

25.04.2016

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## DATCOM Communication System

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### Preface

DCS is the main communication unit which is connected to the LANserver of DATCOM GPRSgateway and connected to a MS SqlServer database.

DCS saves all received vehicle data from GPRSgateway to SqlServer database.

DCS sends all user orders from SqlServer database to vehicle via GPRSgateway.

DCS manages customer data, user data, driver data, vehicle data and other logistic data.

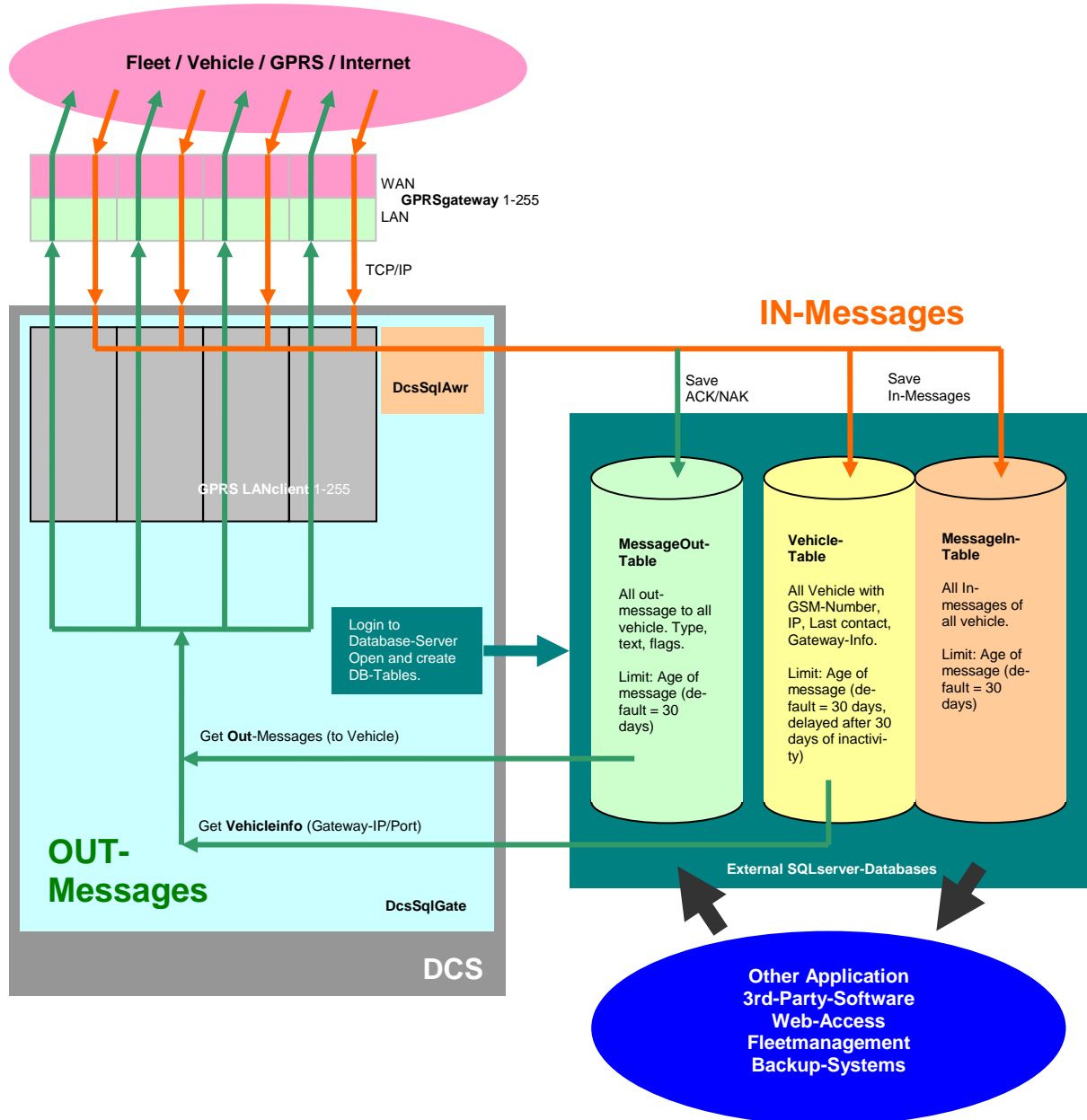
The **DATCOM Communication System** consists of the following modules:

- **DATCOM DCS (DATCOM Communication Server)** with MS SqlServer database
- **DATCOM GPRSgateway** for communication with vehicles via GPRS
- **DATCOM SMSserver** to receive and send SMS with vehicle (7E-Format only)
- **DATCOM Mapfleet**, optional fleet management portal (asp.net), which includes Webservice for connection of 3<sup>rd</sup> party web solutions to the database
- Different internal DCS modules to get jobs done like Alert-, Sms-, Object-Solutions
- Other 3<sup>rd</sup> party fleet management solutions

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## DATCOM Communication System

### Structure overview



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### DCS

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DCS saves all received vehicle data from GPRSgateway to SqlServer database.

DCS sends all user orders from SqlServer database to vehicle via GPRSgateway.

DCS manages customer data, user data, driver data, vehicle data and other logistic data.



### System requirements

*2 GB RAM  
Network connection  
Windows xp, vista, 7, Server 2003, 2008 (32/64 Bit)  
MS .Net Framework 3.5  
MS SqlServer 2005 / 2008*

### Installation

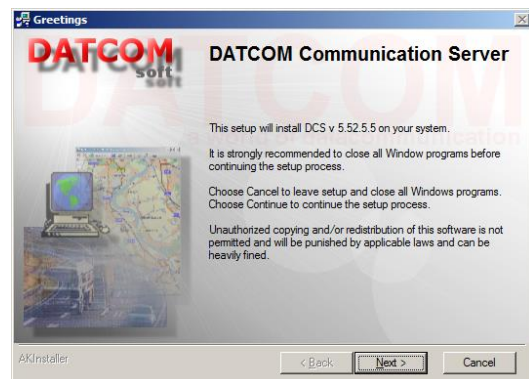
Please start the setup program on the CD and follow the installation steps.

The program will finally be installed as service. You have to be Administrator to do this.

The setting program (DCS Properties) can be linked as symbol on the desktop and can be started from program group *DATCOM soft*.

With next system start the service "DCS" will be started automatically. Other program parts and functions will also be activated.

To get it configured and tested you have to start DCS Properties.



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### DCS Properties

#### Process Start

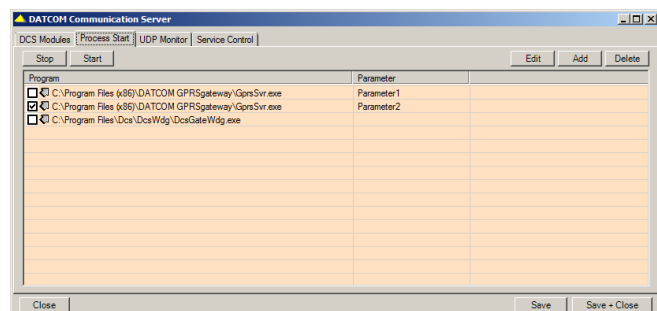
Herewith other programs or modules will be started while service *DCS* is started.

It might be useful to start the server DATCOM TCPserver or DATCOM GPRSgateway with the service. But it is also possible to start any other desired programs with the service.

Usually, if there are already DATCOM programs installed, they will be automatically being selectable here.

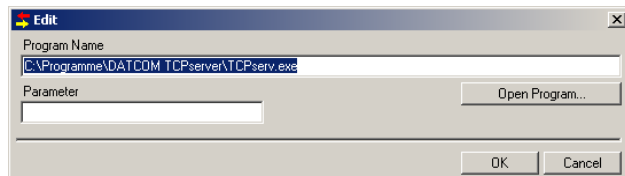
Only activated lines (check marked) will be started.

If programs need parameter to be started correctly edit this in column *Parameter*.



#### Add

This adds programs as new line to the list. Choose a program on your system. Additionally, it is possible to hand over a parameter to the program while starting it.



#### Edit

This button edits the marked line for selecting another program or another parameter.

#### Delete

The button deletes the selected line.

Only saved information will be started by DCS. Therefore it is always necessary to press one of the saving buttons for accepting the settings.

- *Save only* = only saving
- *Save + Close* = saving and closing the setting window
- *Start* = the saved and active entries are started for testing it.
- *Stop* = the saved and active entries are stopped for testing it.

#### Start

By pressing the **start** button the active programs will be started with user interface (normal program start).

#### Stop

Herewith the active programs will be stopped as process.

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All check marked programs will start without user interface (service start, invisible).

All programs which are started by DCS must not have any user entries. Windows and dialogs which are expecting a user reaction are invisible, and would lead to an apparent deadlock of the appropriate program. Alert windows must close independently after a certain period. User applications must be deactivated (DATCOM fleet).

There is no problem to start also **DATCOM GPRSgateway** or **DATCOM SMSserver** automatically as service.

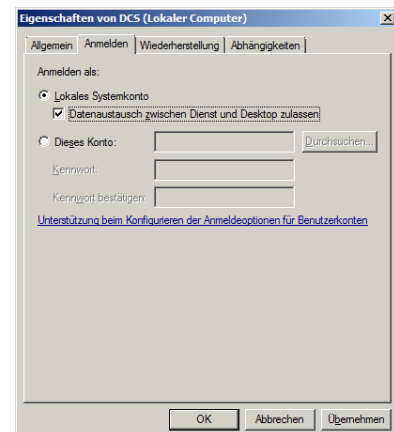
To start multiple GPRSgateways as service and to increase the memory allocation of each task it is advisable to allow DCS service to exchange data with the desktop.

### DATCOM fleet :

DATCOM fleet as user program must be configured not to require any user entries. The administration must be switched off, and the automatic connection to the appropriate servers by starting the program must be activated. The database should be operated in master mode, the settings "as server..." should also be activated so that PTV maps are set invisible.

After a certain period alert windows should be closed automatically (see defaults for alerts). A program which is automatically started by DATCOM fleet will also be re-activated by DATCOM fleet. For example, if you want the GPRSgateway to start already with DATCOM fleet's own program start, it can be deleted in the list "Additional Startups" by DCS to avoid double activation (once by DCS and twice by DATCOM fleet).

It is always recommendable to start all programs only by DCS. Therewith DCS can always terminate the started programs, which is not possible for DATCOM fleet.



### Service Control

Herewith the service DCS can be started and stopped manually. It is also possible to activate and deactivate the service.

**Run DCS service** starts the service and all program parts and program startups belonging to it.

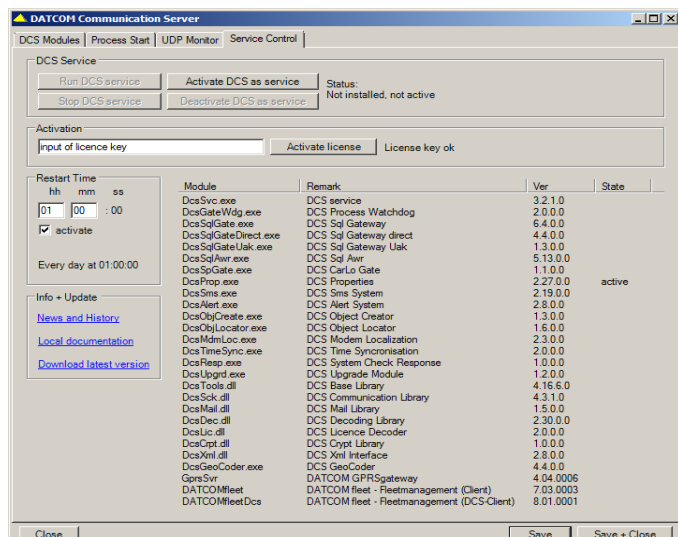
**Stop DCS service** stops the service and all program parts and program startups belonging to it.

Always when restarting the system the service DCS will also be started, which corresponds to the function "Start DCS".

Via **Activate DCS as service** and **Deactivate DCS as service** the service can be removed from services or inserted into services on the local machine.

### Activate License key

To activate all functions put in your license key which is shipped with program and press button *Activate license*.



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### Restart Time

To restart DCS and all modules at a predefined time of day put in hour and minute and activate the check mark.

