



- Release Notes -



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Release Notes

HxGN SMART Quality 4.0 is a significant development release of the software. For detailed information and video tutorials about this release, visit

http://www.hexagonmi.com/products/hxgn-smart-quality

The following information details what's new or improved in SMART Quality 4.0:

- Added the ability to view supporting documents for products in the **Products** tab. A supporting document file can be an electronic document file, image file, audio file, video file, or some other file. Supporting documents can provide mounting or operating instructions or other information (MMSCE-5611).
- Added the ability to view supporting files for a measurement routine in the **Products** tab. These files provide mounting information, operating instructions, or other information (MMSCE-5542).
- SMART Quality has a new Workflow Report in the **Reports** tab to view a list of completed workflows (MMSCE-5412).
- Added the ability to assign a user to each step in the workflow. You can do this when you initiate a workflow for a machine (MMSCE-5532)
- Added the ability to open an application with a **Link** button in the **My Tasks** dialog box to complete the workflow step (MMSCE-5533).
- Added the ability in the **Workflows** tab to show only those workflows that are related to a factory (MMSCE-5534).
- Added the ability in the **Dashboard** tab to display Pulse status icons with its current status information on the machines' tiles (MMSCE-5410).
- Added the ability to drag the tiles in the **Dashboard** tab to rearrange the layout: Productivity Summary, Machines' Overview, Machines' Statuses, Notifications, Machines' OEE, Factory OEE, Measurement Reports, and Machine Status Chart (MMSCE-5538).
- Added the ability to show or hide the user data to protect the privacy with the Display user data check box in the New Factory screen. This check box shows or hides the User Report in the Reports tab and the All Operator Performance chart in the All Factories Dashboard screen (MMSCE-5505).

- Added the ability to relocate the machine to another factory or department (MMSCE-5540).
- Added the ability to show the serial number, last calibration date, and next calibration date for a machine (MMSCE-5881).
- Added a new **Calibration Scheduler** dialog box to create a machine calibration scheduler task that initiates a workflow (MMSCE-5956).
- Improved the **Calibration Scheduler** dialog box to include the **Months** and **Years** options for the machine calibration interval time (MMSCE-6347).
- Added the ability to upload a checklist to the current workflow step. The checklist provides the items to complete the workflow step (MMSCE-5955).
- Added the ability to show the machine idle and exception status during execution (MMSCE-6114).
- Added the ability to show the Overall Equipment Effectiveness (OEE), Availability, and Performance for all the machines in the factory or department on the **Dashboard** tab (MMSCE-6115).
- Added a new machine status chart on the **Dashboard** tab that displays a horizontal status bar to show the variation in status for a selected date for all the machines in the factory or department (MMSCE-6116).
- Added the ability to show the OEE, Availability, and Performance of the whole factory on the **Dashboard** tab (MMSCE-6117).
- Added support for two additional parameters (PARAM4 and PARAM5) to better support PULSE events (MMSCE-6153).
- Improved the performance of Dashboard's **Notifications** panel to show machine activities for the current factory, including machine deletion, machine creation, machine exceptions, and machine relocation (MMSCE-6774).
- Added support for the additional machine status to include Idle during execution (MMSCE-6114).
- Added a new SMART Quality Verification Tool to troubleshoot SMART Quality configuration issues. The tool checks the SPF connection, Q-DAS License, DataServer Service, Pulse Broker Service, and so on (MMSCE-5404).
- Added tooltips to the Pulse sensor icons that are displayed on the machine tiles on the **Dashboard** tab (MMSCE-6741).

- Added support for the second crash sensor (MMSCE-6731).
- Added password peek functionality to all password fields such as the sign-in screen and the **New Account** screen (MMSCE-6759).
- Added support for the UTC dates in the Pulse environment data (MMSCE-6371).
- Added the ability to configure the workflow templates from the **Workflow Configuration** screen in SMART Quality (MMSCE-5856).
- Added the ability to rotate the CAD model in the CAD window on the **Products** tab for different views such as bottom, top, right, back, left, isometric, front, and 3-D rotation (MMSCE-5347).

