CARM Server

Version 5.7

Administrator's Guide

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English

Introduction

Welcome to the *APIS CARM Server*, the modularly expendable system for a centralized management of knowledge. Various components are available for this product. The *APIS Client Software* is connected to the *APIS CARM Server* via services (*CSS = CARM Server Service*). Independent of the client software (time- or event-controlled), tasks are executed by agents (*CSA = CARM Server Agent*). The following services and agents are available:

- *APIS CSS Catalogs* (always included)
- *APIS CSS Modules* (optional)
- *APIS CSA Web Publisher* (optional)
- *APIS CSA PDF Publisher* (optional)
- *APIS CSA PDF Reporting* (optional)

The appendix contains a detailed description of the functionalities provided by the different services and agents.

English

Setting up the environment

Hardware

Specific hardware components are required to be able to use the *APIS CARM Server*:

- PC with IA32 (x86) compatible processor
- 400 MB of free hard disk space
- minimum 1024 MB of free RAM
- network connection

Recommended are 4 GB RAM, a CPU as of 2 GHz, as well as a minimum of 1 GB hard disk drive space for the application data.

Software

The operating system platform for the *APIS CARM Server* is Microsoft Windows 7 or later. Whether it is a Windows client or a Windows server is irrelevant for the *APIS CARM Server*. In addition to the operating system, a working SMTP server is required to request IQ certificates and to notify the administrator. It is convenient to set up an e-mail address for the administrator of the *APIS CARM Server*. If a web server (e.g. Microsoft IIS) is already started on the computer on which the *APIS CARM Server* is to be set up, you have to pay attention to avoid conflicts with the web service of the *APIS CARM Server*. For this purpose, you can either change the port of the already running web service or of the *APIS CARM Server* web service. For a description of the respective settings, refer to Web service (page 4).

Network

A correctly configured network is required for the *APIS CARM Server* to work properly. The network adapter must be set up and working. This can be checked by means of the device manager. The TCP/IP protocol must be linked to this adapter. Depending on the available network configuration, the static IP address or the Domain Name System (DNS) name of the server computer can be specified in the workstation settings of the client software. The *APIS CARM Server* only supports IPv4 addresses.

English

Installing the APIS CARM Server

Preparation

Before installing a new version of *APIS CARM Server*, it is recommended to deinstall all previous versions, because some system resources are used in all versions. For installation the relevant parts are the event preparation in the Microsoft Event Viewer and the optional configurable Windows system service to start the *APIS CARM Server*.

Installation

Insert the provided installation disc in the CD-ROM drive. If the Autorun function is enabled in the operating system, the installation will start automatically. Otherwise, the Setup.exe file must be started manually in the root directory of the disc.

Alternatively, the delivery can take place as download. In this case, download the *APIS CARM Server* ZIP file, unzip it (e.g. on the desktop) and start the included Setup.exe file manually.

The following guides you through the further steps of installation.

Basic configuration

The program `CarmConfig.exe` located in the program directory is intended for the basic configuration. You need administrator rights to start it. First, a directory for the application data is to be chosen. The user starting the *APIS CARM Server* needs access to the path as well as read and write access on it. Secondly, the "Personal Identification Number" (PIN) must be entered, which is a four-digit code protecting the access to the CARM server license. The PIN is contained in the accompanying letter and should be kept in a safe place protected against unauthorized access. In case that the PIN is lost, the distribution partner may release and assign a new PIN.

For the startup of the *APIS CARM Server* a Windows system service can optionally be set in the tab control of the same name. Configure detailed options of the service in Microsoft Windows Service management. Within the management the service can be started manually. Using default settings the *APIS CARM Server* starts upon starting the PC.

Web service

The web service of the *APIS CARM Server* is pre-configured. The file `http.ini` in the program directory contains the settings.

Settings in the `[SERVER]` section:

- `PORT=`
  Port address of web service (default: 80)

- `MAXTHREADS=`
  Maximum number of simultaneously processed queries (default: 10)

- `THREADTIMEOUT=`
  Maximum time in seconds until a query is aborted and a time-out error message displayed (default: 500)

- `AUTHORIZATIONTIMEOUT=`
  Time in seconds to pass after the last request until another authentication becomes required (default: 300)

Settings in the `[TYPES]` section:

> All document formats are pre-configured. No further settings are required.

The changes will be applied only after the *APIS CARM Server* was restarted.