### Info + Updates

To get information about updates, documentation and support.

#### News and history

Get the latest information about updates from DATCOM Web.

#### Local documentation

To show the PDF-File from local installation folder. The documentation file was installed by setup of program DCS.

#### Download latest version

This downloads the latest version of DCS. Download the Zip-File of DCS-Setup from DATCOM Web, save it in a local folder, extract the Zip-File and run setup.exe to get the latest version installed.

### UDP monitor and protocols

The service DCS runs without user interface. Therefore it might be useful to log or watch all activities to an output-box if necessary.

The logfiles are hold in **DCS program directory** and subfolder **Logs**. Here the **month subfolder** holds all generated **daily files** with the format YYYYMMTT.log, e.g. „DcsSvc\_20120926.log“. It will attempt to log all activities, occurrences and errors.

If **DCS Properties** is active all protocol entries can be seen in **UDP Monitor**.

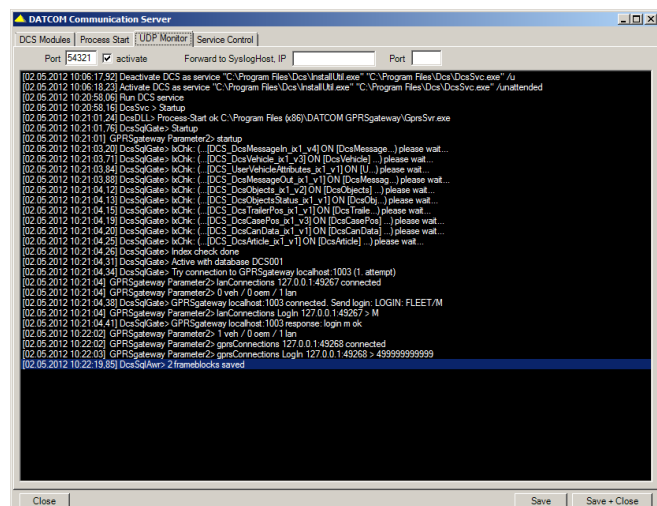
Enter a free local UDP-port where the UDP monitor is meant to receive the log information. Activate the function and save these settings with "Save"-Button.

All log information

1. are written into the protocol file
2. and sent to UDP monitor if DCS Properties is active.

The UDP monitor displays the last 500 log informations, but only if properties window is active. Otherwise all actions are written into the log-files only.

### Forward to Syslog Host



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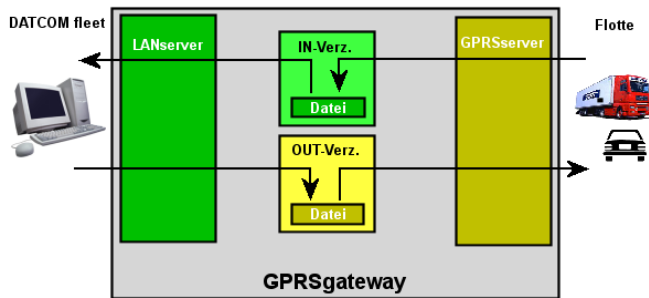
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To make the Log-engine forwarding all log informations to a second receiver put in **IP** address and **port** of the server to which all log informations should be sent to additionally. The UDP protocol is used for this function.

### DCS Modules

The DCS SQL-Gateway maintains the connection to the DATCOM GPRSgateways and saves all data of the communicating vehicles into a database. It is possible to send orders to the vehicle via the sending data table.

Therefore the LANserver of the DATCOM GPRSgateway must be available via TCP/IP-protocol.



### GPRSgateway

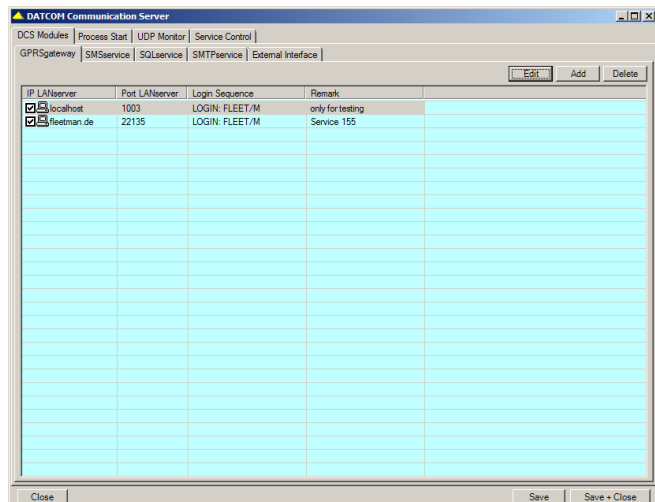
The required DATCOM GPRSgateways are accessible with their IP-address and port.

Therefore the GPRSgateway must be active and have to be reachable via TCP/IP. The connection is cyclically checked and will be re-established in case of loss of connection (60 seconds checking).

**Add** applies a new line where you can enter IP, port, login sequence and a remark.

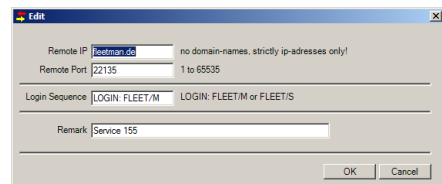
**Edit** is accordingly editing a marked line.

**Delete** deletes the marked line.



Enter the **IP address** and the **port** of the LANserver. Here also is needed a login sequence which is usually "LOGIN: FLEET/M".

Only activated lines (check marked) will be used. Press always the button **Save** to save the settings. The program only activates settings from saved configuration file.



### Login Sequence M / S

**Master:** GPRSgateway holds back any data until a Master has logged in. If any Master is logged in all data will be shipped to all connected client, no matter if Master or Slave. If DCS connects to GPRSgateway as Master it will receive all data in real time.

**LOGIN: FLEET/M** (case sensitive)

**Slave:** If DCS is connected to GPRSgateway as Slave all data are hold back and buffered in GPRSgateway until a Master will connect. With this moment DCS will receive all data from GPRSgateway in real time.

**LOGIN: FLEET/S** (case sensitive)



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### SQLservice:

To save all received data of the vehicles it requires following settings to the SqlServer:

#### SQLserver

Put in the name, IP or resource of the required SqlServer. To use a different Port of SqlServer add a comma and the port, like:

*192.168.210.58,11280*

#### Database-Name

Put in the name of the database where the vehicle data is meant to be saved.

There is no need to have the database already exist in the SqlServer. If database doesn't exist DCS will create it. Therefore user has to be allowed to create database, tables and fields in SqlServer.

All required data tables and data fields are automatically put into the defined database by DCS. If "Create and check indexes" is activated all indexes will be installed or checked also.

#### User

Put in the user name for this database. Make sure that user is allowed to create or change database, tables, indexes and fields, save, change and delete records.

#### Password

Put in the valid password for the user.

#### Integrated Security

This uses the MS-Windows security login with PC name and registered actual user. Hereby the user and the password are not logged in at the SqlServer, but only the user and the appropriate PC. In case of starting the system as service this can cause problems.

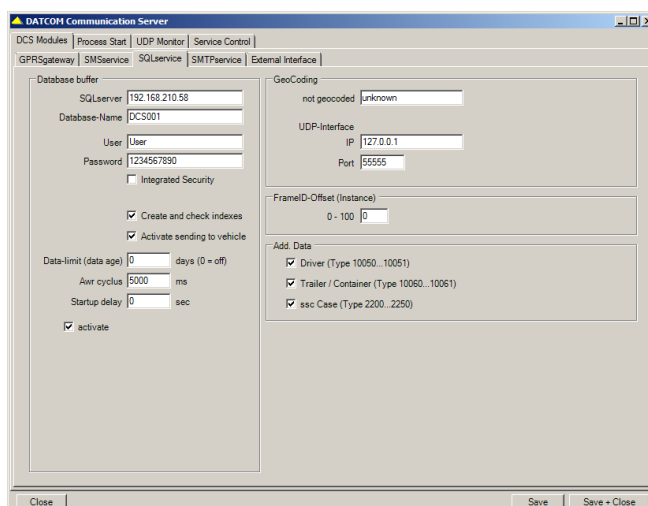
Try to bypass this setting.

#### Create and check indexes

To speed up the common Sql Queries DCS is able to insert its default index tables to database. There is no need to do this, because the index tables can also be inserted by hand or on its own needs.

#### Activate sending to vehicle

DCS looks up for data to be sent to vehicle in *DcsOutMessage* table. To activate or deactivate the cyclic data search use this check mark.



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### Data-Limit (data age)

Older data can be deleted automatically. Therefore put in the data age as days. After reaching this age older data are deleted from the SqlServer database. If SqlServer itself will manage the job you can deactivate the DCS function by putting in **0** (zero).

It is always the better way to make MS SqlServer deleting its own old data by a service job. Look at the example of deleting old data at the end of this documentation.

### AWR cyclus

After the receiving of the vehicle data an internal process is initiated which decodes this data and saves it into SqlServer database. This process runs every n milliseconds. Change value to have it speeded up or delayed. Best values are between 5.000 and 20.000 ms.

### Startup delay

If system will be rebooted due to necessary maintenance, the start of DCS can be delayed to make sure that SqlServer has started well before DCS will connect to its Database.

### Activate

Activates and deactivates the saving into the SqlServer database in general.

### GeoCoding:

#### Not geocoded

All new location data are saved with location information "unknown" by DCS in database as default.

If DCS GeoCoder is installed, configured well and active all new location data with location information "unknown" will be reverse geocoded. The text "unknown" will be replaced by Geocoder's geoinformation in the case that DCS GeoCoder found location information in its PTV database.

Put in another text to change the default text "unknown" and press Save-button.

#### UDP-Interface

DCS GeoCoder has integrated an interface to answer via UPD with its location information. Put in *IP-Adress* and *Port* on which DCS GeoCoder should answer any geocoding UDP requests.

### Frame ID Offset

*(In progress and in change)*

### Add. Data:

To save **driver** activities to database (Types 10.050, 10.051) activate check mark.

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To save **trailer** and container activities to database (Types 10.060, 10.061) activate check mark.

To save **security case** activities to database (Types 2.200 to 2.250) activate check mark.

### Startup of additional functions with Process Start

Manages all programs which should be started when service DCS starts to get additional functions and analyses. This may be own modules or included DCS modules.

#### Alert analysis

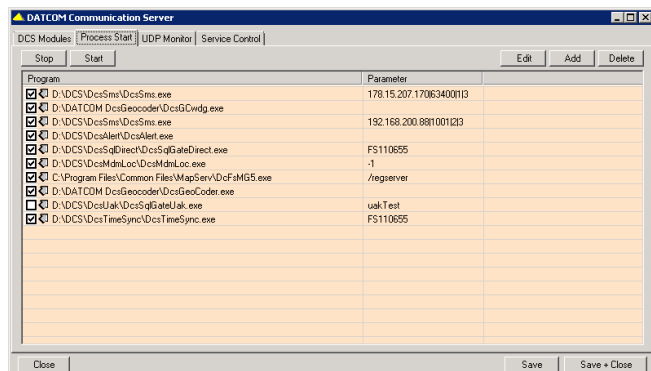
**Function 1:** Alerts Type 10012 are forwarded from the DCS database to an appropriate receiver group depending on the requirements. The forwarding will be done via e-mail.

**Function 2:** Temperature data is checked for maximum or minimum deviation of given limit values. In case of exceeding (or falling below these values) alerts are forwarded from the DCS database to the appropriate receiver group depending on the requirements. This forwarding will be done via e-mail.

**Program:** C:\Programs\Dcs\DcsAlert\DcsAlert.exe

**Parameters:** none

**Options:** can be started only once



#### SMS analysis (receiving)

**Function:** The program establishes a TCP connection to a SMSserver and decodes only standard SMS Type "7E". All other types of SMS messages are discarded. These 7E-SMS of the vehicles are saved into the database.

**Program:** C:\Programs\Dcs\DcsSms\DcsSms.exe

**Parameters:** 231.122.141.158|1001|4|3

**Separators:** | = Pipe (Alt 124)

**Parameter 1:** IP address SMSserver (e.g. 192.168.1.34)

**Parameter 2:** Port SMSserver (e.g. 1001)

**Parameter 3:** Instance count (e.g. 1-10)

**Parameter 4:** Encryption depth (standard = 3)

**Options:** can be started several times

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**Time Sync** (synchronizes time of local system)

**Function:** The program connects via TCP/IP to Timeserver *time.nist.gov* every 60 minutes to receive the exact time and to set the locale time.