Recommended System Requirements

For HxGN SMART Quality to function, you need to have an application server and a database server that can be on the same physical or virtual server, or located separately on different servers. These servers also needs to be networked and accessible to the computers contained inside the SMART Quality environment. During the installation of SMART Quality, we recommend that you have access to your IT personnel to ensure any IT issues are resolved. Your IT department needs to allow internet traffic to communicate with these servers without firewall or subnet issues. SMART Quality Installation also requires an SQL user account that has DBO (Database Owner) and read/write permissions to access the database.

Application Server System Requirements

- **Operating System** Windows Server 2016 and Windows Server 2012.
- **RAM** 32 GB
- CPU Quad-Core or higher processor
- Hard Drive 500 GB of free hard drive space
- Internet Information Server (IIS) Enabled IIS Manager components

Database Server System Requirements

- **Operating System** Windows Server 2016 and Windows Server 2012.
- **RAM** 32 GB
- CPU Quad-Core or higher processor
- Hard Drive 500 GB of free hard drive space
- Microsoft SQL Server Microsoft SQL Server 2014 64-bit or later

Client Computer System Requirements

- Operating System 64-bit Windows 10, Windows 8.1, Windows 8, and Windows
 7
- **RAM** 8 GB

- **Microsoft .NET Framework** Microsoft .NET Framework 4.6.1 for Windows. If you do not have Microsoft .NET Framework 4.6.1, the SMART Quality installer will install it for you.
- **Browser** Google Chrome (recommended), Mozilla Firefox, or Internet Explorer 10 or later

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test SMART Quality. The user will need to confirm the performance of any other anti-virus tool.

http://sophos.com/products/enterprise/endpoint/security-and-control/

Prerequisite Components

Before you install HxGN SMART Quality, you need to install these components:

- Microsoft Windows Server 2012 R2 64-bit (Datacenter or Standard edition)
- Oracle Database 12c Release 1 (12.1.0.2.0) for Microsoft Windows (x64) or Microsoft SQL Server 2014 for Microsoft Windows (x64)

SMART Quality uses your Q-DAS license.

Install SMART Quality

Overview

This section covers the installation of the HxGN SMART Quality application.

Step 1: Run SmartQuality_Installer.exe and Start the Wizard

If you install from a CD or DVD, double-click **SmartQuality_Installer.exe**.

If you install from a downloadable file, extract the contents from the downloaded archive and double-click **SmartQuality_Installer.exe**:



The SmartQuality_Installer.exe file

The HxGN SMART Quality screen appears with the following options:



- **Prerequisites** This option installs these additional prerequisite components if they are not already installed on your computer:
 - Microsoft .NET Framework 4.6
 - Adobe Reader XI
- Server Installations This option installs these servers:
 - Q-DAS Desktop
 - SMART Quality
 - SMART Task
- Client Installations This option installs these applications:
 - PC-DMIS
 - Inspect
 - PC-DMIS Q-DAS Converter
 - DataSync
 - Pulse

- **Readme** This option opens a folder that contains the installation guides:
 - SMART Quality Readme
 - PC-DMIS Readme
 - Q-DAS Readme

Step 2: Install Additional Prerequisites

On the main screen, click **Prerequisites** to open the screen below:



If you already installed the tool, the green text (Installed) appears next to the tool's name.

Install Microsoft .NET Framework 4.6

This installer lets you install .NET Framework 4.6 if you want to install it separately.

1. From the main installation screen, double-click **.NET Framework 4.6** to begin the installation process. The file extracts to a temporary directory and then the main setup screen appears.

- 2. Read and accept the license agreement. Then click **Install** to open the installation screen.
- 3. Once the installation finishes, the final screen appears.
- 4. Click **Finish** to close the installation program.

Install Adobe Reader XI

This installer lets you install Adobe Reader XI to view PDF reports in HxGN SMART Quality. If you already have PDF Reader or don't have any PDF reports, then you don't need Adobe Reader XI.

