

Aquis
Water Network Management



Schneider
Electric

Aquis, Installation Guide

Use this guide with Version 5. 0 of Aquis - Released : Q4 2012

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Installation Procedure for Aquis

This document explains how to install the executables for a Aquis installation on a 32 bit or 64 bit machine.

Should you happen to read this document off-line, notice that these files are available from our web site www.7t.dk. You will be re-routed to the Schneider-Electric HSO web site. (HSO - Hydraulic Simulation and Optimization).

The Aquis executable installs the following programs on the target computer:

- Aquis 5.0 (always installed)
- SAP Crystal Report for Visual Studio, Microsoft Visual C++ Redistributable
- Microsoft Visual Basic Power Packs (downloaded, if not present)
- .NET Framework 4.0 (downloaded, if not present)
- VCREDIST_x86

Provided you install to the default location, you can activate Aquis from the following location:

All Programs>Schneider Electric>Aquis>Aquis

Alternatively, press the **Aquis** icon on your desktop.

Next

Before you start the installation, make sure to check the list of system requirements.

See [Installation Requirements, page 4](#).

Installation Requirements

To successfully install Aquis and start the operation on a daily basis, you must observe the following requirements.

- You must have administrator rights to perform for any of the installations.
- Installation on server operating system requires the end user to have default access right corresponding to a simple user or power user.
- Installation and execution with reduced access rights are not guaranteed and not supported by Schneider Electric.
- A database with the required format (you must run the script supplied with the product). For details see [Installation Instructions for Database, page 5](#).
- For Master/Operator installations, Aquis applies the Windows Communication Foundation included in Framework 4.

By default this communication requires administrator rights. Other user groups must have granted communication rights as explained in the topic [Communication Setup - Access Rights, page 13](#).

- By default the user folder `\AppData\Roaming` is used for temporary data.

This folder and/or the shared model data directory identified by the registry entry **ServerDBA** can include a huge amount of data. This may conflict with the setup of local data profiles. In such cases you are recommended to move the location to a shared drive with sufficient capacity. This means that you must update the registry keys **DataExchange**, **DefaultPath**, and **ServerDBA**.

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[Installation Instructions for Aquis, page 8](#).

Installation Instructions for Database

This topic explains how to create a database to match the requirements of running the data services. Your Aquis application stores the measurements in an SQL database. For standard use, the free edition of the SQL Server (2008 or 2012) will be sufficient. However, for extensive storage of huge amounts of data requires the use of other SQL Server versions. The SQL Server is not supplied with Aquis.

Before

You must have installed a Microsoft SQL Server, 2008 or 2012.

You can download from the following sites:

2008: <http://www.microsoft.com/en-us/download/details.aspx?id=7593>

2012: <http://www.microsoft.com/en-us/download/details.aspx?id=29062>

It is assumed that you have enabled the Server based authentication prior to installing a database.

To install the database

1. From the Microsoft SQL Server Management Studio select the appropriate server and set the authentication to a user with full server control rights. (Notice that the user is typically the database owner, that is the person who installs and customizes the SQL Server.)
2. Press **Connect**.
3. Right-click the **Database** folder and select **New Database**.
4. Under the **New Database** dialog enter a name for the database. By default the database name should be **DM**.
5. Under **Initial Size** determine the size of the database. The size depends on the measurement volume and frequency of updates. You are recommended to set the database size to at least 300MB and the log file to at least 100MB. The log file contains all transactions in the database.
6. Under **Path** change the default folder, if needed, to the appropriate folder for both database data and log data.
7. Leave other settings at default and press **OK** to save changes.

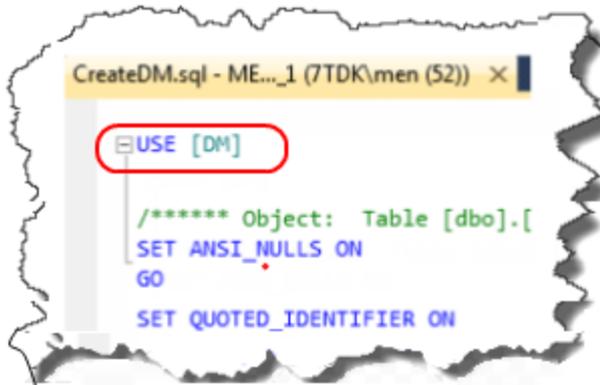
You can now find the database file (DM.mdf) and the log (DM_log.ldf) under the defined path.

