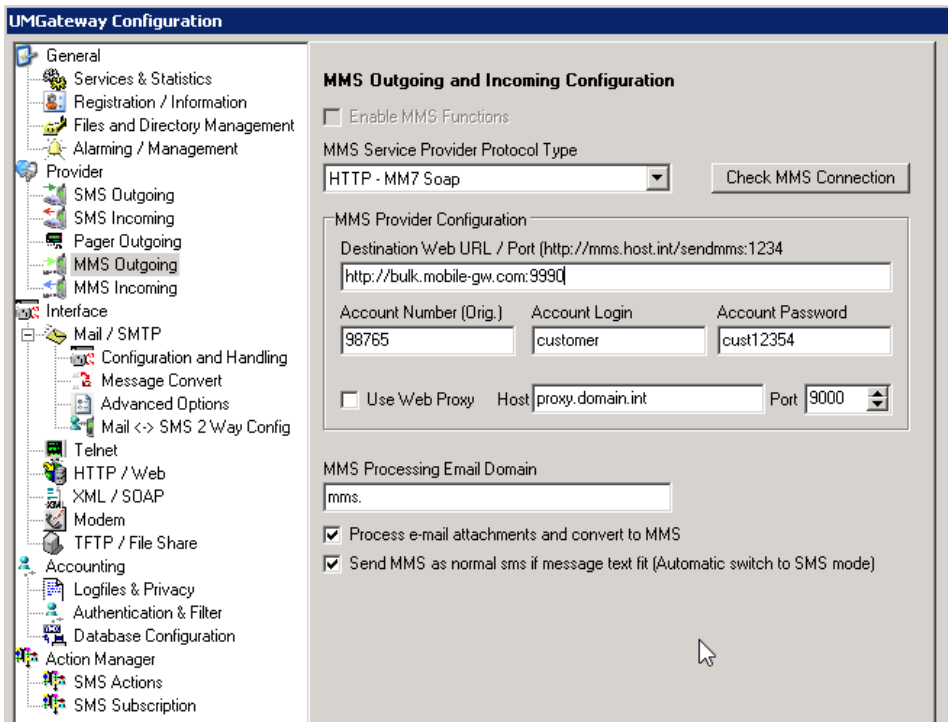
If the outgoing firewall, public ip and Provider inbound firewall are set correctly, you can send your first test sms from here.



MMS Interface (Incoming or Outgoing)

Here you have to enter MMS configuration the information for the mobile service provider. Same as for the SMS part.

If you enable the MMS Part you should use a separate maildomain for sending mms to the gateway. Example mail address: <number>@mms.you-company-mail-domain.local in this config page you only have to enter the domain prefix (mms.



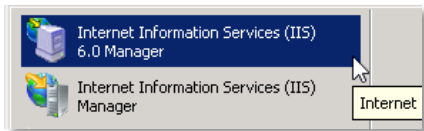
Windows specific Configuration

Windows SMTP Mail Service

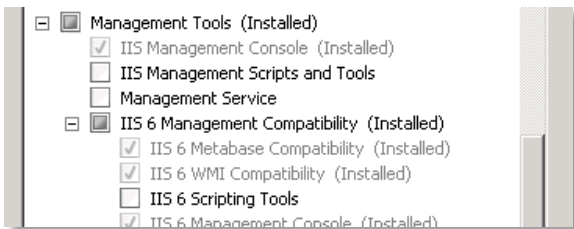
This component is the essential part that allows you to send and receive mails and sms to and from the gateway. This service must be proper configured to work without issues.

SMTP Configuration

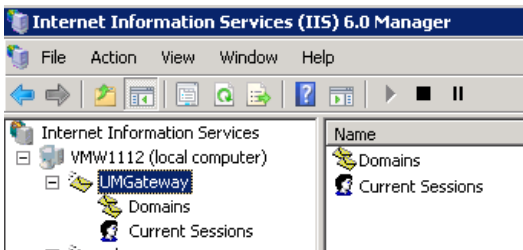
Start the IIS 6 Console



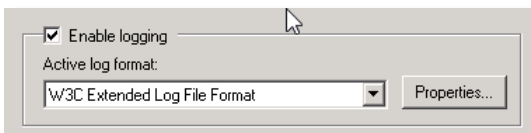
If it is not available please check the iis role services