Firewall permissions

Firewall permissions for the following programs are required:

- `CARM.exe` (part of the *APIS CARM Server*)
  Inbound rule:
  UDP port 7291
  TCP dynamic port range and TCP port 80 (default port for web service, see page 4)

- `CarmAssistant.exe` (part of the *APIS CARM Server*)
  Outbound rule:
  UDP dynamic port range and port 7291
  TCP dynamic port range

- `IQ_70.exe` (part of the client software, e.g. IQ-FMEA)
  Outbound rule:
  UDP dynamic port range and port 7291
  TCP dynamic port range

The Microsoft Windows Firewall allows outbound network traffic by default. When this default is unchanged, no outbound rules are necessary.

Data transfer from older versions

APIS CARM Server converts user data of older versions into the current format during the first session. Therefore, it is sufficient to copy the data of previous *APIS CARM Servers* into the folder of the current one and start the server. Missing folders and subfolders must be created.

To be able to copy and adopt the user data, *APIS CARM Server* must be switched off. Additionally, the path to the application data has to be available (see basic configuration, page 4).

After the transfer it is recommended to check settings (see page 10) and especially the set paths.

Transfer from version 4.65

Old folder with application data	*Transfer files (when available)*	*New folder with application data*
\workgroup	admin.ice csaweb.ice list.fms module.fms	\workgroup
\workgroup\ module_archive	all *.fms files	\workgroup\ module_archive
\	carmUser.ini	\workgroup

Transfer from version 3.6

The file carm36.cfg is only required for converting the admin.ice, to transfer its contents to the admin.ice.

Old folder with application data	*Transfer files (when available)*	*New folder with application data*
\workgroup	admin.ice csaweb.ice list.fms module.fms	\workgroup
\data	carm36.cfg	\data

Start the APIS CARM Server

The *APIS CARM Server* can be used in the following two variants:

- With graphical user interface
  The *APIS CARM Server* is started by executing the program
  CarmGUI.exe from program folder. The operating system user must
  be logged on. When he logs off all programs and so also the *APIS
  CARM Server* are closed.

- As Windows system service
  The Windows system service APIS CARM Server must be set like
  described in basic configuration (see page 4). Thereby, the *APIS
  CARM Server* is automatically started when the operating system is
  started. Within the service management *APIS CARM Server* can also
  be configured to start manually. The service runs also without a user
  being logged on the operating system.

Troubleshooting

Some system resources are exclusively used by the *APIS CARM Server*.
Therefore, several *APIS CARM Server* on one PC can never be started parallel.
This also is the case for *APIS CARM Servers* of different versions.

Problems on start of the *APIS CARM Server* are logged in the Microsoft
Windows Event Viewer in the section Windows Logs | Application with
source name APIS CARM Server. After the basic system of the *APIS CARM
Server* has been started, messages are logged to the carm.log file which is
located in subfolder log of the application data folder.

When starting the *APIS CARM Server* with graphical user interface the
messages are also displayed directly.

When an error happened at *APIS CARM Server* start as Windows system
service the service quits automatically. The logged error can be found like
described above.

Connection test with IQ-Software

1. Start *APIS CARM Server*

2. Start IQ-Software (e.g. IQ-FMEA)

3. Perform menu command `Tools | Workstation Settings | Settings`. In Section `CARM Server` enter the *APIS CARM Server* `IP address` and close the dialog with `OK`.

4. Perform menu command CARM Server | CARM-Server-Info…

5. When the *APIS CARM Server* information dialog opens the connection is OK. Otherwise an error message will be shown.

Troubleshooting

Error Message `Connection to … cannot be established.`

- Check the entered IPv4 address for correctness. Also check if the server PC is available from the PC the IQ Software is running on (e.g. with the operating system command `ping`). When the error message includes `Unable to find host`, the entered DNS name cannot be translated in an IP address.

- Check if *APIS CARM Server* has been started.

- Only one *APIS CARM Server* is allowed to be started at the same time. Check running processes and Windows system services. If this was the case close all *APIS CARM Servers* and start only one again.

- Check the *APIS CARM Server* version. It must fit to the one of the IQ-Software.

- Check firewall settings on each PC *APIS CARM Server* and IQ-Software is running.

Error message `This client license has no permission to access the server.`

> The ***APIS CARM Server*** does not accept the license number of the IQ-Software. The allowed license numbers can be checked in the graphical user interface of the ***APIS CARM Server*** within the `License details`.

The graphical user interface

The graphical user interface provides buttons for settings and information.

Log-in/log-off

Settings can be configured when logged in. The factory default password is `Admin` (please note that password is case-sensitive!). To prevent unauthorized access, you should change this password (refer to Settings, page 10). For the same reason, it is recommended to log off the system after the settings were completely configured.

License details

Provides you with details on the licensee and the available services.

Install language

The language selected in this dialog will be the interface language for the outputs in the logging window as well as the log file, for automatic generated e-mails (e.g. on request of the ***APIS CSS Module*** certificates) and the web service.