8. Next you must run the SQL script (**CreateDM.sql**) provided with the program. If you installed to the default folder, you can locate the script in the following location:

C:\Program Files\Schneider Electric\Aquis\CreateDM.sql

You may want to study the following two considerations prior to running the script. Or, proceed to step 9.

- a. If you have changed the default name for the database, you must also change the name in the script. The script is assumed to be open in Microsoft SQL Server Management Studio. Make the appropriate change. In the following figure you can see where to change the name (red circle).



- b. The script contains a default setup for an sql user with default username/password. Validate that the rights are defined correctly as follows: Aquis/Aquis.

If you consider this authentication method to be in violation of your security procedures, see the section in the ensuing **Windows authentication using Microsoft SQL Server**.

9. From the toolbar press **Execute**.

This process generates a database with a format that matches the use in the Aquis application.

In addition, it generates two server authenticated standard users: **Termis** and **Aquis**.

10. From the menu bar in Aquis select **Configuration** and then **Data Connections**.
11. Under the **Data Connections** dialog select **DataManager DB**. This opens the dialog with connection properties from where you define the connection strings.
12. Under **OLE DB Provider** select **Microsoft OLE DB Provider for SQL Server**.
13. Press the button **Data Links** and locate the appropriate server.
14. Select **Use a specific user name and password**. Remember that it is assumed that you have set the initial settings to Server based authentication.
15. Under User name enter Aquis.
16. Under Password enter Aquis.
17. Select the option **Select the database on the server** and from the list point to the database you created in the preceding (**DM**).
18. Test the connection to make sure it is successful.
19. Save the changes. When you see the message **Empty DataManager Database**, the connection has been successfully established.

Windows authentication using Microsoft SQL Server

This form of access right is not supported by Schneider Electric. However, should you want to use Windows authentication, make sure to delete the code snippets in the CreateDM.sql script for the two default users Termis and Aquis. See the code snippets for Create login <Termis and Aquis> and Create user <Termis and Aquis>. Find these code snippets at the bottom of the script.

Access to Microsoft SQL Server from other computers

You must follow the steps in the following to access the SQL Server database from another computer. Notice also that if the logon to the new computer is different from that to the SQL Server, the user must be created as user in the SQL Server database.

Perform the following configuration steps

- A. The service **SQL Server Browser** must be up and running.
- B. The following TCP ports must be open on the firewall both for the server and the client: **1433** and **1434**.
- C. The following protocols must be enabled on the SQL Server Network Configuration: **TCP/IP** and **Named pipes**.

Configure the protocols using the SQL Server Configuration Manager.

You must stop and start the SQL Server service when you have completed the configuration steps in the preceding.

Next

[Installation Instructions for Aquis, page 8](#)

Installation Instructions for Aquis

This topic provides step by step instructions for the installation of Aquis.

Before

Ensure that you observe the system requirements. See [Installation Requirements, page 4](#).

To install the executable

1. Check the type of operating system on the target PC.
2. Download the relevant software (32 bit or 64 bit). For details see the section **32 bit version 64 bit**.
3. Install Aquis. Notice the following:
 - Installation must be made via the standard menu **Run as administrator** on Windows 7 or 8, or Vista.
 - The following is important if you intend to install on Server 2008 or 2012 as an application server.

You must use the installation option **Install Application on Remote Desktop**. This option is part of the control panel for administrators. When using remote desktop access, remember to start this using the command **mstsc /admin**, which is equivalent to the use of the server consol.