**Program:** C:\Programs\Dcs\DcsTimeSync\DcsTimeSync.exe

**Parameter:** FS110655

## File Download

### Properties

The function "File Download" is used to transfer files between the DATCOM boxes and the DCS system.

To unlock this feature a separate license is required which is shipped by the manufacturer of DCS.

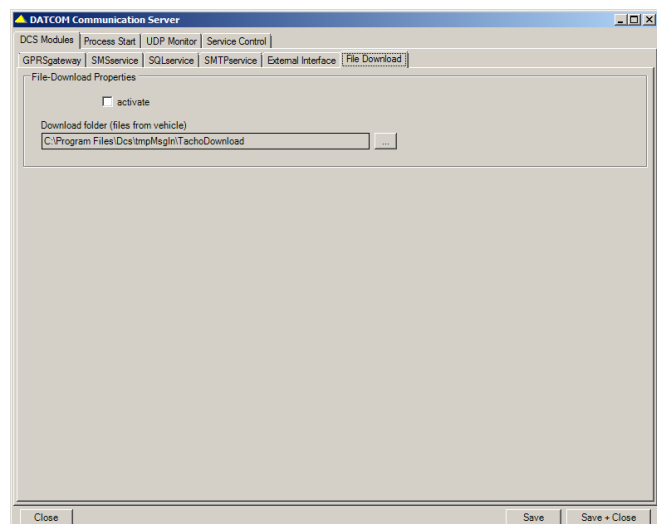
The only possible direction to download files is from DATCOM-Box to DCS.

The message types 0x4000 to 0x4FFF are used for this function. The data of these message types are not stored into database. They are only saved as files in a special folder.

### Download folder (files from vehicle)

Enter the download location for these files and push "activate" to activate the download function. Press then the "Save"-Button to have it activated within the DCS-Service.

All received files will be saved now in this download folder. The files in this folder can be processed by specialized software. No file will be deleted by DCS.



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### Database

#### Customers, dispatchers, vehicles and drivers

The **customer** (DcsCustomer) is "owner" of

**Dispatchers** (DcsUser)

**Vehicles** (DcsVehicle)

**Drivers** (DcsDriver)

#### Excerpt of Customer data: DcsCustomer

| Description, field name | Type          | Remarks   |
|-------------------------|---------------|---|
| CustomerNumber          | nvarchar(100) | Clear and unique customer number (CustomerID) of the customer (a customer is owner of User, Vehicle und Driver) |
| Name                    | nvarchar(100) | Customer name   |
| Title                   | nvarchar(100) | Address data of the customer (optional)   |
| Address                 | nvarchar(100) |   |
| City                    | nvarchar(100) |   |
| Region                  | nvarchar(100) |   |
| PostalCode              | nvarchar(100) |   |
| Country                 | nvarchar(100) |   |
| Phone                   | nvarchar(100) |   |
| Fax                     | nvarchar(100) |   |
| Mail                    | nvarchar(100) |   |
| Web                     | nvarchar(100) |   |
| ActiveFromDate          | Datetime      | Active from (is checked at User, see there)   |
| ActiveToDate            | Datetime      | Active to (is checked at User, see there)   |
| InvoiceType             | Smallint      | Invoice type (optional to accountancy)  |
| InvoiceCyclus           | Datetime      | Invoice cycle (optional to accountancy)   |
| BillingType             | Smallint      | Billing type (optional to accountancy)  |
| BillingCyclus           | Datetime      | Billing cycle (optional to accountancy)   |

#### Excerpt of User data: DcsUser

| Description, field name | Type          | Remarks   |
|-------------------------|---------------|---|
| UserAccessName          | nvarchar(100) | Clear and unique name of the user   |
| UserAccessPwd           | nvarchar(100) | Respective password to log in the portal (duplicated)                                   |
| UserAccessLevel         | int           | Access levels (1 = Basis, 2 = Premium, 3 = Superior)                                    |
| UserAccessGroup         | nvarchar(50)  | Group membership (1 group letter e.g. A, see also UserAccessGroups at DcsVehicle table) |
| UserActiveFromDate      | datetime      | From when the user is allowed to access   |
| UserActiveToDate        | datetime      | To when the user is allowed to access   |
| CustomerId              | int           | Respective customer ID (see table DcsCustomer)  |
| ContactName             | nvarchar(100) | User name   |
| ContactTitle            | nvarchar(100) | User title  |
| Address                 | nvarchar(100) | User address  |
| City                    | nvarchar(100) | User city   |
| PostalCode              | nvarchar(100) | User postal coder   |
| Country                 | nvarchar(100) | User country  |
| Phone                   | nvarchar(100) | User phone number   |

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|                   |                      |   |
|-------------------|----------------------|---|
| <i>Fax</i>        | <i>nvarchar(100)</i> | <i>User fax number</i>  |
| <i>Mail</i>       | <i>nvarchar(100)</i> | <i>User mail address</i>  |
| <i>PageDesign</i> | <i>nvarchar(100)</i> | <b>Respective corporate identity</b> (datcom, posinet etc.)                           |
| <i>FormHeight</i> | <i>int</i>           | <b>Height of the webpage in pixel (640, 720, 810) depending on the user's monitor</b> |

### Excerpt of Group mapping: DcsGroups

| Description, field name        | Type          | Remarks   |
|--------------------------------|---------------|---|
| Identification                 | nvarchar(100) | <b>Clear and unique description</b> of the user, vehicles, drivers, customers or others |
| A                              | nvarchar(100) | Name or description of the group  |
| B                              | nvarchar(100) | Name or description of the group  |
| C                              | nvarchar(100) | Name or description of the group  |
| D                              | nvarchar(100) | Name or description of the group  |
| E                              | nvarchar(100) | Name or description of the group  |
| F                              | nvarchar(100) | Name or description of the group  |
| G                              | nvarchar(100) | Name or description of the group  |
| ... (continuously by alphabet) | ...           | ...   |
| V                              | nvarchar(100) | Name or description of the group  |
| W                              | nvarchar(100) | Name or description of the group  |
| X                              | nvarchar(100) | Name or description of the group  |
| Y                              | nvarchar(100) | Name or description of the group  |
| Z                              | nvarchar(100) | Name or description of the group  |

### Excerpt of Driver data: DcsDriver

| Description, field name | Type          | Remarks |
|-------------------------|---------------|---------|
| PersonalID              | varchar(50)   |         |
| CustomerId              | int           |         |
| FirstName               | nvarchar(100) |         |
| LastName                | nvarchar(100) |         |
| Address                 | nvarchar(100) |         |
| City                    | nvarchar(100) |         |
| Region                  | nvarchar(100) |         |
| PostalCode              | nvarchar(100) |         |
| Country                 | nvarchar(100) |         |
| Phone1                  | nvarchar(100) |         |
| Phone2                  | nvarchar(100) |         |
| MobilePhone1            | nvarchar(100) |         |
| MobilePhone2            | nvarchar(100) |         |
| Mail                    | nvarchar(100) |         |
| VehicleGSMnumber        | nvarchar(255) |         |

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### Excerpt of Vehicle data: DcsVehicle

| Description, field name     | Type          | Remarks   |
|-----------------------------|---------------|---|
| VehicleGSMnumber            | nvarchar(255) | Clear identification of the vehicle (e.g. GSM number 49171456789)   |
| GatewayLanIP                | varchar(50)   | IP address of the LANserver at the GPRSgateway (e.g. "80.17.22.210")  |
| GatewayLanPort              | int           | Port of the LANserver at the GPRSgateway (e.g. 52654)   |
| GatewayGprsIP               | varchar(50)   | IP address of the GPRSserver at the GPRSgateway (e.g. "80.17.22.210")   |
| GatewayGprsPort             | int           | Port of the GPRSserver at the GPRSgateway (e.g. 63486)  |
| VehicleIP                   | varchar(50)   | IP address of the vehicle at the GPRSgateway (e.g. "80.187.13.203")   |
| VehicleName                 | nvarchar(255) | Vehicle name – optional (e.g. "DCS new (49151654321)")  |
| VehicleLastContact          | datetime      | Last message, last contact with the vehicle   |
| VehicleLastContactHbFrameld | bigint        | FrameID of the last vehicle message (can be read in DcsMessages)  |
| VehicleTypeID               | int           | Type of vehicle (e.g. 1 for Datcom, 2 SafeMate, 3 Mambo2) - optional  |
| DriverID                    | nvarchar(100) | Driver ID - optional  |
| VehiclePwd                  | nvarchar(50)  | Password for protected vehicles - optional  |
| VehicleGrafic               | image         | Graphic data for symbolization of the vehicle - optional  |
| VehicleGraficID             | int           | Graphic data for symbolization of the vehicle - optional  |
| CustomerID                  | int           | Customer ID - optional  |
| MainGroup1                  | nvarchar(50)  | Group membership: basegroup (e.g. "new vehicles")   |
| MainGroup2                  | nvarchar(50)  | Group membership: maingroup (e.g. "unkown")   |
| SubGroup1                   | nvarchar(50)  | Group membership: subgroup 1 (e.g. "GPRS")  |
| SubGroup2                   | nvarchar(50)  | Group membership: subgroup 2 (e.g. "created by DCS")  |
| activeDateFrom              | datetime      | Activation: Vehicle is active from date/time (is checked)   |
| activeDateTo                | datetime      | Activation: Vehicle is active to date/time (is checked)   |
| AccessLevel                 | bigint        | Access level:<br>1 = vehicle set by DCS<br>100 = vehicle set by webservice  |
| AccessFlag                  | bigint        | Activation: Parameters and additional defaults or feedbacks   |
| maxTransactionLimit         | bigint        | Activation: Upper limit of actions with vehicle   |
| maxSendLimit                | bigint        | Activation: Upper limit of sending messages to vehicle  |
| maxReceiveLimit             | bigint        | Activation: Upper limit of receiving messages from vehicle  |
| UserAccessGroups            | nvarchar(100) | Letter code for user mapping: "ABCDEFGG" allows access for user with UserAccessGroup A, B, C, D, E, F or G.                     |
| iON                         | int           | 0 = OFF (MsgType 1003)<br>1 = ON (MsgType 1002)<br>2 = not logged in GPRSgateway<br>3 = logged in GPRSgateway and data received |
| FwVer                       | nvarchar(50)  | Version of vehicle's firmware   |
| FwUpgrdStatus               | nvarchar(50)  | Status of last firmware upgrade   |
| FwUpgrdUrl                  | nvarchar(300) | Url of upgrade files of firmware  |
| FwUpgrdUser                 | nvarchar(100) | Name of administrator / initiator / user  |
| FwUpgrdDate                 | datetime      | Date/Time of last firmware upgrade  |