Settings

General

Enter the e-mail address of the administrator of the *APIS CARM Server* here.
This e-mail address is required by the *APIS CARM Server* to inform the
administrator on incoming certificate requests (refer to IQ certificates, page 12).
You can also select that the administrator is notified in case of serious errors.
The dialog also provides for the option to change the administrator's password.

Any important events will be written in the logging window and a log file. If the
log file exceeds the specified size, a successor file will be created.

E-mail

A MAPI profile or SMTP settings can be used to send e-mails from the *APIS
CARM Server*. On use of MAPI ensure the MAPI server sends e-mails without
user interaction. Otherwise the APIS CARM Server always waits for a manual
send via the user!

CSS Modules

Various settings with regard to the *APIS CSS Modules* can be configured:

- Option to notify module installers by e-mail, if a later version of the
  installed module was uploaded on the *APIS CARM Server*
- Option to enforce a certain status of modules uploaded on the *APIS
  CARM Server*
- *APIS CSS Modules access rights* can be enabled to specifically control
  the access right to module categories
- Specification of a password for the web access. This password will be
  required if an internet connection to the *APIS CARM Server* is to be
  established by a web browser to view the saved module details. No
  password is assigned in the factory default settings.

CSA Web Publisher

The *APIS CSA Web Publisher* requires the specification of the source directory for the FME documents and the target directory to which the exported HTML files are stored. By clicking on the button `CSA WEB Publisher batch`, you can view available batches, create new ones and select the active batch. The *APIS CSA Web Publisher* checks for changes on the FME files in the source directory at a set time interval and updates the data in the target directory on the basis of the selected batch. A time interval set to 0 deactivates the agent.

CSA PDF Publisher

After having selected the source directory for the FME files or the target directory to which the PDF documents are stored, export batches can be created. By clicking on the button `CSA PDF-Publisher batch`, available batches can be viewed and new ones created. The active export batches can be selected in the task list. The *APIS CSA PDF Publisher* checks for changes on the FME files in the source directory at a set time interval and updates the data in the target directory on the basis of the selected batches. A time interval set to 0 deactivates the agent.

CSA PDF reporting

The agent *APIS CSA PDF Reporting* requires the specification of the source directory for the FME documents and the target directory to which the exported PDF files and the report are stored. By clicking on the button `CSA PDF Reporting batch`, you can view available batches, create new ones and select the active batch. The agent checks for changes on the FME files in the source directory at a set time interval and updates the data in the target directory on the basis of the selected batch. A time interval set to 0 deactivates the agent.

Data back-up

If the data back-up is enabled, back-up copies of the data set are stored in the specified directory at the given time.

Exit

Quits the *APIS CARM Server*.

Delete log entries

This command deletes the entries from the logging window. The log files remain unchanged.

Open log

This command opens the current `carm.log` file with the Microsoft Windows text edition tool `Notepad`.

IQ certificates

The access to the *APIS CARM Server* is controlled by means of certificates. A certificate is like an electronic key enabling a client to access the server and thus use its services. The certificate is granted for the APIS CSS Modules. The client software initiates the request of a certificate. The *APIS CARM Server* then generates an e-mail containing the data of the logged-on IQ user of the client and attaches the certificate. This email is sent by the server to the administrator, who can then grant the client access to the *APIS CARM Server* by simply forwarding the e-mail.

IQ Software and APIS CARM Server

For a description of the functions from the client software's point of view, refer to the User's Guide.

English

Appendix: Available services and agents

APIS CSS Catalogs

This service provides a centrally managed list of e.g. functions, failures, characteristics, preventive and detection actions. Full support of multilingualism and easily operation in the Input Collectors are ensured.

APIS CSS Modules

APIS CSS Modules provides a controlled environment for component-oriented re-use and administration of FMEA knowledge. Consistent documentation will be accomplished by creating a module history. Automatic replacement of contents with modules from the library enables the creation of FMEAs at the push of a button. Various updating mechanisms allow module users to be notified of changes in a module and thus to be able to react to these changes. Furthermore, information on all the locations of the modules is available.

APIS CSA Web Publisher

APIS CSA Web Publisher can automatically create websites from FMEA documents located in the specified directory and make them available on the intranet. Thus, e.g. control plans can be viewed in the production department without having the client software available.

APIS CSA PDF Publisher

APIS CSA PDF Publisher can automatically create PDF files from FMEA documents located in the specified directory and make them available on the intranet. Thus, e.g. control plans can be viewed in the production department without having the client software available.

APIS CSA PDF reporting

The agent *APIS CSA PDF Reporting* provides for the structure-/variant-based export of FMEA documents located in the specified directory as PDF documents. All the exported documents are listed in a central report file together with status details on the individual structures/variants.

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