4. The installation encompasses an option to perform a server installation.

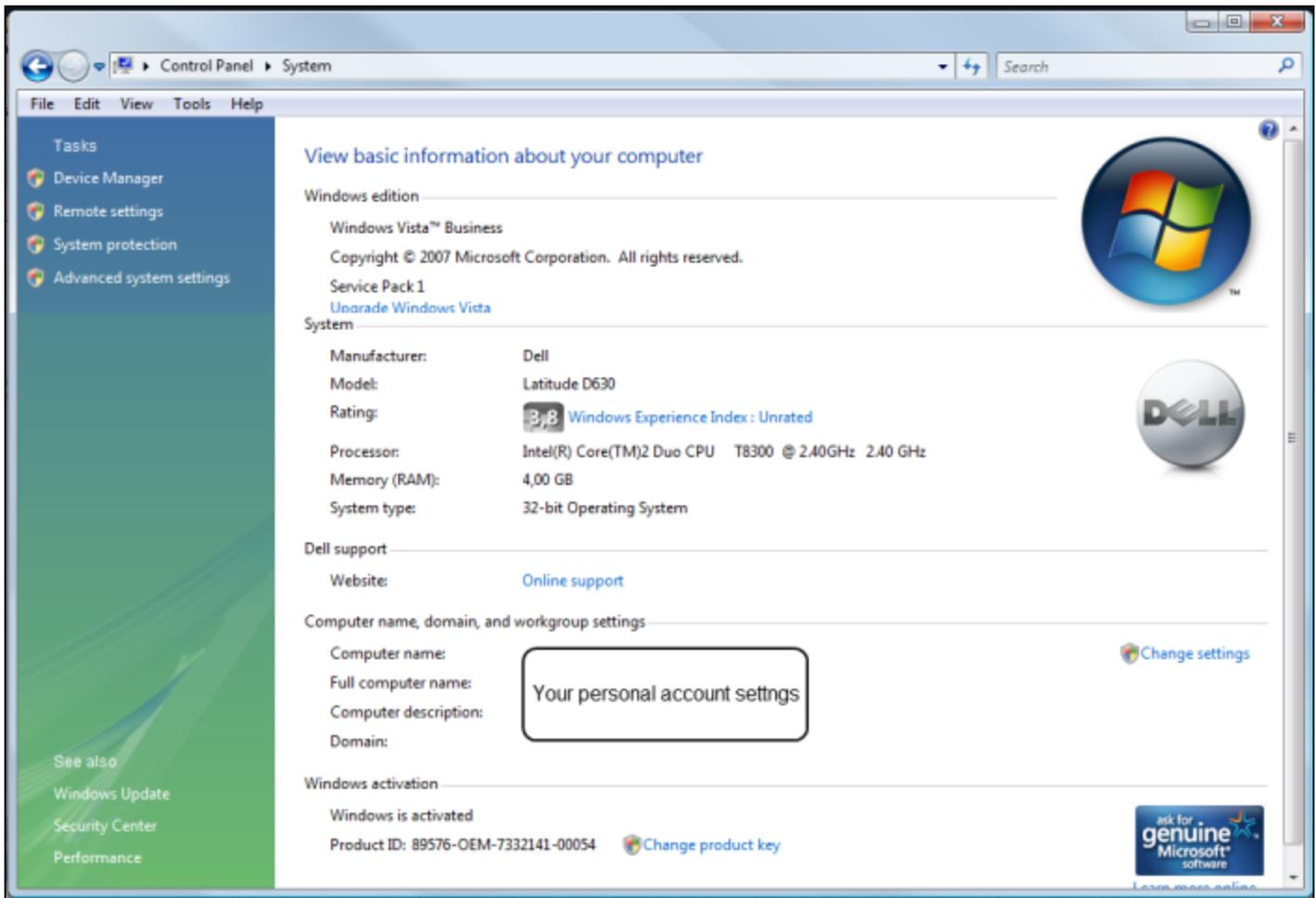
Carefully read the section Standard installation versus server installation before you proceed to the server installation.

5. 64 bit users must install either **Microsoft Office 2010 x64** or **Microsoft Access Database Engine 2010 Redistributable** to enable the access to Microsoft Access databases. The latter driver kit is available from the following site <http://www.microsoft.com/downloads/en/details.aspx?FamilyID=c06b8369-60dd-4b64-a44b-84b371ede16d>
6. Install the license system as explained in the section **License system**.
7. If you have performed a server installation you must make sure to have the appropriate registry settings and make the appropriate files available to the users. For details see the section **Standard installation versus server installation**.
8. If you use the integrated Data Manager, you must install the SQL Server Express. For details see [Installation Instructions for Database, page 5](#).
9. Make a quick overall check of the application in accordance with description in the section **Installation check**.

