Universal Mobile Gateway V6

Architecture & Connectivity

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PVElectronic

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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. All the details and specification can be read in the separate document called UMGateway Interfaces.

Principle
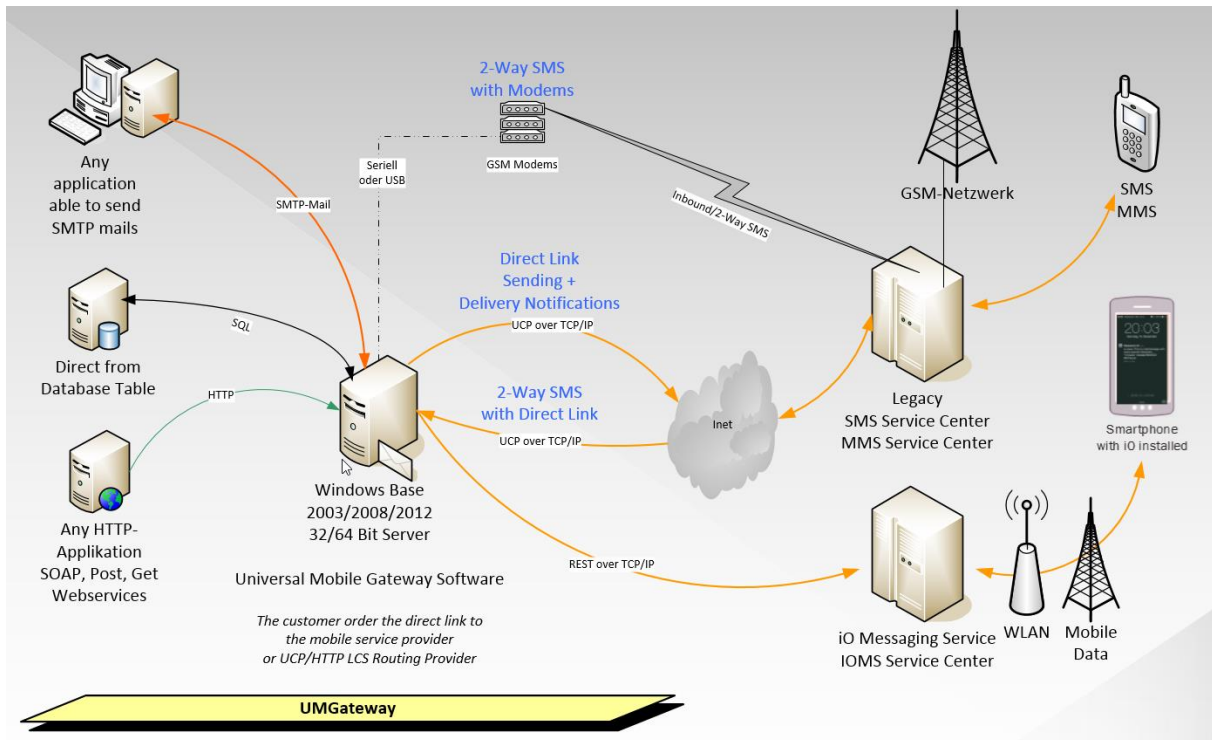
Mobile Service Provider

Favorite service provider in Switzerland: Swisscom AG

Recommended Provider Products

Sending/Receiving SMS:	SMS Large Account, EMI – UCP Interface
Receiving international SMS:	SMS Global Reply Numbers
Sending/Receiving MMS:	MMS Large Account, Interface Manual
Sending iO Messages:	iO Large Account, Interface Manual

Connection to the mobile Service Provider

The connection from the gateway to the service provider are TCP/IP based direct connections.
With this connections the product can use the benefit of being sure the data flows directly from your gateway instance to the mobile service provider and from there directly to the mobile device. This kind of connections gives you a very fast delivery time and also a secure and knowing path to the destination phone. The support of delivery informations you are able to track the message from the sender over gateway and mobile service center to the device itself.

The initiation of the connection is from the gateway to the service provider. As soon the channel session is established the traffic is bidirectional. Sending / receiving message and state informations are on the same point to point TCP connection.

Most service provider provide an internal (leased line / vpn) or external way to access the service center. In case of Swisscom, if the internet access for the company using the gateway server is based on IP-Plus network, the traffic stays inside Swisscom and normally not routed over public internet routers.

New in version 6 of the integration of modern messaging product. At the moment only one product allows the use of a 3th party interface for sending messages by a messaging gateway.
This product was launched mid of 2013 by Swisscom and is called iO. This product support as well secure transmission to the server based direct in the datacenters from Swisscom.

We add some extra functionality to the modern messaging interface. The message sender does not know if the mobile app is installed on the device or if it is used by the user. The gateway query the iO backend service for existence and also query for last online state. If one of the queries does not match our requirements the gateway automatically fallback to SMS or MMS. This allows you to send a message to a destination number and the gateway looks for the least cost routing, deliver to the destination fits best. (iO -> MMS -> SMS)

As soon as there are more products supporting 3th party access we will implement these as well in further releases of the product.