- 1. From the main installation screen, double-click **Adobe Reader XI** to begin the installation process.
- The main setup screen then appears. You can use the Change Destination Folder box to specify a different destination folder.
- 3. Click **Next** to open the install updates screen.
- 4. From the install updates screen, select the appropriate option for your security updates:
 - Install updates automatically (recommended) This option automatically installs any periodical security updates and enhancement updates from Adobe.
 - Download updates for me, but let me choose when to install them -This option automatically downloads the updates but does not install them. Once the updates are downloaded, you can install them from the notification area.
 - Notify me, but let me choose when to download and install updates -This option provides a notification in the notification area to download and install the updates.
 - Manually check for and install updates (not recommended) This option does not download, install, or provide notification. You need to manually check for the updates.
- 5. Click **Install** to open the installation screen.
- 6. Once the installation finishes, the final screen appears.

7. Click **Finish** to close the installation program.

Step 3: Server Installations



Q-DAS Desktop - This option installs the Q-DAS Desktop application.

SMART Quality - This option installs these components that make up the HxGN SMART Quality server:

- Application Server and IIS
- Data Server
- Pulse Broker
- Q-DAS Web

The installer also configures the SMART Quality application. The configuration includes creating sites.

The SQL server cannot create a database if the database server and the SMART Quality server exist on separate computers. To resolve this issue, see "Install SMART Quality Database".

SMART Task - This option installs the SMART Task application.

Install Q-DAS Desktop

For detailed instructions on this installation, see the "Q-DAS Readme.pdf" file. To open the Readme, see the "Readme" topic.

To install SMART Quality components, in the **Frieschaltung** (Activation) dialog box, from the **Product** list, select the SMART Quality features that you need. The available SMART Quality options are those that start with **SMART QUALITY CORE** and go through the end of the list.



Requirements:

- To see the **QS-STAT** tab in SMART Quality, you need a QS-STAT license.
- To use the Upload tool that connects to a Q-DAS database, you need a Q-DBM license.

Install SMART Quality

Install the SMART Quality Server

This option installs these components that make up the HxGN SMART Quality server:

- Phase 1: Install Additional Softwares
- Phase 2: Install SMART Quality (web application)
- Phase 3: SMART Quality Configuration

During the installation, the main SMART Quality setup application has a progress bar that shows the overall progress. For phase 2, the SMART Quality setup opens other setup applications with their own progress bars. For phase 3, configuration screens appear.

Phase 1: Install Additional Software

This phase starts the installation of the HxGN SMART Quality server. In this first part of the installation, it installs this additional software:

• **Application Server and IIS** - The Application Server installation process provides an option to add web server support. This option installs the Internet Information Services (IIS) web server that is built into Windows Server 2012.

The Application Server installs only on Windows Server 2012. If you don't have Windows Server 2012 operating system, you need to manually update the Windows features. For information on how to update the Windows features, see "Enable Internet Information Services.

- **Data Server** The Central DataServer lets a factory access all the measurement and environmental data from one database.
- **Pulse Broker** The Pulse Broker is a Windows service that records environmental data and saves it in the DataServer database. All CMMs in a factory with a Pulse hardware installation send environmental data. Pulse sends data about the local environment such as temperature, humidity, and vibration to

the local SMART Quality server. The Pulse Broker records and saves this information for future analysis.

To view the data immediately, you can use the **Pulse** tab in SMART Quality.

To do advanced statistical analysis, you can use Q-DAS.

• **Q-DAS Web** - The Q-DAS Web application generates both textual statistical reports and chart statistical reports to analyze measurement results.

To install the additional software, follow these steps:

- 1. From the main installation screen, double-click **SMART Quality** to begin the installation process.
- 2. Read and accept the license agreement. Then click **Next** to open the **Install Additional Software** screen.
- 3. Select the check boxes for the additional software that you want to install.
- 4. Click **Install** to start the installation.
- 5. When the installation finishes, the installer immediately opens the Q-DAS Web Setup Wizard. Click **Next** to open the **End-User License Agreement** screen.
- 6. Read and accept the license agreement. Then click **Next** to open the **Select Installation Address** screen.

From the Site list, keep the default of Default Web Site.

In the **Virtual directory** box, specify a directory name that contains your Q-DAS Web files. The default directory is QDasWeb.