32 bit versus 64 bit

Aquis is available in two versions, one for the 32 bit structure and another for the 64 bit structure.

You must install the kit that matches your installed operating system. You can validate the actual operating system from the **Control Panel** and then **System**.



To address more than 1.3 GB memory you must run a 64 bit system. The required memory depends on the model size, simulated time frame, time step size, etc. You are strongly recommended to use a 64 bit system to solve potential memory allocation issues. When you install a 64 bit system, notice that you must then also install a 64 bit version of Microsoft Office.

Standard installation versus server installation

The installation encompasses an option to perform a server installation. You are recommended to use this option when installing on a server system.

If during the installation you select the check box for **Server Installation** the following options are not available to the server. If you run a standard installation these files are added automatically.

- The sample file including files sample.7tg and sample.mdb are not installed.
- The standard license file is not installed.
- The report template folder files are not installed.

If required, the files must be made available to the end users by manually copying them to a shared drive.

You can copy the files from a standard installation to the server. Locate the standard installation files under

My Documents>Schneider-Electric>Aquis.

As a system administrator you must moreover make sure to make the correct registry settings available to each user. The relevant registry keys are defined in the ensuing table:

Registry Key	Registry Key Setting	Description
[HKEY_CURRENT_USER\Software\Schneider-Electric\<version #>\Culture	Language=en-US	Language definition.
[HKEY_CURRENT_USER\Software\Schneider-Electric\<version #>\DataExchange	DefaultPath=C:\Users\ <your alias="">\AppData\Roaming\Schneider-Electric\Aquis\Work\</your>	The default path to where the temporary result files are stored.
	ClientID=""	Client ID used in a multi user setup.
	ServerAddress=localhost	TCP/IP address to Master PC used in a multi user setup.
	TCPport=dword:00001f51	Communication port used in a multi user setup.
	ServerDBA=""	Path to a shared folder where temporary result files from Master model are stored.
[HKEY_CURRENT_USER\Software\Schneider-Electric\Aquis\<version #>\Directories	ReportFolder=C:\Users\ <your alias="">\Documents\Schneider-Electric\Aquis\Reports</your>	Path to where report template files are stored.
	GeoidFolder=C:\Program Files (x86)\Schneider-Electric\Aquis\Geoids	Path to where Geoids system files are stored.
	AQUISFree="C:\Program Files (x86)\Schneider-Electric\Aquis\AquisFree	Path to where banner files are stored.
	Help="C:\Program Files\Schneider-Electric\Aquis\"	Path to where help system is stored.
	DefaultReportFolder=C:\Users\ <your alias="">\Documents\Schneider-Electric\Aquis\Reports</your>	Path to where report template files are stored.

Installation check

The installation is successful provided the following test criteria are met:

1. You can start the application and load the sample file from **My Documents\Schneider-Electric\Aquis\Test-Data**.

The sample file is named **Sample.7tg** for 32 bit installations and **Sample-x64.7tg** for 64 bit systems.

2. You can successfully perform a standard simulation.

To run a simulation from the menu bar select **Simulate>Simulation**.

An indication of a successful simulation is that the system log available from the menu bar includes statements such as:

- Updated tracking results for time: 4.23:03:00
- Hydraulic results loaded for time: 27-11-2010 14:03:0

To open the system log select **View>System Log**.

3. Optional check for a successful simulation: Select **Help>About Aquis** and validate that there is a date next to **7Flow**. The installation has failed if the date is missing.
4. You can generate reports.

Open the **Reports** dashboard and select **Cons. Report**.

Next (optional)

[License System, page 12](#)

[Communication Setup - Access Rights, page 13](#)

License System

Aquis comes with a demo license that does not allow simulation, but loads the sample model. You must install a license file to conduct a simulation or use more advanced features in Aquis.