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### Receiving

#### Excerpt of Receiving data: DcsMessageln

| Description, field name | Type           | Remarks   |
|-------------------------|----------------|---|
| <b>VehicleGSMnumber</b> | nvar-char(255) | Clear identification of the vehicle (e.g. GSM number 49171456789)   |
| DbInDate                | datetime       | When saved  |
| HbFrameId               | bigint         | Identification of a frame (ID), if a frame is enclosing several messages, each of them will get the same FrameID and the same FrameSize.  |
| HbFrameSize             | int            | Number of messages in a frame (each message within a frame is saved as single message and gets the same [HbFrameID] and the same [HbFrameSize] as the whole frame - usually [HbFrameSize] is 2 (= 1 message + 1 GPS position), but can also be bigger, if more than 2 messages were received in a frame (text + GPS + temperature + telemetry + timestamp = 5). |
| DbOperator              | var-char(255)  | Saved by (e.g. "DCS Server 004")  |
| CustomerId              | int            | Customer ID, the vehicle is assigned to   |
| MsgDate                 | datetime       | When received   |
| <b>MsgHbType</b>        | int            | Type of message (e.g. 61441 = gps or 1001 = keycode)  |
| MsgHbTypeText           | var-char(255)  | Decoded information of the message (e.g. GPS)   |
| <b>MsgHbFrameHex</b>    | var-char(2048) | Hexadecimal original frame (key-info hex)   |
| <b>MsgHbFrameStr</b>    | var-char(1024) | Ascii-conversion of the original frame (binary)   |
| LocationDate            | datetime       | Position: when was the position detected (utc)  |
| LocationLongitude       | var-char(50)   | Position: Longitude (WGS84), e.g "9,56789"  |
| LocationLatitude        | var-char(50)   | Position: Latitude (WGS84), e.g "45,12345"  |
| LocationAdressstext     | nvar-char(255) | Position: geocoded (zip code, city, street) - optional  |
| LocationSats            | int            | Position: number of involved satellites   |
| LocationSpeed           | int            | Position: speed in km/h   |
| LocationDirection       | int            | Position: direction in degrees (0-360)  |
| LocationStatus          | int            | Position: Status (0x20 = ok, 0x02 = old)  |
| LocationDop             | int            | Position: variation and quality - optional  |
| LocationHbFrameHex      | var-char(512)  | Position: Original position information in hexadecimal notation (for self analysis)   |
| <b>sDriverId</b>        | var-char(100)  | Driver ID (I-Button)  |
| sDriverName             | var-char(100)  | Driver name (if exists)   |
| isRead                  | bit            | Data was read by client (true or false)   |
| Reader                  | var-char(100)  | Client name, reader   |
| ReadingDate             | datetime       | Read when (date + time)   |
| ReadingText             | var-char(255)  | Additional information read (why)   |
| xTAN                    | bigint         | If the message which was received by the vehicle includes a TAN (Type 8001), it will be saved to all message blocks.  |



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### Sending

Excerpt of Sending data: DcsMessageOut

| Description, field name  | Type                  | Remarks  |
|--------------------------|-----------------------|--|
| <b>VehicleGSMnumber</b>  | nvarchar(255)         | <b>Clear identification of the vehicle</b> (e.g. GSM number 49171456789)   |
| MsgTime                  | datetime              | Order: when recorded, received   |
| <b>MsgTransferMedium</b> | int                   | <b>Order: Send via medium x</b><br>(e.g. 1 = GPRS, 100=WebSvc)   |
| <b>MsgTAN</b>            | nvarchar(255)         | <b>Order: identification of transaction</b><br>( any text, e.g. order ID)  |
| <b>MsgUrgency</b>        | int                   | <b>Order: urgency of the order</b><br>(e.g. 1 = unimportant, 65535 = extremely important, 0 = do not send)   |
| <b>MsgHBType</b>         | int                   | <b>Order: Type of message in H-block system</b><br>(1 – 65.535)  |
| <b>MsgHBFrameStr</b>     | varchar(1024)         | <b>Order: Ascii text files</b> (without "quotes")<br>e.g.:<br>"Order and sending text" for text orders (text types)<br>"17" as decimal numerical value for control commands (telemetry and others) |
| <b>UserName</b>          | Varchar(100)          | <b>Order: user name, dispatcher, sender</b><br>Therewith the sending orders are assigned to the senders.   |
| <i>MsgHBFrameHexStr</i>  | <i>varchar(2048)</i>  | <i>Order: Hexadecimal files - <b>not supported</b></i>   |
| <i>MsgOtherMedium</i>    | <i>nvarchar(4000)</i> | <i>Order: Other data form</i>  |
| AckDateTime              | datetime              | Receipts and transactions: received / receipt not confirmed date / time  |
| AckState                 | int                   | <b>Receipt: Status of receipt</b> (receipt flag)<br>(positive / negative) see below  |
| AckText                  | varchar(50)           | Receipt: Receipt text in a readable form<br>(e.g. "not available, not logged in" and others.)  |
| <b>SendCounter</b>       | bigint                | Send: Internal counter, how often sending was tried  |
| SendDatetime             | datetime              | Send: Internal flag for last sending<br>( <i>SendDateTime + SendCyclus must be between SendStart and SendEnd, or there will be no sending</i> )  |
| <b>SendMaxAttempts</b>   | int                   | Send: default, maximum number of send attempts<br>( <i>SendCounter &gt;= SendMaxAttempts will not be sent anymore</i> )  |
| <b>SendStart</b>         | datetime              | Send: Start sending at the earliest from <i>date / time</i>  |
| <b>SendEnd</b>           | datetime              | Send: Stop sending at the latest to <i>date / time</i>   |
| <b>SendCyclusSeconds</b> | int                   | Send: Repeating cycle of messages which could not be sent, repeat this every xx seconds (e.g. every 120 seconds), but at the latest until [ <i>SendEnd</i> ] is obtained.                          |
| xTAN                     | bigint                | TAN of the sending order to the vehicle (is additionally sent to the vehicle as Type 8001). The TAN is generated automatically.  |

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### Necessary database-fields of the sending table (DcsMessageOut)

- **VehicleGSMnumber** : vehicle identification
- **AckState** : 0 is going to be sent (>0 are receipts, see below)
- **MsgTransferMedium** : 1 send via GPRSgateway
- **MsgHBType** : H-block-type (0-65535)
- **MsgHBFrameStr** : H-block-datastring (ascii-binary)
- **MsgTAN** : transaction identification (for assignment of the receipt)
- **MsgUrgency** : 0 to 65535 (>0 send, 0 no sending)
- **UserName** : name of sender / user / dispatcher / WebSvc-user
  
- **SendCounter** : number of sending actions to date (set to 0)
- **SendMaxAttempts** : maximum number of sending attempts (set >0)
  
- **SendStart** : date and time of sending start
- **SendEnd** : date and time of sending end
- **SendCyclusSeconds** : interval in seconds between sending actions

### Example 1:

| Database field    | Content                         |
|-------------------|---------------------------------|
| VehicleGSMnumber  | 499999999999                    |
| MsgTransferMedium | 1                               |
| MsgHBType         | 10000                           |
| MsgHBFrameStr     | Please report back immediately. |
| MsgTAN            | 1234567890                      |
| MsgUrgency        | 10000                           |
| AckState          | 0                               |
| SendCounter       | 0                               |
| SendMaxAttempts   | 5                               |
| SendStart         | 12.03.2009 08:00:00             |
| SendEnd           | 12.03.2009 09:00:00             |
| SendCyclusSeconds | 300                             |
| Username          | K. Müller                       |

- The user "K. Müller" wants to send the text "Please report back immediately." with Type "10000" (text) to the vehicle with the ID "499999999999" via GPRS (1).
- Here the sending order gets the transaction ID "1234567890".
- The urgency is between average and important (10000), the sending counter and the receipt flag are going to be reset (0).
- If not reaching the vehicle the order shall be repeated 5 times at the most, with a repeating cyclus of 5 minutes (300 seconds).
- The transmission shall be started from 12.03.2009 08:00:00, in case of no success it shall be stopped on 12.03.2009 09:00:00, unless the maximum number of sending attempts (5) was already exceeded.

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### Example 2:

| Database field    | Content             |
|-------------------|---------------------|
| VehicleGSMnumber  | 499999999999        |
| MsgTransferMedium | 1                   |
| MsgHBType         | 0                   |
| MsgHBFrameStr     | 18                  |
| MsgTAN            | 6554                |
| MsgUrgency        | 65535               |
| AckState          | 0                   |
| SendCounter       | 0                   |
| SendMaxAttempts   | 100                 |
| SendStart         | 12.03.2009 08:00:00 |
| SendEnd           | 13.03.2009 08:00:00 |
| SendCyclusSeconds | 1200                |
| UserName          | MasterWeb           |

- The "MasterWeb" interface wants to send the control sequence "18" decimal (0x12 hex, 0001 0010 binary) with type "0" (2-Byte) to the vehicle with the ID "499999999999" via GPRS (1).
- Here the sending order gets the transaction ID "6554".
- The urgency is absolutely urgent (65535), the sending counter and the receipt flag are going to be reset (0).
- If not reaching the vehicle the order shall be repeated 100 times at the most, with a repeating cyclus of 20 minutes (1200 seconds).
- The transmission shall be started from 12.03.2009 08:00:00, in case of no success it shall be stopped on 12.03.2009 08:00:00 (after 24 hours), unless the maximum number of sending attempts (100) was already exceeded.

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### Example 3:

| Database field    | Content             |
|-------------------|---------------------|
| VehicleGSMnumber  | 2411587             |
| MsgTransferMedium | 1                   |
| MsgHBType         | 6312                |
| MsgHBFrameStr     | -166985             |
| MsgTAN            | AS/MM.133548        |
| MsgUrgency        | 3                   |
| AckState          | 0                   |
| SendCounter       | 0                   |
| SendMaxAttempts   | 2                   |
| SendStart         | 12.07.2009 19:00:00 |
| SendEnd           | 12.07.2009 19:10:00 |
| SendCyclusSeconds | 60                  |
| UserName          | 4493382             |

- The user with the ID "4493382" wants to send the control sequence "-166985" decimal (0xFFFD73B7 hex) with type "6312" (4-Byte) to the vehicle with the ID "2411587" via GPRS (1).
- Here the sending order gets the transaction ID "AS/MM.133548".
- The urgency is very low (3), the sending counter and the receipt flag are going to be reset (0).
- If not reaching the vehicle the order shall be repeated twice at the most, with a repeating cyclus of 1 minute (60 seconds).
- The transmission shall be started from 12.07.2009 19:00:00, in case of no success it shall be stopped on 12.07.2009 19:10:00 (after 10 minutes), unless the maximum number of sending attempts (2) was already exceeded.

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### AckState (Sending receipt)

| Value | Meaning   |
|-------|---|
| 0     | New entry (new entry without further processing), 0 is sent, > 0 are receipts from the DCS module or from SendServer (GPRSgateway or similar) |
| 1     | In progress – is prepared for sending, is sent to LANserver of GPRSgateway  |
| ...   |   |
| 10    | No socket to gateway (DCS client is not logged into the LANserver of GPRSgateway)   |
| ...   |   |
| 101   | Vehicle is not logged in GPRSserver of GPRSgateway  |
| 102   | No Vehicle-ID received to send to   |
| 103   | No Message received to send   |
| 104   | Vehicle not connected to GPRSserver of GPRSgateway  |
| 105   | No answer from vehicle (but maybe the message could have been transmitted before), no ack   |
| 106   | Timeout in async.-mode (time for asynchronous sending is up, vehicle has not logged in again so far)  |
| ...   |   |
| 201   | Not supported vehicle-unit (vehicle will not understand this message, e.g. SafeMate, Mambo2 etc.)   |
| 202   | Message type not supported  |
| 203   | Communication channel not supported   |
| 204   | Error while sending   |
| 205   | Unknown situation   |
| 206   | Vehicle is switched off (MsgType 1003)  |

### MsgTransferMedium (Sending transmission path)

| Value | Meaning  |
|-------|--|
| 1     | Vehicle is available via GPRSgateway (H-compatible TCP/IP) |
| ...   |  |
| 100   | Webservice (vehicle is available via Webservice)           |

### MsgUrgency (Sending urgency)

| Value | Meaning                            |
|-------|------------------------------------|
| 0     | Do not send – without any priority |
| 1     | Unimportant – lowest priority      |
| ...   |                                    |
| 65535 | Very important – highest priority  |

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### Examples of SQL queries

#### 1. Send to vehicles

##### 1.1. Display all sending orders

```
SELECT VehicleGSMnumber, UserName, MsgTime, SendDatetime, MsgTAN, MsgUrgency, MsgHBType, MsgHBFrameStr, AckDateTime, AckState, AckText,
        SendCounter, SendMaxAttempts, SendStart, SendEnd, SendCyclusSeconds, MsgTransferMedium
FROM DcsMessageOut
ORDER BY MsgTime DESC, UserName, VehicleGSMnumber, MsgUrgency DESC
```

##### 1.2. Display sending orders by vehicle and user

```
SELECT DcsVehicle.VehicleName AS Fahrzeug, DcsMessageOut.MsgTime AS Erhalten, DcsMessageOut.SendDatetime AS Gesendet,
        DcsMessageOut.MsgHBFrameStr AS Text, DcsMessageOut.AckDateTime AS Quittiert, DcsMessageOut.AckText AS Quittung
FROM DcsMessageOut INNER JOIN
        DcsVehicle ON DcsMessageOut.VehicleGSMnumber = DcsVehicle.VehicleGSMnumber
WHERE (DcsMessageOut.UserName = N'fenske') AND (DcsMessageOut.VehicleGSMnumber = N'499999999999')
ORDER BY Erhalten DESC, DcsMessageOut.UserName, DcsMessageOut.VehicleGSMnumber, DcsMessageOut.MsgUrgency DESC
```