- 7. Click **Next** to open the **Destination Folder** screen. You can also change the installation folder.
- Once the installation has all the information it needs, the Ready to install Q-DAS Web screen appears.
- 9. Click **Install** to start the installation. When the installation finishes, the final screen appears.
- 10. Click **Finish** to close this wizard. The SMART Quality (web application) setup program then opens (see Phase 2).

Phase 2: Install SMART Quality (web application)

This phase continues the installation of the HxGN SMART Quality server. It installs SMART Quality (web application).

- 1. The installer immediately opens the SMART Quality Setup Wizard. Click **Next** to open the **End-User License Agreement** screen.
- 2. Read and accept the license agreement. Then click **Next** to open the **Select Installation Address** screen.

From the Site list, keep the default of Default Web Site.

In the **Virtual directory** box, you can specify a directory name that contains your SMART Quality files. The default value is SmartQuality.

- 3. Click **Next** to open the **Destination Folder** screen. You can also change the installation folder.
- Once the installation has all the information it needs, the Ready to install SMART Quality screen appears.
- 5. Click Install. When the installation finishes, the final screen appears.
- 6. Click **Finish** to close the SMART Quality (web application) installation program.
- 7. The SMART Quality server installation screen appears with the installation results. If any errors are detected or necessary component aren't installed, this screen shows those results.
- 8. Click **Close** on the main SMART Quality server installation screen. The SMART Quality Configuration screen then opens (see Phase 3).

Phase 3: SMART Quality Configuration

The HxGN SMART Quality server installation is now done. This phase configures the SMART Quality settings and the SQL Server or Oracle database. It also creates websites for SMART Quality.

1. The SMART Quality Configuration screen appears:

Qu	SMART Quality Cont	iguration	x
Out	ality Server Settings MART Quality server settings.		
Server Settings	5		
Server:	192.168.0.109	-	
Site name:	MMSServer		
File server:	192.168.0.109	-	
File site name:	MMSFileServer		
Vault:	C:\Vaults	Browse	
Other Settings Create sites			
		Next	🕑 Exit

Server Settings - Configure the following options to define the server:

Server - Type or select your server's name or Internet Protocol (IP) address.

Site name - Type the server's site name.

File server - Type or select your file server's name or IP address.

File site name - Type the file server's site name.

Vault - This option sets the vault folder. The default is C:\Vaults.

Create sites - Select this check box to create additional sites for SMART Quality.

2. Click Next to open the SMART Quality Database System screen:

Qu	SMART Quality Configuration	_ 🗆 🗙
SMART Quality Database Specify the database type an	i se System nd associated system information.	
Use existing database Database type:		
SqlServer Site database server:	▼	
WIN-P50AVGG8SCG\SQLE	EXPRESS	
System user:	System password:	
sa	*****	
Use Windows authentication		
	G Back 🕞 Next	🕑 Exit

Use existing database - Select this check box to use the current database.

Database type - From the list, select the type of database: Oracle or SqlServer.

For the rest of this procedure, items in blue refer specifically to SQL Server. Items in reddish brown refer to Oracle. Items in black are common to both. The screen images are from SQL Server.

Site database server / Oracle Alias - Type the name of the database server.

System user - This box is not available if you select the **Use existing database** or **Use Windows authentication** check box. You can type your computer user name in the box.

System password - This box is not available if you select the **Use existing database** or **Use Windows authentication** check box. You can type your computer password in the box.

Use Windows authentication - Select this check box to use the Windows user name and password.

3. Click Next to open the SMART Quality Data Schema screen:

Qu	SMART	Quality Configuration	
SMART Quality Data Schema Enter the location of the database dump file and the user information for the Data schema.			
Schema data source Dump file location:			
C:\inetpub\wwwroot\SQ\SpfFiles\Databases\MMS_DATA.bak			
Database ser	ver		
Physical databa	se file location:	Log file location:	
Default SQL	Location	Default SQL Location	
Database usern	ame:	Database name:	
Mms_Data		MMSDATA	
Database passw	vord:	Confirm password:	
*****		*****	
		🕞 Back 📀 Next 🕑 Exit	

Dump file location - Select the directory to store the dump files of the Oracle database.