Connectivity and Zoning

Universal Mobile Gateway is an enterprise approved product. Depending of used security concepts the name of the security zones often call different. Our naming based on the zones in Telco standard.
White – Direct Internet Access (no protection)
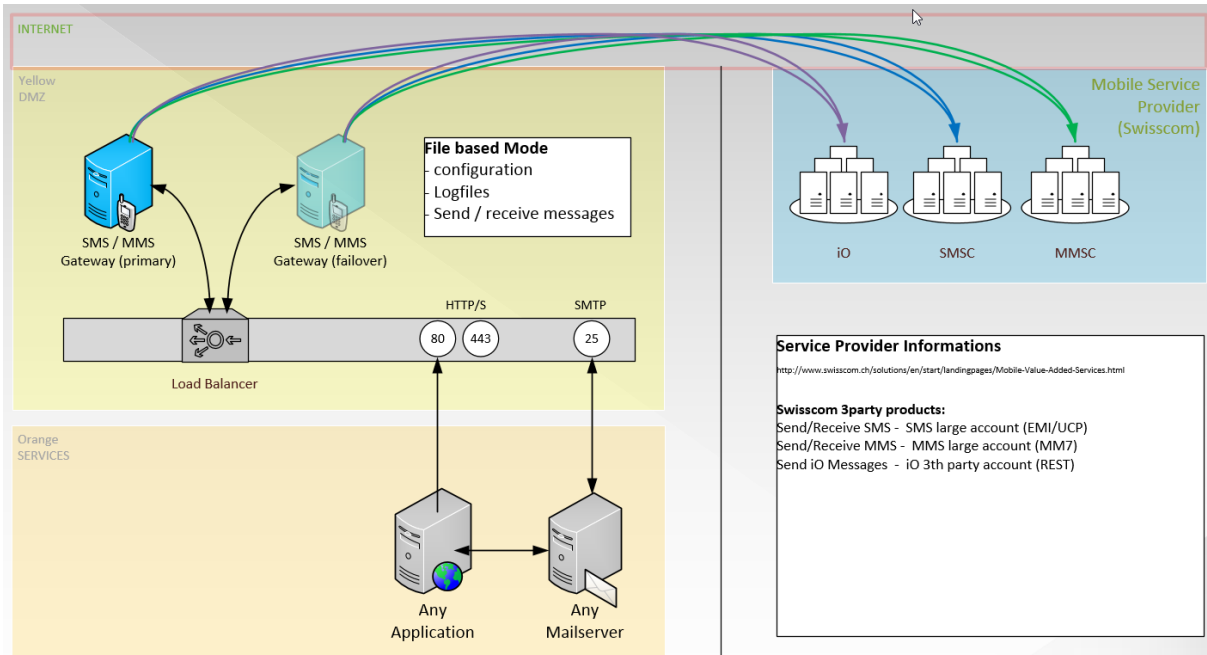Yellow – Direct Internet Access (with protection, FW, DOS Protection …)
Orange – Service Zone (Where all the normal servers and application lives)
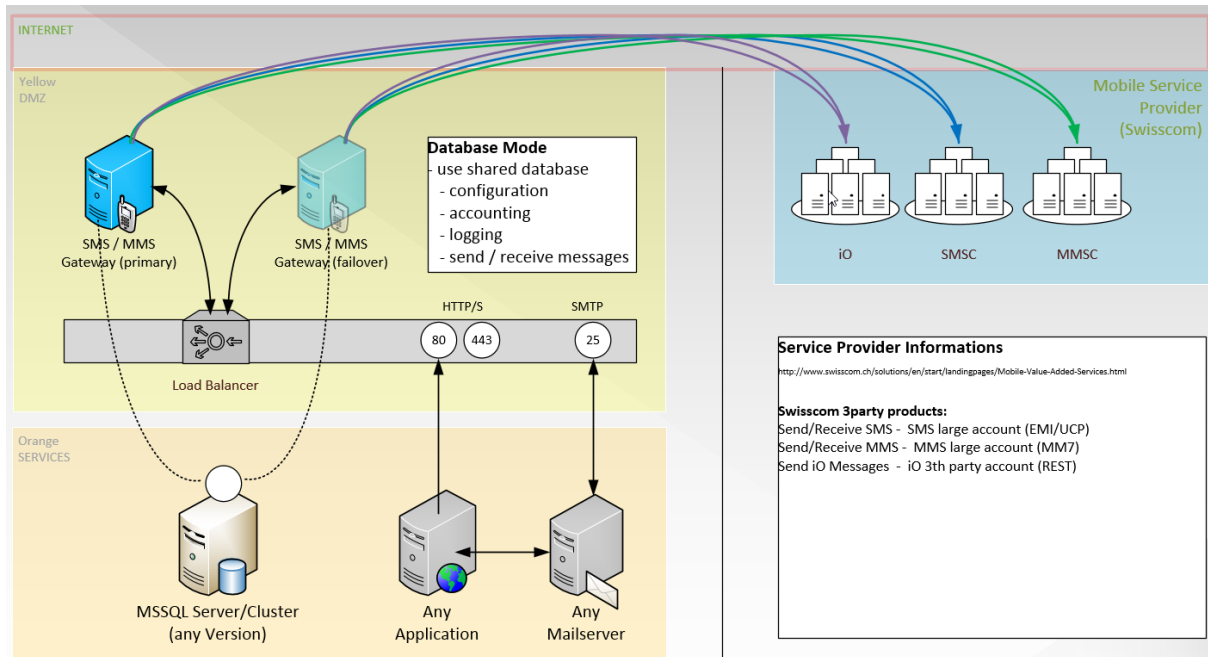Red – High Secure Data Zone (Where all the C4 Data lives)

Product Mode Deployment

As soon as you have at least the Professional Server Edition your are able to use the Database Mode of the product. It is recommended but not required to use the Database Mode if you use multiple active nodes (for High Availability or Failover Configurations).

File Mode

Database Mode

Firewall + Ports Overview

Server side view

Port	Inbound / Outbound	Description
TCP 25	Inbound	Reveiving 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.