##### 1.3. Last 30 sending orders relating to "transport" and vehicle

```
SELECT TOP (30) DcsVehicle.VehicleName, DcsMessageIn.VehicleGSMnumber, DcsMessageIn.MsgDate, DcsMessageIn_1.MsgHbFrameHex AS Hex2,
        DcsMessageIn.MsgHbFrameStr AS Text1, DcsMessageIn_1.MsgHbType AS Type2
FROM DcsMessageIn INNER JOIN
        DcsVehicle ON DcsMessageIn.VehicleGSMnumber = DcsVehicle.VehicleGSMnumber INNER JOIN
        DcsMessageIn AS DcsMessageIn_1 ON DcsMessageIn.HbFrameId = DcsMessageIn_1.HbFrameId
WHERE (DcsMessageIn.VehicleGSMnumber = N'4911116660023') AND (DcsMessageIn.MsgHbType = 11010) AND (DcsMessageIn_1.MsgHbType > 0) AND
        (DcsMessageIn_1.MsgHbType <> 61441) AND (DcsMessageIn_1.MsgHbType <> 57344) AND (DcsMessageIn_1.MsgHbType <> 11010) OR
        (DcsMessageIn.VehicleGSMnumber = N'4911116660023') AND (DcsMessageIn.MsgHbType = 10000 OR
        DcsMessageIn.MsgHbType >= 10301 AND DcsMessageIn.MsgHbType <= 10310) AND (DcsMessageIn_1.MsgHbType > 0) AND
        (DcsMessageIn_1.MsgHbType <> 61441) AND (DcsMessageIn_1.MsgHbType <> 57344) AND (DcsMessageIn_1.MsgHbType <> 11010)
ORDER BY DcsMessageIn.MsgDate DESC
```

##### 1.4. Send a text message (type 10000) to vehicle

```
INSERT INTO DcsMessageOut
        (VehicleGSMnumber, MsgTransferMedium, MsgTAN, MsgUrgency, MsgHBType, MsgHBFrameStr, AckState, SendCounter, SendMaxAttempts,
        SendStart, SendEnd, SendCyclusSeconds, UserName)
VALUES ('499999999999', 1, '634024388089160299', 5000, 10000, 'Testmessage', 0, 0, 5, '2010-22-2 12:00:00', '2010-22-2 14:00:00', 30, 'fenske')
```

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### 2. Login / logout drivers and co-drivers

#### 2.1. Current driver login (login type 10050)

```
SELECT TOP (1) ID, MsgDate, DbInDate, MsgHbType, MsgHbFrameStr, LocationDate, LocationLongitude, LocationLatitude, LocationAdresstext, LocationSats,
    LocationSpeed, LocationDirection, sDriverId
FROM DcsMessageIn
WHERE (MsgHbType = 10050) AND (VehicleGSMnumber = '499999999999')
ORDER BY ID DESC
```

#### 2.2. Current driver logout (logout type 10051)

```
SELECT TOP (1) ID, MsgDate, DbInDate, MsgHbType, MsgHbFrameStr, LocationDate, LocationLongitude, LocationLatitude, LocationAdresstext, LocationSats,
    LocationSpeed, LocationDirection, sDriverId
FROM DcsMessageIn
WHERE (MsgHbType = 10051) AND (VehicleGSMnumber = '499999999999')
ORDER BY ID DESC
```

#### 2.2.1. Current driver logout with driver data (first name + name)

```
SELECT TOP (1) DcsMessageIn.ID, DcsMessageIn.MsgDate, DcsMessageIn.DbInDate, DcsMessageIn.MsgHbType, DcsMessageIn.MsgHbFrameStr,
    DcsMessageIn.LocationDate, DcsMessageIn.LocationLongitude, DcsMessageIn.LocationLatitude, DcsMessageIn.LocationAdresstext,
    DcsMessageIn.LocationSats, DcsMessageIn.LocationSpeed, DcsMessageIn.LocationDirection, DcsMessageIn.sDriverId, DcsDriver.FirstName,
    DcsDriver.LastName
FROM DcsMessageIn INNER JOIN
    DcsDriver ON DcsMessageIn.sDriverId = DcsDriver.PersonalID
WHERE (DcsMessageIn.MsgHbType = 10051) AND (DcsMessageIn.VehicleGSMnumber = '499999999999')
ORDER BY DcsMessageIn.ID DESC
```

### 2.3. Co-drivers are listed as articles carried along ([Typ]="CoDriver", [Unit]="Person")

#### 2.3.1 All logged in co-drivers (login type 10052), [CreatedName] is the vehicle ID

```
SELECT DcsArticle.Number AS CoDriverID, DcsTourLoad.CreatedDate AS LoginDate, DcsTourLoad.CreatedName AS inVehicleID,
    DcsTourLoad.FinishedDate AS LogOutDate, DcsTourLoad.FinishedName AS outVehicleID
FROM DcsTourLoad INNER JOIN
    DcsArticle ON DcsTourLoad.ArticleNumber = DcsArticle.Number
WHERE (DcsArticle.Type = N'CoDriver') AND (DcsArticle.Unit = N'Person') AND (DcsTourLoad.CreatedName = N'499999999999') AND
    (DcsTourLoad.FinishedDate IS NULL)
```

#### 2.3.2 All logged out co-drivers (logout type 10053), [CreatedName] ist he vehicle ID

```
SELECT DcsArticle.Number AS CoDriverID, DcsTourLoad.CreatedDate AS LoginDate, DcsTourLoad.CreatedName AS inVehicleID,
    DcsTourLoad.FinishedDate AS LogOutDate, DcsTourLoad.FinishedName AS outVehicleID
FROM DcsTourLoad INNER JOIN
    DcsArticle ON DcsTourLoad.ArticleNumber = DcsArticle.Number
WHERE (DcsArticle.Type = N'CoDriver') AND (DcsArticle.Unit = N'Person') AND (DcsTourLoad.CreatedName = N'499999999999') AND
    (NOT (DcsTourLoad.FinishedDate IS NULL))
```

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### 3. Start-Stop

```
SELECT DcsMessageIn.MsgDate AS Empfang, DcsMessageIn.LocationDate AS Ortung, DcsMessageIn.LocationAdressstext AS Ort,
       DcsMessageIn.LocationSpeed, DcsMessageIn.LocationDirection, DcsMessageIn.MsgHbType, DcsMessageIn.LocationLongitude,
       DcsMessageIn.LocationLatitude, DcsMessageIn.LocationSats, DcsMessageIn.VehicleGSMnumber, DcsMessageIn_1.MsgHbFrameHex AS kmValue,
       DcsDriver.LastName AS Fahrer
FROM DcsMessageIn INNER JOIN
     DcsMessageIn AS DcsMessageIn_1 ON DcsMessageIn.HbFrameId = DcsMessageIn_1.HbFrameId LEFT OUTER JOIN
     DcsDriver ON DcsMessageIn.VehicleGSMnumber = DcsDriver.VehicleGSMnumber
WHERE (DcsMessageIn.MsgHbType = 2000) AND (DcsMessageIn.MsgDate > CONVERT(DATETIME, '2009-3-10 00:00:00', 102)) AND
      (DcsMessageIn.VehicleGSMnumber = N'4911116660901') AND (DcsMessageIn.MsgDate < CONVERT(DATETIME, '2009-3-10 23:59:59', 102)) AND
      (DcsMessageIn_1.MsgHbType = 4210) OR
      (DcsMessageIn.MsgHbType = 2005) AND (DcsMessageIn.MsgDate > CONVERT(DATETIME, '2009-3-10 00:00:00', 102)) AND
      (DcsMessageIn.VehicleGSMnumber = N'4911116660901') AND (DcsMessageIn.MsgDate < CONVERT(DATETIME, '2009-3-10 23:59:59', 102)) AND
      (DcsMessageIn_1.MsgHbType = 4210)
ORDER BY Empfang
```

### 4. MessageState (WebService-Funktion)

#### 4.1. Detect transaction number of sent orders (xTAN) from the table [DcsMessageOut]

```
SELECT xTAN, MsgTime, MsgTransferMedium, MsgTAN, MsgUrgency, MsgHbType, MsgHbFrameStr, MsgHbFrameHexStr, MsgOtherMedium, AckDateTime,
       AckState, AckText, SendCounter, SendDatetime, SendMaxAttempts, SendStart, SendEnd, SendCyclus, SendCyclusSeconds
FROM DcsMessageOut
WHERE (VehicleGSMnumber = N'499999999999') AND (xTAN > 0) AND (UserName = 'fenske')
ORDER BY ID DESC
```

#### 4.2. Using the respective xTAN to detect the vehicle receipts belonging to it from the table [DcsMessageIn]

```
SELECT MsgDate, DbInDate, HbFrameId, HbFrameSize, DbOperator, MsgHbType, MsgHbTypeText, MsgHbFrameHex, MsgHbFrameStr, LocationDate,
       LocationLongitude, LocationLatitude, LocationAdressstext, LocationSats, LocationSpeed, LocationDirection, LocationStatus, LocationDop,
       LocationHbFrameHex, CustomerId, sDriverId, sDriverName
FROM DcsMessageIn
WHERE (MsgHbType <> 61441) AND (MsgHbType <> 11010) AND (MsgHbType <> 0) AND (MsgHbType <> 57344) AND (xTAN = 6960990) AND
      (MsgDate >= CONVERT(DATETIME, '2009-03-12', 102))
ORDER BY ID DESC
```

### 5. Messages\_get (WebService-Funktion)

#### 5.1. Last 30 days

```
SELECT ID, MsgDate, DbInDate, MsgHbType, MsgHbFrameHex, MsgHbFrameStr, LocationDate, LocationLongitude, LocationLatitude, LocationAdressstext,
       LocationSats, LocationSpeed, LocationDirection, LocationStatus, LocationDop, sDriverId, sDriverName, Reader, ReadingDate, isRead
FROM DcsMessageIn
WHERE (MsgHbType = 10000) AND (VehicleGSMnumber = N'499999999999') AND (MsgDate >= CONVERT(DATETIME, '2010-1-22 00:00:00', 102)) AND
      (CustomerId = 1)
ORDER BY ID DESC
```

#### 5.2. All messages for type + vehicle

```
SELECT ID, MsgDate, DbInDate, MsgHbType, MsgHbFrameHex, MsgHbFrameStr, LocationDate, LocationLongitude, LocationLatitude, LocationAdressstext,
       LocationSats, LocationSpeed, LocationDirection, LocationStatus, LocationDop, sDriverId, sDriverName, Reader, ReadingDate, isRead
FROM DcsMessageIn
WHERE (MsgHbType = 10000) AND (VehicleGSMnumber = N'499999999999')
ORDER BY ID DESC
```

### 6. VehicleMessage\_get (WebService-Funktion)

#### 6.1. Messages from type 10301 to 10302 (transport) of the last 30 days + VehicleID

```
SELECT ID, MsgDate, DbInDate, MsgHbType, MsgHbFrameHex, MsgHbFrameStr, LocationDate, LocationLongitude, LocationLatitude, LocationAdressstext,
       LocationSats, LocationSpeed, LocationDirection, LocationStatus, LocationDop, sDriverId, sDriverName, Reader, ReadingDate, isRead
FROM DcsMessageIn
WHERE (MsgHbType BETWEEN 10301 AND 10302) AND (VehicleGSMnumber = N'499999999999') AND (MsgDate >= CONVERT(DATETIME,
'2010-1-22 00:00:00', 102))
ORDER BY ID DESC
```