The license system includes the following items:

- A hard lock.
- A license file including a code and reference to the hard lock.
- An optional **License Server Manager** package, used to administer concurrent licensed users.

To install the license file

1. Insert the hard lock in the USB port of the target PC.

The hard lock shows a red light when identified by the operating system.

2. Start Aquis. From the menu bar select **Help** and point to **License** to open the **License** dialog.
3. Under the **License** dialog press the button **Install License File** and browse to locate the supplied license file.

A successful installation gives the status message **Valid license** under the **Status** entry.

4. Validate the details of the installed license. Press the button **Additional Info**. Under the heading **Options**, check to see that you have all the license options you ordered.

Optionally, you can install the application **License Server Manager** (LSM) to support multiple concurrent users. This application is available for download from www.7t.dk. It requires a separate installation as described in the documentation (License Server Info.pdf) provided with the LSM application. Contact your point of purchase for details.

To add license files you are also recommended to view the documentation provided with the License Server Manager application.

Communication Setup - Access Rights

This topic explains how to find the location of the active version of the Framework and the file **SMSvcHost.exe.config** file is only relevant for users that are not administrators on the installation.

Before

You must have Aquis running before you proceed.

To provide access rights

1. Locate the installation folder for the file **SMSvcHost.exe.config**.

Start **Task Manager** and under **Processes** locate and right-click the file **SMSvcHost.exe.config** and point to **Properties**. Under the **General** tab you can see the location of the file.

2. Open the **SMSvcHost.exe.config** file in an editor and add the following access rights in the location indicated in the ensuing sample file, and where commented code is enclosed by the following tag: `<!-- comment -->`

Do not change the format of the file.

For details on the user identifications see the KnowledgeBase article: **Well-known security identifiers in Windows operating systems** (<http://support.microsoft.com/kb/243330>) Last accessed August 2010.

User	Access Rights
Local users	<code><add securityIdentifier="S-1-5-32-545"/></code>
Remote desktop users	<code><add securityIdentifier="S-1-5-32-555"/></code>

Code sample file

```
<?xml version="1.0" encoding="utf-8"?>
<!-- The configuration file for SMSvcHost.exe -->
<configuration>
  <runtime>
    <gcConcurrent enabled="false" />
    <generatePublisherEvidence enabled="false" />
  </runtime>
  <system.serviceModel.activation>
    <net.tcp listenBacklog="10" maxPendingConnections="100" maxPendingAccepts="2" receive-
    Timeout="00:00:10" teredoEnabled="false">
      <allowAccounts>
      </allowAccounts>
    </net.tcp>
  </system.serviceModel.activation>
  <!-- Below are some sample config settings:
  <system.serviceModel.activation>
    <net.tcp listenBacklog="10" maxPendingConnections="100" maxPendingAccepts="2" receive-
    Timeout="00:00:10" teredoEnabled="false">
      <allowAccounts>
```

```
<add securityIdentifier="S-1-5-32-545"/>
<add securityIdentifier="S-1-5-32-555"/>
// LocalSystem account
<add securityIdentifier="S-1-5-18"/>
// LocalService account
<add securityIdentifier="S-1-5-19"/>
// Administrators account
<add securityIdentifier="S-1-5-20"/>
// Network Service account
<add securityIdentifier="S-1-5-32-544" />
// IIS_IUSRS account (Vista only)
<add securityIdentifier="S-1-5-32-568"/>
</allowAccounts>
</net.tcp>
<net.pipe maxPendingConnections="100" maxPendingAccepts="2" receiveTimeout="00:00:10">
<allowAccounts>
// LocalSystem account
<add securityIdentifier="S-1-5-18"/>
// LocalService account
<add securityIdentifier="S-1-5-19"/>
// Administrators account
<add securityIdentifier="S-1-5-20"/>
// Network Service account
<add securityIdentifier="S-1-5-32-544" />
// IIS_IUSRS account (Vista only)
<add securityIdentifier="S-1-5-32-568"/>
</allowAccounts>
</net.pipe>
<diagnostics performanceCountersEnabled="true" />
</system.serviceModel.activation>
-->
</configuration>
```

3. Boot the computer for the changes to become effective.