Rename the Default smtp service to UMGateway



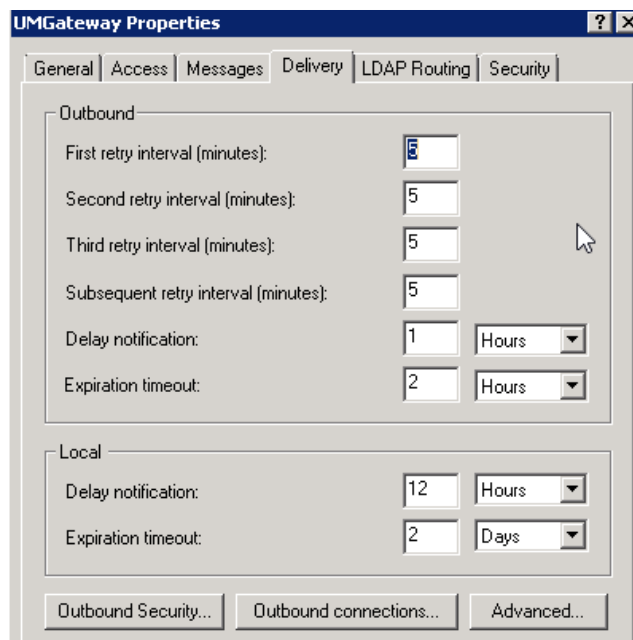
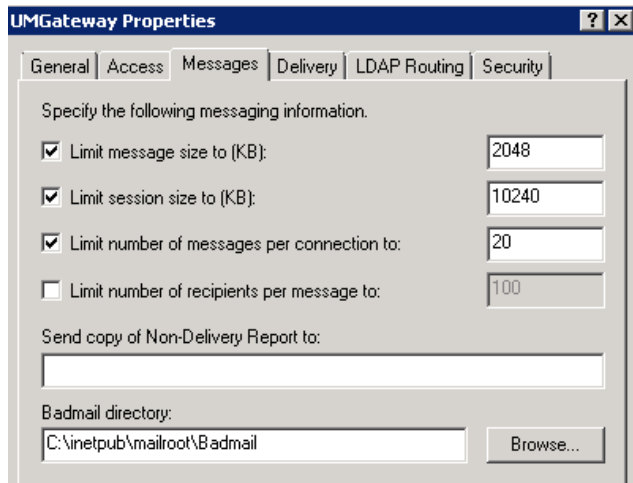
Properties -> Enable IIS LOG, select all properties and select place for the logfiles
(Do not use the default place stored in Windows directory -> set to drive D:\)



Set the Messages and Delivery as followed.

This is a proven good configuration for most situations.

(You can also point the badmail directory to somewhere on d:\)



Mail Routing Configuration

Your applications can send directly to the gateway frontends (standard port 25).

To route mails from users to the gateway you can normally use mailserver internal functions (like smtp connector in exchange) or you can define an internal mail domain in dns (mx record pointing to the gateway).

On the gateway we have to setup the mail acceptance so the gateway receive and store the mails on the server.

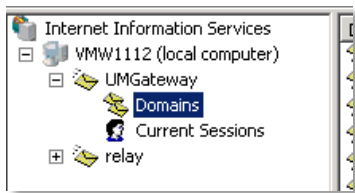
Here you set the mail domains the gateway have to listen and process the messages for.

Example Configuration

The company internal mail domain is:	@company-mail.local
SMS mails are routed to the gateway as:	<number>@ sms .company-mail.local
Priorized SMS mails are routed to the gateway as:	<number>@ prio .company-mail.local
MMS mails are routed to the gateway as:	<number>@ mms .company-mail.local

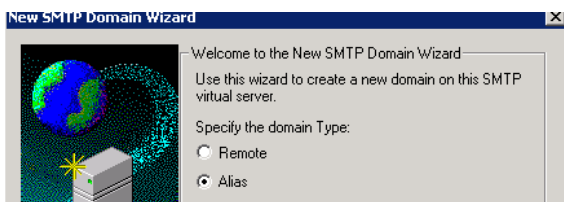
Setup in SMTP Service

Select the Domains node in the SMTP Service Configuration

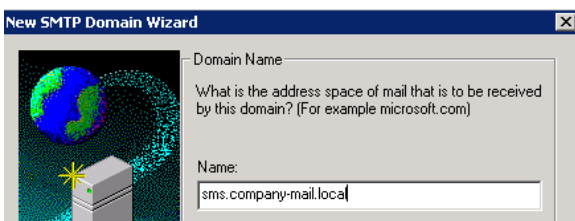


➔ Menu -> Action -> New -> Domain...

Domain Type = Alias



Enter the process mail domain



Repeat for **prio**.company-mail.local, **mms**.company-mail.local

Firewall + Ports Overview

To allow Load Balancer to access the gateway service ports for checking the internal state you have to allow the port 8000 to the load balancer.

If Windows firewall must be activated, please check the following ports are allowed for incoming and outgoing communications.

Port	Inbound / Outbound	Description
TCP 25	Inbound	Receiving emails direct from application or via load balancer. This is the main message processing interface.
TCP 25	Outbound	Sending emails to mail relay or corporate mail server. Send content of received sms/mms, delivery-, state- and error- and alert-messages.
TCP 80 TCP 443	Inbound	Web service interface port. Asynchronous and synchronous processing of messages. SOAP, Generic, POST, GET
TCP <individual>	Outbound	Service provider assigned ip/port for connecting messaging backend services (SMS, MMS, iO). The connection to this ip/port is restricted by the mobile service provider and only accept connections from contract defined source ip's.
TCP 8000	Inbound	Server service and statistics port. Can be used by the load balancer for optimizing message distribution and also by alert and monitoring tools.
TCP 1433	Outbound	Only for database mode installation. SQL Server Access.(DB server can be installed local on same server)

SMS Adapter / GSM Modems

For legacy and classic 2-way-sms or sms-failback modes you can still use our SMS GSM Adapters. This Adapters are produced by the company iTegno, Siemens or Fasttrack and can be orders together with the gateway software. This Adapters are using SIM – Cards for sending and receiving sms.

To be more secure we removed the calling and data functions from the drivers of this products. This devices are no longer RAS or MODEM devices – it is now an gsm based sms receiving and sending adapter. The recommend hardware product is the iTegno USB SMS Adapter. It does provide a built in standard USB connector and does not require any external power supplies or antennas. If the iTegno device should be places in a server room, there is an easy way extending the USB cable up to 5m to reach a good position of the adapter outside the cabinet.