

mazore

distance under control

Trading Ltd

M2M-commserver **Version 2.1**

Communication Server for M2M Applications

The M2M-commserver enables data exchange between any telematics, telemetry or security call center software on one hand and our remote surveillance modules on the other.

The M2M-commserver supports data transfer via the new mobile phone standard GPRS as well as SMS-, Data Call, E-Mail, Inmarsat and DTMF communication.

GPRS reduces the average data transfer costs per vehicle very often to less than 10 Euro per vehicle per month, even if the vehicle's position and the other data are transmitted every few kilometers to the backend system.

The M2M-commserver stores all transmitted data for a pre-defined period.

The M2M-commserver can be accessed from every internet-enabled PC quite easily with the help of HTTP requests and the transmission of typical internet XML data structures or by integration with the SOAP interface of the M2M-commserver.

The M2M-commserver is implemented in JAVA.

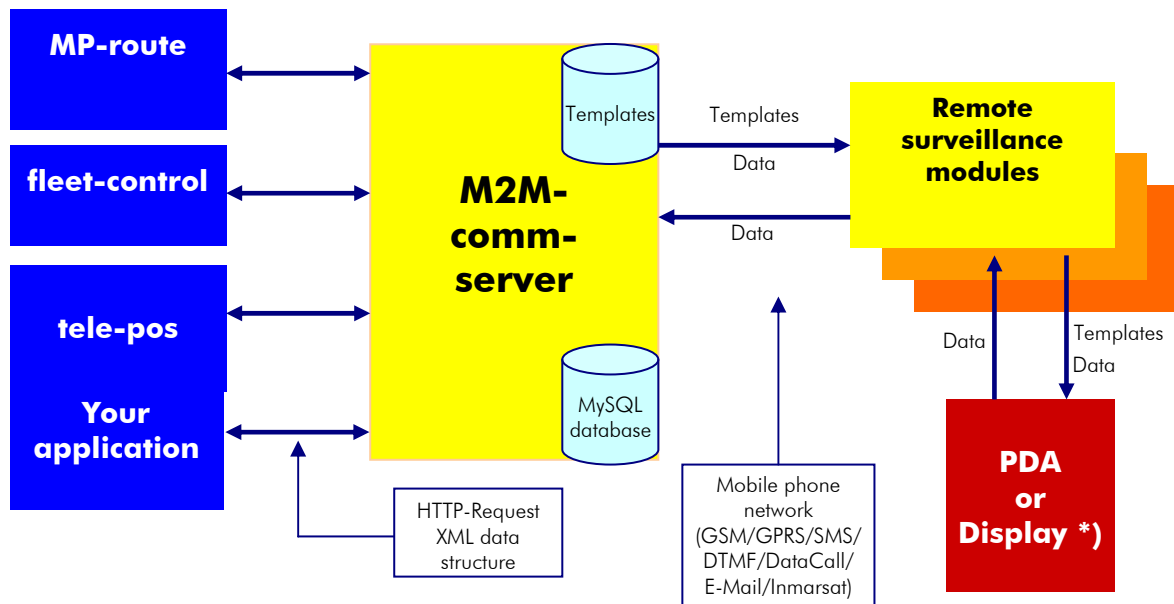


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M2M-commserver modules

Feature List

- Transmission of data from a Linux- or Windows server in the internet to any GSM- or INMARSAT remote surveillance module
- Transmission of data from our remote surveillance modules to a Linux- or Windows server in the internet
- A communication interface for any application via HTTP requests or SOAP and XML data structures
- Applications can be run on the server or on any other PCs with internet connections
- High cost saving due to GPRS support and DTMF support
- Substantial cost savings due to high compression of the data to be transmitted between the web server and the remote surveillance modules
- The data transmission between the M2M-commserver and the remote surveillance modules is encrypted as well as the data transmission between the M2M-commserver and applications
- Automatic fallback to DTMF or SMS if GPRS is not available in a region (not necessary in Western Europe)
- Our remote control modules can be used for text message communication on the server side
- On the server side our remote control units can be used for SMS communication as well as an SMS-C gateway.
- The parameters in the remote control units can be updated separately or in groups
- The application software in the remote control units can be updated thru the M2M-commserver
- Passive-Mode: the data coming from the remote control units is stored in the database of the M2M-commserver until it is fetched by an application
- Active Mode: The data coming from a remote control unit is immediately forwarded to an application using an URL provided by the application (available 4/2005)

Libraries

The M2M-commserver consists of the following software packages:

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- **Function library for our remote surveillance modules**

A library of VPL programs is supplied for the remote surveillance modules, which ensures, that the data is transferred from and to the remote surveillance module using the RACP2 protocol. Furthermore a powerful example application from the vehicle locating area will be supplied, which can be used immediately.

- **Function library for a Linux- or Windows server**

A powerful JAVA application for serves with a Linux- or Windows operating system used as the counterpart for the remote surveillance units in the Internet. A MySQL database comes with the software as well as as a range of JSP routines, which ensure that the data can be exchanged with the remote surveillance units.

Any application on the server or on any PC with internet access can exchange XML data structures based on HTTP requests with the M2M-commserver.

GPRS instead of SMS

The remote surveillance units usually send data via GPRS and not SMS like before. GPRS is like a fixed line to the Internet, based on the mobile phone standard GSM, which offers distinct advantages compared to SMS as follows:

- The data transmission costs are much less (savings are often 90% and more compared to SMS.)
- The security level is much higher, because any de-activation of the remote surveillance unit (for example due to a technical defect or vandalism) is detected immediately. There are no additional data transfer costs for this surveillance

GPRS does not yet enjoy blanket coverage in all countries outside Europe. For this reason a fallback mechanism has been implemented into the M2M-commserver libraries which automatically switches to DTMF, Data Call or SMS if GPRS is not available.