Physical database file location - Type the directory of the database.

Log file location - Type the directory of the log file.

Oracle tablespace - From the list, select the tablespace to store your database's data.

Oracle temp tablespace - From the list, select the tablespace to manage the space for database sort operations and storing global temporary variables.

Database username - Type the user name for your database.

Database name - Type the name of the database.

Database password - Type the password for your database.

Confirm password - Retype your password for confirmation.

4. Click **Next** to create the SMART Quality sites.



5. After the websites have been created, click **Next** to open the final screen.



6. Click **Finish** to close the configuration wizard. This step completes the SMART Quality server installation.

Install SMART Task

- 1. From the main installation screen, double-click **SMART Task** to begin the installation process.
- 2. Click Next to open the End-User License Agreement screen.
- 3. Read and accept the license agreement. Then click **Next** to open the **Select Installation Address** screen.

From the Site list, keep the default of Default Web Site.

In the **Virtual directory** box, specify a directory name that contains your SMART Task files. The default directory is SmartTask.

- 4. Click **Next** to open the **Destination Folder** screen. You can also change the installation folder.
- Once the installation has all the information it needs, the Ready to install SMART Task screen appears.
- 6. Click Install. When the installation finishes, this final screen appears.
- 7. Click **Finish** to close this wizard.

Separately

Install HxGN SMART Quality Database

This installer is useful when you only want to install the HxGN SMART Quality database and not the SMART Quality websites (the SMART Quality application server). This installer create a database that contains tablespaces, users, and tables for SPF and DataServer. This also installs HxGN SMART Quality Database in Database Server.

If you want to configure the HxGN SMART Quality settings, configure the Microsoft SQL Server data management software or Oracle database, and create websites for SMART Quality, see "Phase 4: SMART Quality Configuration".

If you only want to install the SMART Quality database (the SQL Server or Oracle database) for SPF and DataServer, you can follow this procedure:

1. Locate the installation file on your installation media; or, if you downloaded the file, open the directory that contains the downloaded file. The installation file looks like this:

SetupDatabaseForSQ_Release_#.#.###.exe

Where the # symbols represent the specific version numbers.

2. The SMART Quality Database System screen opens:

Qu	SMART Quality Configuration		
SMART Quality Database System Specify the database type and associated system information.			
Use existing database Database type:			
SqlServer			
Site database server:			
WIN-P50AVGG8SCG\	SQLEXPRESS		
System user:	System password:		
sa	*****		
Use Windows authentic	ation		
	🕞 Back 📀 Next 😈 Exit		

Use existing database - Select this check box to use the current database.

Database type - From the list, select the type of database: Oracle or SqlServer.

For the rest of this procedure, items in blue refer specifically to SQL Server. Items in reddish brown refer to Oracle. Items in black are common to both. The screen images are from SQL Server.

Site database server / Oracle Alias - Type the name of the database server.

System user - This box is not available if you select the **Use existing database** or **Use Windows authentication** check box. You can type your computer user name in the box.

System password - This box is not available if you select the **Use existing database** or **Use Windows authentication** check box. You can type your computer password in the box.

Use Windows authentication - Select this check box to use the Windows user name and password.

3. Click Next to open the SMART Quality Data Schema screen.

SMART Quality Configuration		
SMART Quality Data Schema Enter the location of the database dump file and the user information for the Data schema.		
Schema data source Dump file location:		
C:\inetpub\wwwroot\SQ\Sp	fFiles\Databases\MMS_DATA.bak	
Database server		
Physical database file location:	Log file location:	
Default SQL Location	Default SQL Location	
Database username:	Database name:	
Mms_Data	MMSDATA	
Database password:	Confirm password:	
*****	*****	
	🕞 Back 📀 Next 🕑 Exit	

Dump file location - Select the directory to store the dump files of the Oracle database.

Physical database file location - Type the directory of the database.

Log file location - Type the directory of the log file.

Oracle tablespace - From the list, select the tablespace to store your database's data.

Oracle temp tablespace - From the list, select the tablespace to manage the space for database sort operations and storing global temporary variables.

Database username - Type the user name for your database.

Database name - Type the name of the database.