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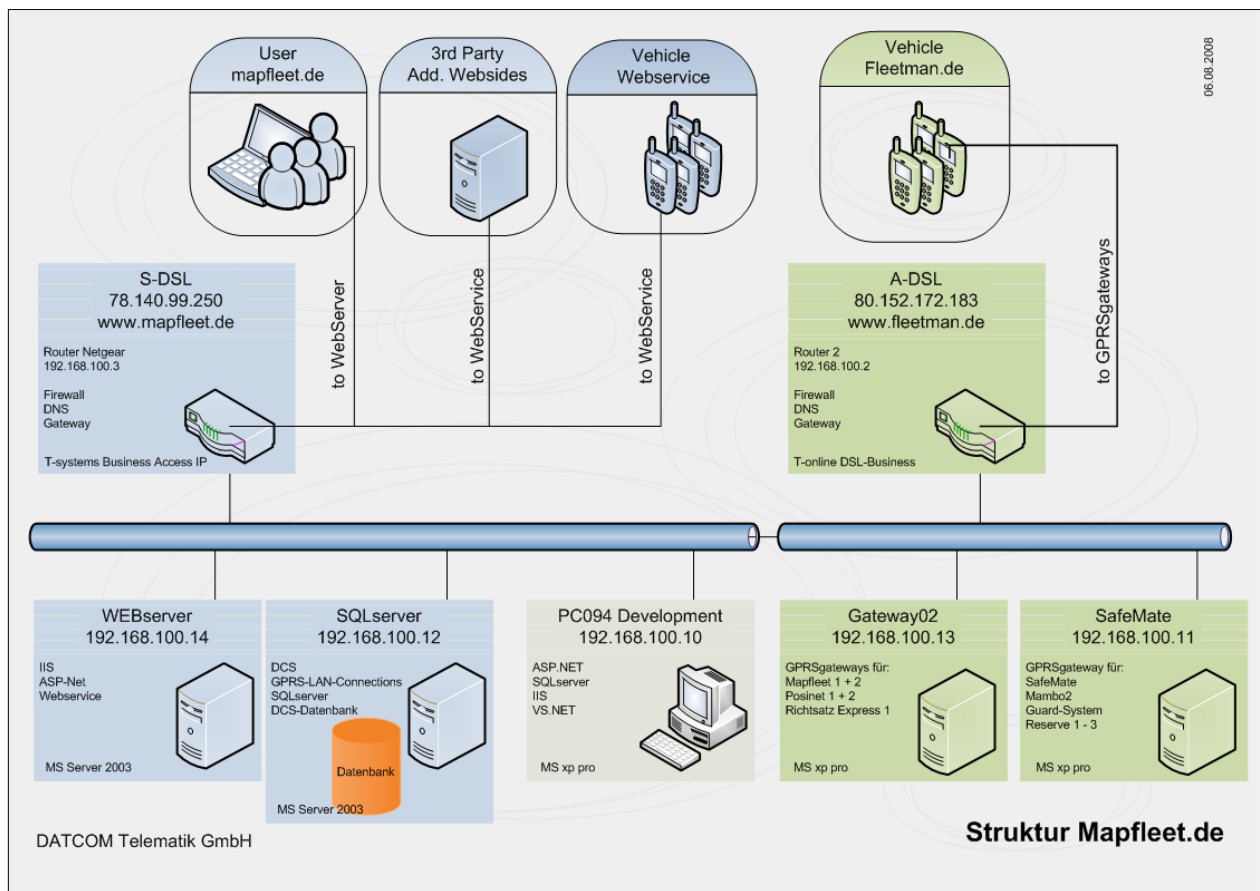
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### Example of integration

(DCS – SQLserver - Gateway – WebServer - Webservice)

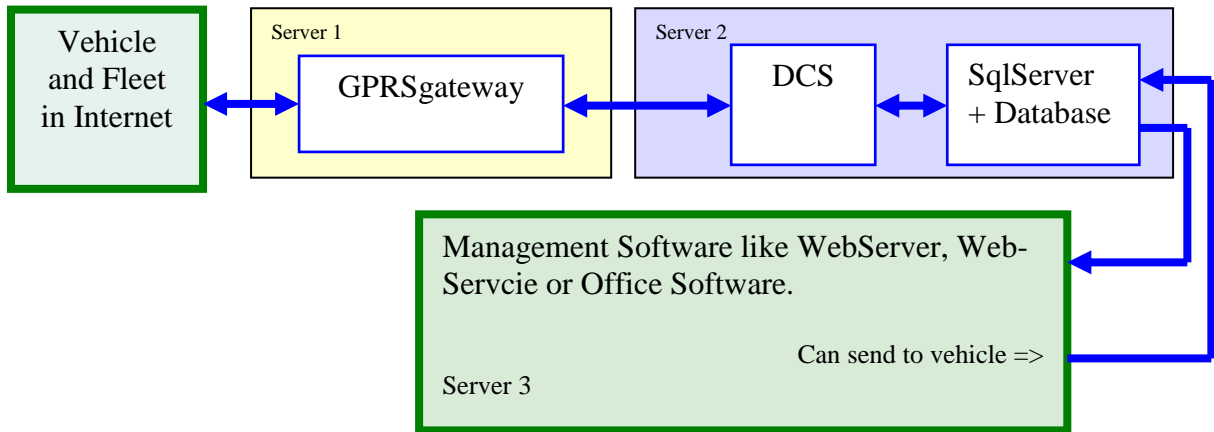


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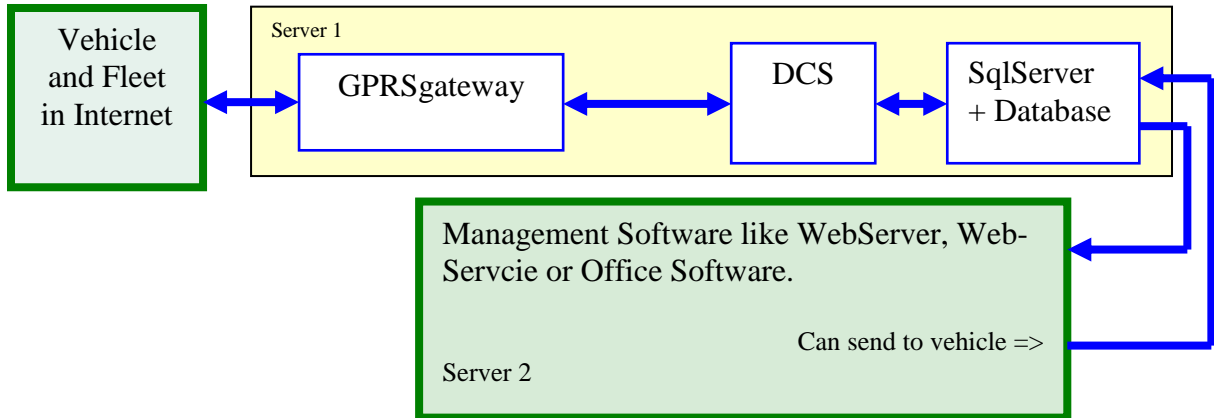
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Example of normal Integration  
(DCS – SQLserver - Gateway)

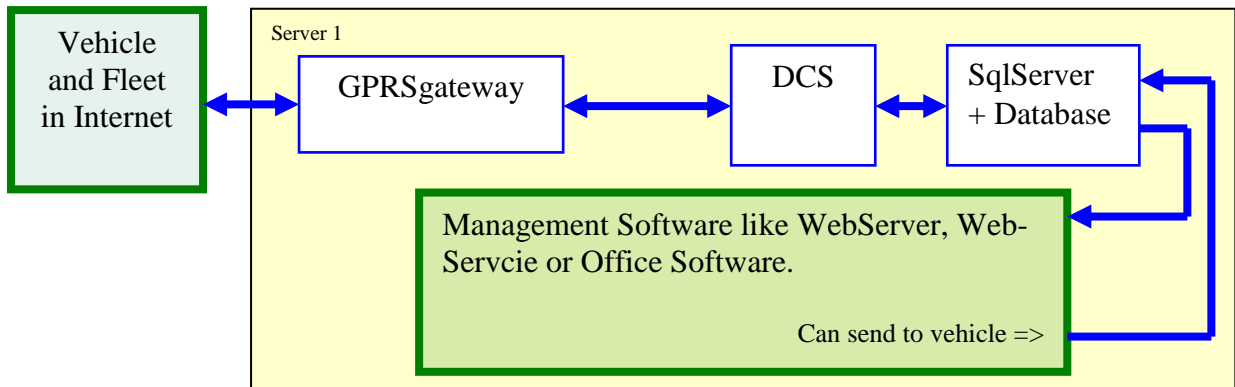
Example 1 (3 Server)



Example 2 (2 Server)



Example 3 (1 Server)

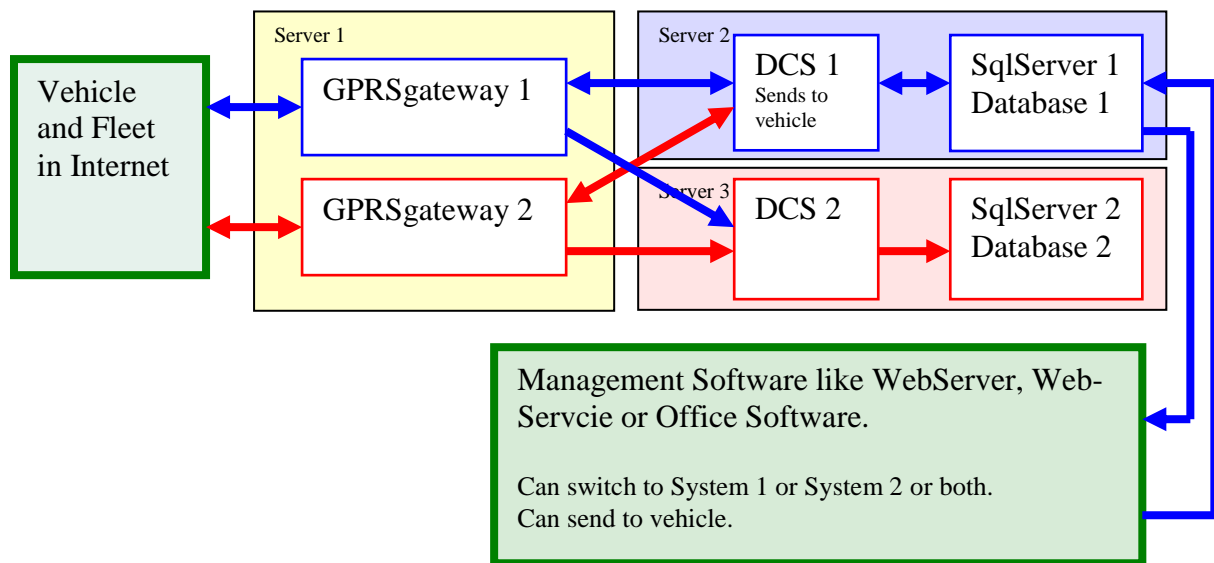


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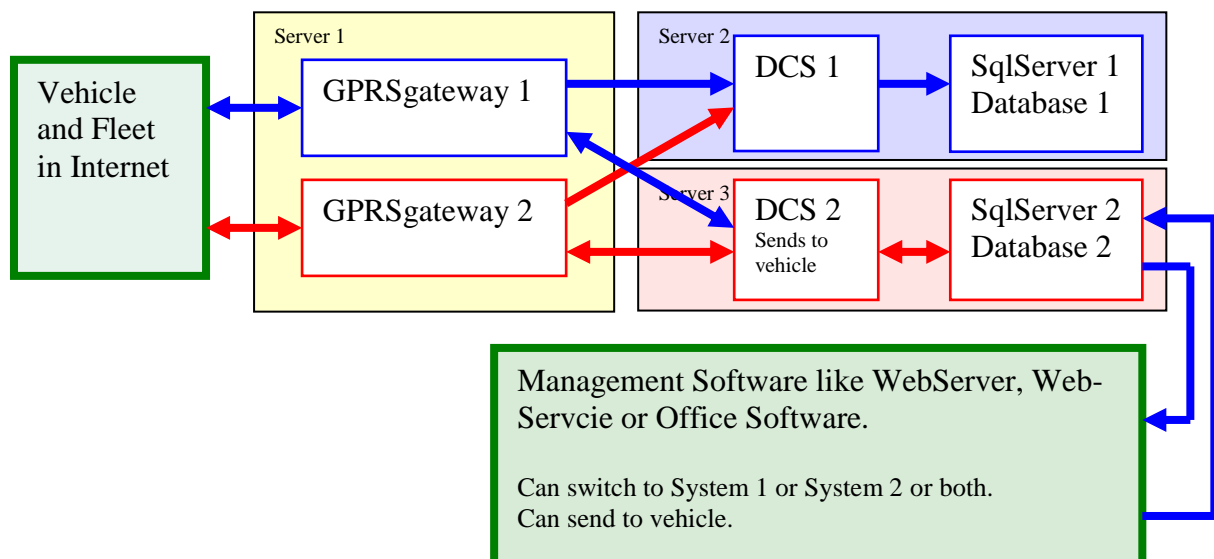
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Example of redundand Integration  
 (DCS – SQLserver - Gateway)