The advantage of DTMF is, that the transmission happens immediately and that the sender of information can be sure, that the opposite side received the data securely. In addition, all over the world there is no limitation regarding the functionality of DTMF. All matters are not guaranteed by the mobile phone network providers if SMS is used.

```
<?xml version="1.0" ?>
<!DOCTYPE gps (View Source for full doctype...)
- <gps>
- <position>
- <!--
  http://www.mazquest.com/m2m/m2m.asp?
  lat:longtype=decimil|lat:stidue=52.4085044|long:stidue
-->
->>>
<REF>96584</REF>
<CLIENTID>30513017</CLIENTID>
<RECDATE>2003-08-21</RECDATE>
<RECTIME>11:30:29</RECTIME>
<SENDATE>2003-08-21</SENDATE>
<SENDTIME>11:27:47</SENDTIME>
<LATDEG>52.0000</LATDEG>
<LATMIN>24.0000</LATMIN>
<LATSEC>30.6120</LATSEC>
<LONGDEG>13.0000</LONGDEG>
<LONGMIN>17.0000</LONGMIN>
<LONGSEC>22.1020</LONGSEC>
<MSG_TYPE>5</MSG_TYPE>
<TAXI_BUSY>1</TAXI_BUSY>
<TAXI_MOVED>0</TAXI_MOVED>
<SQUAREID>7643249</SQUAREID>
<T_CONC_NO>00731</T_CONC_NO>
<DIGINP1>1</DIGINP1>
```

XML data structure

INMARSAT for the Middle of Nowhere

In many regions of the world GSM is not available because the population in these areas is not big enough to pay for the necessary infrastructure.

Amongst those regions is the sea, the desert, areas with little population, areas of war and others.

In these areas INMARSAT based remote surveillance modules can be used for communication. The only thing these modules need for communication is power and a good view to the sky.

It might be surprising for you, that the prices for satellite communication units as well as satellite air time has dropped dramatically in the last months and therefore can compete now with GSM based communication. Due to this reason, various ON Board Units are available today which can be mounted in trucks, cars, ships, containers etc.

Data transmission is world wide possible in both directions. Only a very small part around the poles is not covered by the INMARSAT satellites.

We support INMARSAT-C technology as well as INMARSAT-D technology. The most important difference between these two technologies in regards of telematic applications is the pricing issue:

INMARSAT-C hardware is pretty expensive – on the other hand the communication costs are low.

INMARSAT-D hardware has become really cheap. On the other hand communication costs using INMARSAT-D are higher compared with INMARSAT-C. We can advise you which technology to use based on your communication needs.

Integrating PDAs

You have the possibility of exchanging data with PDAs or other terminals with a serial port which are connected to our remote surveillance modules using the M2M-commserver.

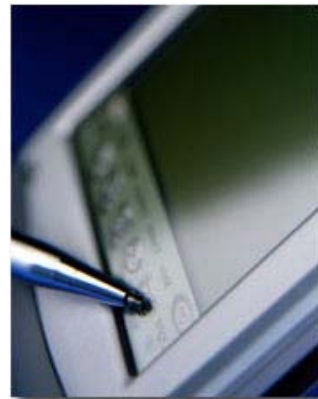
In this way you can, for example, send driving jobs to drivers or drivers can send delivery quantities and even signatures to the office.

The advantages are as follows:

- Very inexpensive PDAs can be used while giving the user a high degree of comfort at the same time
- No additional SIM card is required to connect the PDA to the mobile phone network

The following software modules are supplied to integrate PDAs:

- An editor for templates to design the PDA display
- Extension of the M2M-commserver functionality to include the transmission of the templates and the data to the PDA
- Extension of the VPL program library functionality to include the functions to exchange data between the M2M-commserver and the PDA
- Template Interpreter for PDAs to show any templates with integrated communication interfaces for the purposes of exchanging data between a PDA and our remote surveillance unit.



Products

Product	Part No.	Product Description	Prices
M2M-commserver license	MMC-03-04	Unlimited software license for the M2M-commserver including 10 objects to be placed under surveillance; no time restriction. With this price option the system grows with your customer base.	27.000,-- Euro
M2M-commserver Installation	MMC-03-05	Installation of the software on a Linux- or Windows 2000 server supplied by the customer with a fixed IP address and remote access. (Pre-condition for us to service the system)	2.980,-- Euro
M2M-commserver Mirror Installation	MMC-03-09	Unlimited software license for the M2M-commserver for an unlimited number of objects to be placed under surveillance; no time restriction	5.980,-- Euro
M2M-commserver Support	MMC-03-07	24h remote service for the server including all software updates. The administration of the system is not included in the price and is normally carried out by the user.	29,-- Euro per object per month
M2M-commserver PDA/Display connection	MMC-03-08	Software modules for the Linux server, our remote surveillance units and PDAs to transfer the data to and from the PDAs which are connected to our remote surveillance unit	14,-- Euro per object per month
M2M-commserver ASP-license	M2M-03-24	Usage of the M2M-commserver platform which is run by us monthly fee with 24 month duration 1-9 objects 10-24 objects 25-99 objects 100+ objects	24,-- Euro 21,-- Euro 19,-- Euro 17,-- Euro
M2M-commserver ASP-license	M2M-03-48	Usage of the M2M-commserver platform which is run by us monthly fee with 48 month duration 1-9 objects 10-24 objects 25-99 objects 100+ objects	19,-- Euro 17,-- Euro 15,-- Euro 14,-- Euro