Database password - Type the password for your database.

Confirm password - Retype your password for confirmation.

4. Click **Next** to create the database.



5. After the database has been created, click **Next** to open the final screen.

🔢 SMAI	रा Quality Configuration	-		×
	Configurations of SMART Quality			
	Configurations are complete.			
Confi	gurations of SMART Quality Finished			
			Fini	sh

6. Click **Finish** to close the configuration wizard. This step completes the SMART Quality database installation.

Step 4: Client Installations

Before you proceed to the client installations, complete the server installations.



PC-DMIS - This option installs the PC-DMIS 2018.0 R2 version of the application.

Inspect - This option installs the Inspect 4.0 application. Inspect can work with any version of PC-DMIS since version 4.3.

PC-DMIS - Q-DAS Converter - This option installs the PC-DMIS to Q-DAS Converter.

DataSync - This option installs the DataSync service.

PULSE - This option installs the Pulse Desktop application.

Install PC-DMIS 2018.0 R2

For detailed instructions on this installation, see "PC-DMIS_Readme.pdf". To open this pdf, see the "Readme" topic.

Install Inspect 4.0

- 1. From the main installation screen, double-click **Inspect** to begin the installation process. The file extracts to a temporary directory and then the main setup screen appears.
- 2. On the main screen, read and accept the license agreement. You can also change the installation folder.
- 3. Click **Install** to start the installation to the defined installation directory.
- 4. Once HxGN SMART Quality installs the needed files and shortcuts, the **Installation complete** screen becomes available. From this screen, you can choose these items:
 - Launch Inspect To launch the application once you click Close, select this check box.
 - Show Release Notes To display a .pdf that shows what is new or has changed in this release once you click **Close**, select this check box.
- 5. Click **Close** to close the installation program.

Install PC-DMIS - Q-DAS Converter

This tool measures a measurement routine and converts the results into a Q-DAS (.dfq) format.

- 1. From the main installation screen, double-click **PC-DMIS QDAS Converter** to begin the installation process.
- From the list, select the language, and click OK. The PC-DMIS Q-DAS Converter Setup Wizard opens.
- 3. Click Next to open the License Agreement screen.
- 4. Read and accept the license agreement. Then, click **Next** to open the **Choose Components** screen.
- 5. Clear the check boxes for the components you don't need. Then, click **Next** to open the **Choose Install Location** screen. You can change the installation folder.
- 6. Click Install. When the installation finishes, the final screen appears.
7. Click **Finish** to close this wizard.

Install DataSync

The DataSync service migrates measurement data from a local 360 SIMS DataServer (1.x) system to a central HxGN SMART Quality DataServer. The service migrates Coreview Feature/Dimension data and CTO/CTN surface analysis data for the Video of the Day (VOD) functionality. You can then view this data in the SMART Quality and Q-DAS software packages for advanced statistical analysis.

About DataSync Windows Service Prerequisites

Below are the prerequisites to install and implement the DataSync Windows Service:

- DataServer version 1.5.0 or higher for all database and service instances.
- The Local DataServer database must be installed on at least one local cell.
- An instance of the Local DataServer service with a connection string that points to the Local Database.
- In the ServiceOptions.config file, the Local DataServer service must have its CentralDataServer option set to "0" (zero). For more information, see the "DataServer User Guide".
- An instance of the Central DataServer database must be installed on a separate computer.
- An instance of the Central DataServer Service with a connection string that points to the Central Database.
- In the ServiceOptions.config file, the Central DataServer Service must have the CentralDataServer option set to "1". For more information, see the "DataServer User Guide".

Installation Process

- 1. From the main installation screen, double-click **DataSync** to begin the installation process.
- 2. Read and accept the license agreement. You can also change the installation folder. Then click **Next** to open the DataSync Service settings screen.

Local DataServer Address - Type the local DataServer's address.

Central DataServer Address - Type the central DataServer's address.

- 3. Click **Test Connections**. This displays a valid connection message.
- 4. Click **OK** and then click **Install** to open the installation screen.
- 5. When the installation finishes and the final screen appears, click **Close** to close this wizard.