Example 1



Example 2



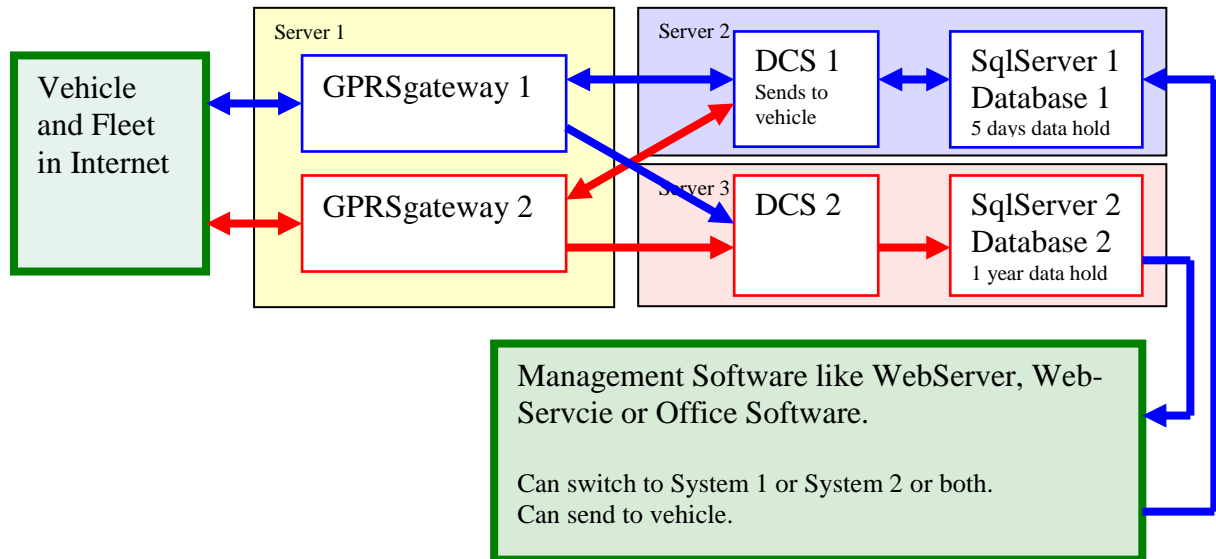
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### Example 3



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**SQL Management Studio SqlServer**  
(Developer Edition = Enterprise Edition)

**Program location:**

C:\Programme\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE\SqlWb.exe

**Index overview of table DcsMessageIn**

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_1] ON [dbo].[DcsMessageIn]
(
    [VehicleGSMnumber] ASC,
    [MsgHbType] ASC,
    [MsgDate] ASC,
    [ID] ASC,
    [CustomerId] ASC,
    [LocationDate] ASC
)
INCLUDE ( [LocationLongitude],
[LocationLatitude],
[LocationAdressesstext],
[LocationSats],
[LocationSpeed],
[LocationDirection]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_2] ON [dbo].[DcsMessageIn]
(
    [LocationAdressesstext] ASC,
    [ID] ASC
)
INCLUDE ( [LocationLongitude],
[LocationLatitude]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_3] ON [dbo].[DcsMessageIn]
(
    [CustomerId] ASC,
    [VehicleGSMnumber] ASC,
    [MsgDate] ASC,
    [ID] ASC
)
INCLUDE ( [DbInDate],
[HbFrameId],
[HbFrameSize],
[DbOperator],
[MsgHbType],
[MsgHbTypeText],
[MsgHbFrameHex],
[MsgHbFrameStr],
[LocationDate],
[LocationLongitude],
[LocationLatitude],
[LocationAdressesstext],
[LocationSats],
[LocationSpeed],
[LocationDirection],
[LocationStatus],
[LocationDop],
[LocationHbFrameHex],
[sDriverId],
[sDriverName],
[xTAN],
[isRead],
[Reader],
[ReadingDate],
[ReadingText]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_4] ON [dbo].[DcsMessageIn]
(
    [xTAN] ASC,
    [MsgDate] ASC,
    [MsgHbType] ASC,
    [ID] ASC
)
INCLUDE ( [HbFrameId],
    [MsgHbFrameHex],
    [MsgHbFrameStr],
    [LocationDate],
    [LocationLongitude],
    [LocationLatitude],
    [LocationAdresstext],
    [LocationSats],
    [LocationSpeed],
    [LocationDirection],
    [CustomerId],
    [sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
    DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_5] ON [dbo].[DcsMessageIn]
(
    [HbFrameId] ASC
)
INCLUDE ( [MsgDate],
    [LocationLongitude],
    [LocationLatitude],
    [sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
    DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_6] ON [dbo].[DcsMessageIn]
(
    [MsgHbType] ASC,
    [CustomerId] ASC,
    [VehicleGSMnumber] ASC,
    [ID] ASC,
    [isRead] ASC
)
INCLUDE ( [DbInDate],
    [MsgDate],
    [MsgHbFrameStr],
    [LocationDate],
    [LocationLongitude],
    [LocationLatitude],
    [LocationAdresstext],
    [LocationSats],
    [LocationSpeed],
    [LocationDirection],
    [sDriverId],
    [sDriverName],
    [Reader],
    [ReadingDate]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
    DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_7] ON [dbo].[DcsMessageIn]
(
    [MsgHbType] ASC,
    [CustomerId] ASC,
    [VehicleGSMnumber] ASC,
    [MsgDate] ASC,
    [ID] ASC
)
INCLUDE ( [MsgHbFrameHex],
    [LocationLongitude],
    [LocationLatitude],
    [LocationAdresstext],
    [LocationSpeed],
    [LocationDirection],
    [sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
    DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_8] ON [dbo].[DcsMessageIn]
(
    [MsgHbType] ASC,
    [HbFrameId] ASC
)
INCLUDE ( [LocationDate],
[LocationLongitude],
[LocationLatitude],
[LocationAdresstext],
[LocationSats],
[LocationSpeed],
[LocationDirection]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_9] ON [dbo].[DcsMessageIn]
(
    [MsgHbType] ASC,
    [HbFrameId] ASC,
    [ID] ASC
)
INCLUDE ( [VehicleGSMnumber],
[MsgDate],
[LocationDate],
[LocationLongitude],
[LocationLatitude],
[LocationAdresstext],
[LocationSats],
[LocationSpeed],
[LocationDirection],
[sDriverId],
[sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageIn_10] ON [dbo].[DcsMessageIn]
(
    [MsgHbType] ASC,
    [MsgDate] ASC,
    [ID] ASC,
    [VehicleGSMnumber] ASC,
    [isRead] ASC
)
INCLUDE ( [MsgHbFrameStr],
[LocationDate],
[LocationLongitude],
[LocationLatitude],
[LocationAdresstext],
[LocationSats],
[LocationSpeed],
[LocationDirection],
[LocationStatus],
[CustomerId],
[sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [DCS_DcsMessageIn_ix1_v2] ON [dbo].[DcsMessageIn]
(
    [ID] ASC,
    [CustomerId] ASC,
    [VehicleGSMnumber] ASC,
    [HbFrameId] ASC,
    [MsgHbType] ASC,
    [LocationAdresstext] ASC,
    [XTAN] ASC,
    [MsgDate] ASC,
    [isRead] ASC,
    [LocationSpeed] ASC
)
INCLUDE ( [MsgHbFrameStr],
[MsgHbFrameHex],
[LocationDate],
[LocationLongitude],
[LocationLatitude],
[LocationSats],
[LocationDirection],
[sDriverName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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### Index overview of table DcsArticle

```
CREATE NONCLUSTERED INDEX [DCS_DcsArticle_ix1_v1] ON [dbo].[DcsArticle]
(
    [ID] ASC,
    [CustomerId] ASC,
    [Number] ASC,
    [Type] ASC
)
INCLUDE ( [Weight],
[Value],
[Unit],
[minAmount],
[Amount],
[Name]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING
= OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table DcsCanData

```
CREATE NONCLUSTERED INDEX [DCS_DcsCanData_ix1_v1] ON [dbo].[DcsCanData]
(
    [ID] ASC,
    [VehicleGSMnumber] ASC,
    [MsgHbType] ASC,
    [HbFrameId] ASC
)
INCLUDE ( [Can1],
[Can2],
[Can3],
[Can4],
[Can5],
[Can6],
[Can7],
[Can8],
[Can9],
[Can10],
[Can11],
[Can12],
[Can13],
[Can14],
[Can15],
[Can16],
[Can17],
[Can18],
[Can19],
[Can20],
[Can21],
[Can22],
[Can23],
[Can24],
[Can25],
[Can26],
[Can27],
[Can28],
[Can29],
[Can30],
[Can31],
[Can32],
[MsgDate]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table DcsCasePos

```
CREATE NONCLUSTERED INDEX [DCS_DcsCasePos_ix1_v1] ON [dbo].[DcsCasePos]
(
    [ID] ASC,
    [CustomerId] ASC,
    [Status] ASC,
    [Identification] ASC,
    [PositionHbFrameId] ASC
)
INCLUDE ( [MsgDate]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```



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### Index overview of table DcsMessageOut

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsMessageOut_1] ON [dbo].[DcsMessageOut]
(
    [VehicleGSMnumber] ASC,
    [UserName] ASC,
    [xTAN] ASC,
    [ID] ASC
)
INCLUDE ( [MsgTime],
[MsgTransferMedium],
[MsgTAN],
[MsgUrgency],
[MsgHBType],
[MsgHBFrameStr],
[MsgHBFrameHexStr],
[MsgOtherMedium],
[AckDateTime],
[AckState],
[AckText],
[SendCounter],
[SendDatetime],
[SendMaxAttempts],
[SendStart],
[SendEnd],
[SendCycclus],
[SendCycclusSeconds]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [DCS_DcsMessageOut_ix1_v1] ON [dbo].[DcsMessageOut]
(
    [ID] ASC,
    [MsgTime] ASC,
    [VehicleGSMnumber] ASC,
    [MsgUrgency] ASC,
    [UserName] ASC,
    [xTAN] ASC,
    [AckState] ASC
)
INCLUDE ( [SendStart],
[SendEnd],
[SendDatetime],
[SendCounter],
[SendCycclusSeconds]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table DcsObjects