Install PULSE

- 1. From the main installation screen, double-click **PULSE** to begin the installation process. The main setup screen appears.
- 2. On the main screen, read and accept the license agreement. Click **Options** to change the installation folder.
- 3. Click **Install** to start the installation to the defined installation directory.
- 4. Once HxGN SMART Quality installs the needed files and shortcuts, the Installation complete screen becomes available. From this screen, you can choose these items:

Launch - To launch the application, click this button.

Close - To close the installation program, click this button.

Readme



SMART Quality Readme - This option opens the HxGN SMART Quality Readme.

PC-DMIS Readme - This option opens the PC-DMIS Readme.

Q-DAS Readme - This option opens the Q-DAS Readme.

Troubleshooting

Overview

If you have problems getting HxGN SMART Quality or any of the required software components to install or run properly, an internet options settings issue, or some other configuration issue.

The following topics cover fixes for common errors you may encounter when connecting to the SMART Quality server and other useful procedures.

HTTP Error 500.19 or HTTP Error 500.21

Problem: Attempting to connect to the server gives a "HTTP Error 500.19" or "HTTP Error 500.21".

Solution: Follow the steps below:

- 1. Open a Command Prompt window. To do this, select **Start**, and then in the **Search programs and files** box type **Cmd** and press Enter.
- At the command prompt, type
 "%WINDIR%\Microsoft.NET\Framework\v4.0.30319\aspnet_regiis.exe" -iru
 and then press Enter. This applies Microsoft .NET Framework 4 on IIS.



- 3. Restart your browser.
- Access the http://[SMART Quality server host]/[SMART Quality site name]/ page again, where [SMART Quality server host] is the server's Internet Protocol (IP) address and SMART Quality site name is the name of the site.

SMART Quality Does Not Open Properly

Problem: This can manifest itself in different ways. These can include:

- An error appears when you open HxGN SMART Quality
- A white screen appears with no data
- The sign in screen is off center and an error message appears.

Solution: If you see something like one of the above symptoms, from your browser, delete your temporary internet files.

The procedure below is for Internet Explorer. If you don't use Internet explorer, search the Internet for how to do this same procedure in your browser:

1. From the **Tools** menu, click **Internet options** to open the **Internet Options** dialog box.

SMART Quality Does Not Open Properly

ternet O	ptions					8
General	Security	Privacy Cont	ent Co	nnections	Programs	Advance
Home p	-		01 2008-0010			
9		te home page t :blank	tabs, typ	e each add	ress on its	own line.
	(Use current	Us	e default	Use n	ew tab
Startup	o ————					
O S	tart with tab	os from the last	session			
@ S	tart with ho	me page				
Tabs -						
Char	nge how wel	opages are disp	played in	tabs.	T	abs
Browsi	ng history -					
	te temporar information	y files, history,	cookies,	saved pas	swords, an	d web
V D	elete brows	ing history on e	exit			
				Delete	Set	tings
Appear	rance —					
(Colors	Languages		Fonts	Acce	ssibility
			OK	Ca	ncel	Apply

Internet Options dialog box

2. From the **Browsing history** area, click **Delete** to open the **Delete Browsing History** dialog box.

Delete Browsing History	23
Preserve Favorites website data Keep cookies and temporary Internet files that enable your favo websites to retain preferences and display faster.	rite
Temporary Internet files and website files Copies of webpages, images, and media that are saved for faste viewing.	er
Cookies and website data Files or databases stored on your computer by websites to save preferences or improve website performance.	
History List of websites you have visited.	
Download History List of files you have downloaded.	
Saved information that you have typed into forms.	
Passwords Saved passwords that are automatically filled in when you sign in to a website you've previously visited.	1
ActiveX Filtering and Tracking Protection data A list of websites excluded from filtering, and data used by Track Protection to detect where websites might be automatically shar details about your visit.	-
About deleting browsing history Delete Cancel	

Delete Browsing History dialog box

- 3. Select **Temporary Internet files and website files**, and then click **Delete** to clear out the temporary files.
- 4. Access SMART Quality again.

Cannot Access the Help Because Pop-Ups Aren't Allowed

Problem: An error appears when you press F1 to open the online help.