```
CREATE NONCLUSTERED INDEX [DCS_DcsObjects_ix1_v2] ON [dbo].[DcsObjects]
(
    [ID] ASC,
    [CustomerId] ASC,
    [Name] ASC,
    [Type] ASC,
    [Identification] ASC,
    [InfoId] ASC
)
INCLUDE ( [GraphicID],
[Description],
[centerLongitude],
[centerLatitude],
[LastState],
[VehicleGSMnumber],
[Radius_m]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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### Index overview of table DcsObjectsStatus

```
CREATE NONCLUSTERED INDEX [DCS_DcsObjectsStatus_ix1_v1] ON [dbo].[DcsObjectsStatus]
(
    [ID] ASC,
    [CustomerId] ASC,
    [MsgDate] ASC,
    [Identification] ASC
)
INCLUDE ( [Status],
[VehicleGSMnumber]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table DcsTrailerPos

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsTrailerPos_5_1157579162__K2_K3_K4] ON [dbo].[DcsTrailerPos]
(
    [CustomerId] ASC,
    [Name] ASC,
    [PositionHbFrameId] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING = OFF,
ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [DCS_DcsTrailerPos_ix1_v1] ON [dbo].[DcsTrailerPos]
(
    [ID] ASC,
    [CustomerId] ASC,
    [Name] ASC,
    [PositionHbFrameId] ASC
)
INCLUDE ( [MsgDate]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table DcsVehicle

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsVehicle_1] ON [dbo].[DcsVehicle]
(
    [VehicleGSMnumber] ASC,
    [hasCan] ASC,
    [ID] ASC
)
INCLUDE ( [VehicleName]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsVehicle_2] ON [dbo].[DcsVehicle]
(
    [CustomerId] ASC,
    [UserAccessGroups] ASC,
    [MainGroup1] ASC,
    [LastPositionHbFrameId] ASC,
    [VehicleName] ASC
)
INCLUDE ( [VehicleGSMnumber],
[VehicleGraficID],
[DriverID]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF,
DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [_dta_index_DcsVehicle_3] ON [dbo].[DcsVehicle]
(
    [hasAlert] ASC,
    [VehicleGSMnumber] ASC
)
INCLUDE ( [VehicleGraficID]) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY =
OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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```
CREATE NONCLUSTERED INDEX [_dta_index_DcsVehicle_4] ON [dbo].[DcsVehicle]
(
    [hasAlert] ASC,
    [VehicleGSMnumber] ASC
)
INCLUDE ( [VehicleName] ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]

CREATE NONCLUSTERED INDEX [_dta_index_DcsVehicle_5] ON [dbo].[DcsVehicle]
(
    [VehicleName] ASC,
    [CustomerID] ASC
)
INCLUDE ( [VehicleGSMnumber],
    [VehicleGraphicID] ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]

CREATE NONCLUSTERED INDEX [DCS_DcsVehicle_ix1_v3] ON [dbo].[DcsVehicle]
(
    [ID] ASC,
    [CustomerID] ASC,
    [VehicleGSMnumber] ASC,
    [LastPositionHbFrameId] ASC,
    [MainGroup1] ASC,
    [UserAccessGroups] ASC,
    [sscCaseAlert] ASC,
    [sscTrackerID] ASC,
    [hasAlert] ASC
)
INCLUDE ( [VehicleName],
    [DriverID],
    [VehicleGraphicID] ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

### Index overview of table UserVehicleAttributes

```
CREATE NONCLUSTERED INDEX [DCS_UserVehicleAttributes_ix1_v1] ON [dbo].[UserVehicleAttributes]
(
    [ID] ASC,
    [VehicleGSMnumber] ASC
)
INCLUDE ( [MwAlertOverLimit1],
    [MwAlertOverLimit2],
    [MwAlertOverLimit3],
    [MwAlertOverLimit4],
    [MwLimit1],
    [MwLimit2],
    [MwLimit3],
    [MwLimit4],
    [MwAlertMailAdr],
    [StdAlertMailAdr],
    [MwAlertSmsGsmNr],
    [StdAlertSmsGsmNr],
    [StdAlertFinish] ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, DROP_EXISTING = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
```

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## DATCOM C ommunication S ystem

### Example of deleting old database entires by MS SqlServer

```
/* Löschen der alten Daten aus den DCS Datentabellen

Partielles Löschen der alten Daten

@DaySpan ist das Alter der Daten, ältere Daten werden gelöscht.

SET @DaySpan = 92 /* 3 Monate, ältere Daten werden gelöscht */
SET @DaySpan = 122 /* 4 Monate, ältere Daten werden gelöscht */
SET @DaySpan = 153 /* 5 Monate, ältere Daten werden gelöscht */
SET @DaySpan = 183 /* 6 Monate, ältere Daten werden gelöscht */

Es werden jeweils @MaxRows gelöscht, solange bis alle Daten gelöscht wurden.
Hierdurch wird eine mögliche lange Blockade des Sqlservers vermieden.

Die Blockade, die trotzdem entsteht, sollte nicht länger als 30 Sekunden dauern,
deshalb ist "SET @MaxRows = 3000" ein korrekter Wert.

*/

DECLARE @DaySpan int
DECLARE @MaxRows int
SET @DaySpan = 183 /* Alter der Daten in Tagen, ältere Daten werden gelöscht */
SET @MaxRows = 3000 /* Anzahl Zeilen, die im Loop gelöscht werden sollen, 3000 ist ok */

Use DCS002 /* Name der Datenbank */

SET ROWCOUNT @MaxRows
delete_more1: /* Empfangsdaten */
DELETE FROM DcsMessageIn WHERE (DATEDIFF(Day, DbInDate, GETDATE()) > @DaySpan)
IF @@ROWCOUNT > 0 GOTO delete_more1
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more2: /* Trailer-Positionen */
DELETE FROM DcsTrailerPos WHERE (DATEDIFF(Day, MsgDate, GETDATE()) > @DaySpan)
IF @@ROWCOUNT > 0 GOTO delete_more2
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more3: /* History der Objekte */
DELETE FROM DcsObjectsStatus WHERE (DATEDIFF(Day, MsgDate, GETDATE()) > 730) /* 2 Jahre aufbewahren */
IF @@ROWCOUNT > 0 GOTO delete_more3
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more4: /* Koffer-Positionen ssc */
DELETE FROM DcsCasePos WHERE (DATEDIFF(Day, MsgDate, GETDATE()) > @DaySpan)
IF @@ROWCOUNT > 0 GOTO delete_more4
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more5: /* Can-Daten */
DELETE FROM DcsCanData WHERE (DATEDIFF(Day, MsgDate, GETDATE()) > @DaySpan)
IF @@ROWCOUNT > 0 GOTO delete_more5
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more6: /* alte Fahrzeuge ohne aktuelle Meldung (Leichen) */
DELETE FROM DcsVehicle WHERE (DATEDIFF(Day, VehicleLastContact, GETDATE()) > 365) AND (AccessLevel < 2)
IF @@ROWCOUNT > 0 GOTO delete_more6
SET ROWCOUNT 0

SET ROWCOUNT @MaxRows
delete_more7: /* Sendedaten */
DELETE FROM DcsMessageOut WHERE (DATEDIFF(Day, MsgTime, GETDATE()) > @DaySpan)
IF @@ROWCOUNT > 0 GOTO delete_more7
SET ROWCOUNT 0
```

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### Example of configuration entires

File: Dcs.cfg

```
[ProgStarts]
Count=7
Name_0=C:\Programme\Dcs\DcsSms\DcsSms.exe
Parameter_0=xxxx
Active_0=True
Name_1=C:\Programme\DATCOM DcsGeocoder\DcsGeoCoder.exe
Parameter_1=
Active_1=True
Name_2=C:\Programme\Gemeinsame Dateien\MapServ\DCFSMG4.exe
Parameter_2=
Active_2=True
Name_3=C:\Programme\DATCOM DcsGeocoder\DcsGCwdg.exe
Parameter_3=
Active_3=True
Name_4=C:\Programme\Dcs\DcsSms\DcsSms.exe
Parameter_4=xxxx
Active_4=True
Name_5=C:\Programme\Dcs\DcsAlert\DcsAlert.exe
Parameter_5=
Active_5=True
Name_6=C:\Programme\Dcs\DcsSqlDirect\DcsSqlGateDirect.exe
Parameter_6=xxxx
Active_6=True
Name_7=C:\Programme\Dcs\DcsSms\DcsSms.exe
Parameter_7=192.168.100.20|1001|2|3
Active_7=False

[UdpLog]
IP=127.0.0.1
Port=54321
Active=True
RxActive=0

[Positions]
frmProperties_top=43
frmProperties_left=285
frmProperties_width=1249
frmProperties_height=712
frmProperties_tab1=2
frmProperties_tab2=0
frmProperties_tab3=0
frmProperties_state=0
editSingleIP_top=378
editSingleIP_left=236
editPrograms_top=341
editPrograms_left=304

[TCPforward]
Count=0

[UDPforward]
Count=0

[DcsGprsgates]
Count=xx
Remark_5=mapfleet1 vmware
Active_5=True
IP_6=192.168.200.13
Port_6=51002
Login_6=LOGIN: FLEET/M
Remark_6=mapfleet2 vmware
Active_6=True
IP_7=192.168.200.13
Port_7=49999
Login_7=LOGIN: FLEET/M
Remark_7=mapfleet3 vmware
Active_7=True
IP_8=192.168.200.13
Port_8=51000
Login_8=LOGIN: FLEET/M
Remark_8=mapfleet4 vmware
Active_8=True
IP_9=192.168.200.13
Port_9=51004
Login_9=LOGIN: FLEET/M
Remark_9=posinet1 vmware
Active_9=True
IP_10=192.168.200.13
Port_10=51005
Login_10=LOGIN: FLEET/M
Remark_10=posinet2 vmware
Active_10=True

IP_11=192.168.200.13
Port_11=64001
Login_11=LOGIN: FLEET/S
Remark_11=richtsatz vmware
Active_11=True
IP_14=192.168.200.13
Port_14=64002
Login_14=LOGIN: FLEET/M
Remark_14=service1 vmware
Active_14=True
IP_15=192.168.200.13
Port_15=64003
Login_15=LOGIN: FLEET/M
Remark_15=service2 vmware
Active_15=True

[DcsSqlServer]
Name=192.168.200.12
DB=DCS002
UserID=sa
Pwd=xxxx
Parameter=
Active=True
SSPI=False
LifeSpanDays=366
AwrDelay=20000
AwrCount=507395
Index=True

[DcsMailService]
SmtpServer=xxxx
SmtpPort=25
SmtpUsername=xxxx
SmtpPassword=xxxx
FromMailAdr=vdc@datcom.de
FromMailAdrName=vDCS (VM DCS)
ToMailAdr=mfservice@datcom.de
Active=True
SMSserverIP=xxxx
SMSserverPort=xxxx
SMStestGsmNr=xxxx
AlertSMS=xxxx
AliveSMS=xxxx

[Message]
xTAN=19182587
SendID=126653
FrameID=25840106
GeocodedEmpty=unknown
IdOffset=1
EnableSending=-1

[Block types]
61441=Position
57400=Time stamp
0=Telemetry
4210=4 Byte value
57500=Time stamp
4300=4 Byte value
10000=Text
57344=Time stamp
2005=2 Byte value
57450=Time stamp
10050=Text
10052=Text
2040=2 Byte value
2050=2 Byte value
2055=2 Byte value
2000=2 Byte value
61442=Datablock
1002=On
1003=Off
1010=2 Byte value
11010=Text
8001=xTAN
10101=Measured value
10102=Measured value
4225=4 Byte value
10301=Text
10012=Alarm
10011=Reference
10010=Information
```

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---

10060=Text  
10051=Text  
10061=Text  
10210=Text  
2030=2 Byte value  
2035=2 Byte value  
57444=Time stamp  
10103=Measured value  
10304=Text  
12284=Signature  
11011=Text  
10303=Text  
10104=Measured value  
12200=Text  
10053=Text  
4096=4 Byte value  
10128=Text  
11521=Text  
11522=Text  
10112=Text  
59904=Time stamp  
60000=Time stamp  
7709=4 Byte value  
266=2 Byte value  
58200=Time stamp  
2200=Area ID  
2210=Area State  
2220=Rack Count  
2230=Rack ID  
10500=Rack Name  
2240=Rack State  
5200=VTU ID  
2245=VTU State  
2250=Vehicle State  
2260=2 Byte value  
2205=2 Byte value  
302=2 Byte value  
303=2 Byte value  
10113=Text  
10114=Text  
10115=Text  
10001=Key Text  
10118=Text  
10117=Text  
10119=Text  
10013=Text  
10014=Text  
7480=4 Byte value  
10116=Text  
19=2 Byte value  
10401=Text  
11111=Text  
5897=4 Byte value  
5641=4 Byte value  
29184=unknown Type  
1=2 Byte value  
768=2 Byte value  
4609=4 Byte value  
10600=Text  
10601=Text  
10606=Text  
10602=Text  
10605=Text  
...

### [ACK Message]

65535=success  
101=Mobile unit not logged in  
105=No answer from mobile unit - busy or terminated  
201=Mobile unit will not support this message type

### [Watchdog]

Prg1=C:\Programme\Dcs\DcsAlert\DcsAlert.exe  
Para1=  
Prg2=C:\Programme\Dcs\DcsSqlDirect\DcsSqlGateDirect.exe  
Para2=xxxx  
Prg3=C:\Programme\Dcs\DcsSqlGate.exe  
Para3=xxxx

### [CaseLocator]

Max\_min=5  
Repeat\_sec=30

### [DcsObjCreator]

Index=4516