Solution: If you press F1 and the online help does not appear, you need to change Internet Explorer settings to enable pop-ups from the online help.

When you press F1, the pop-up message appears. On the **Options** menu, you can select **Always allow pop-ups from this site**.

You can also change it from the Internet Explorer browser toolbar. On the **Tools** menu, point to **Pop-up Blocker**, and click **Always allow pop-ups from this site**.

Enable Internet Information Services

Problem: The Internet Information Services (IIS) web server is not installed appropriately in the Phase 1: Install Additional Softwares of the Step 3: Server Installations.

Solution: To install IIS manually, follow the steps below:

1. To open the Server Manager dialog box, click Start and then click Server Manager.



Server Manager dialog box

2. From the right pane, click Add roles and features to open the Before you begin screen on the Add Roles and Features Wizard.

b	Add Roles and Features Wizard
Before you beg	DESTINATION SERVER WIN-2CT76058IE7
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	 This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website. To remove roles, role services, or features: Start the Remove Roles and Features Wizard Before you continue, verify that the following tasks have been completed: The Administrator account has a strong password Network settings, such as static IP addresses, are configured The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again. To continue, click Next.
	< Previous Next > Install Cancel

3. Click Next to open the Select installation type screen.



4. Make sure the **Role-based or feature-based installation** option is selected. Then click **Next** to open the **Select destination server** screen.

Troubleshooting

elect destination	on server		DESTINATIO WIN-20	T76058IE		
Before You Begin Installation Type Server Selection	Select a server or a virtu Select a server from Select a virtual hard	the server pool	h to install roles and features.			
Server Roles	Server Pool					
Features Confirmation	Filter:					
	Name	IP Address	Operating System			
	WIN-2CT76058IE7	10.0.2.15	Microsoft Windows Server 2012 R2 Standard			
	1 Computer(s) found					
		n Server Manager. O	ndows Server 2012, and that have been added by ffline servers and newly-added servers from which			

5. Make sure the **Select a server from the server pool** option is selected. Then click **Next** to open the **Select server roles** screen.

elect server ro	les	DESTINATION SERV WIN-2CT76058
Before You Begin Installation Type	Select one or more roles to install on the selected server.	Description
Server Roles Features Confirmation Results	Active Directory Certificate Services Active Directory Domain Services Active Directory Federation Services Active Directory Lightweight Directory Services Active Directory Rights Management Services Application Server DHCP Server Fax Server File and Storage Services (1 of 12 installed) Hyper-V Network Policy and Access Services	 Active Directory Certificate Service (AD CS) is used to create certification authorities and relate role services that allow you to issu and manage certificates used in a variety of applications.
	Print and Document Services Remote Access Remote Desktop Services	

- 6. From the **Roles** list, select the **Application Server** check box.
- 7. Then select the Web Server (IIS) check box to open the Add features that are required for Web Server (IIS) dialog box.

b	Add Roles and Features Wizard
Th	dd features that are required for Web Server (IIS)? The following tools are required to manage this feature, but do not we to be installed on the same server.
	Web Server (IIS) ▲ Management Tools [Tools] IIS Management Console
V	Include management tools (if applicable) Add Features Cancel

Other check boxes that you select throughout this procedure also open the Add Features that are required for <item> dialog box. (<item> is a placeholder for the check box name.) Whenever this occurs, click Add Features to continue.

- 8. Click Add Features to add the default features for the web server. This then closes the Add features that are required for Web Server (IIS) dialog box.
- 9. From the **Select server roles** screen shown above, click **Next** to open the **Select features** screen.

Select features		DESTINATION SERVE WIN-2CT76058IE
Before You Begin Installation Type Server Selection	Select one or more features to install on the selected server. Features	Description
Server Roles Features Application Server Role Services Web Server Role (IIS) Role Services Confirmation Results	INET Framework 3.5 Features INET Framework 4.5 Features (2 of 7 installed) Background Intelligent Transfer Service (BITS) BitLocker Drive Encryption BitLocker Network Unlock BranchCache Client for NFS Data Center Bridging Direct Play Enhanced Storage Failover Clustering Group Policy Management IIS Hostable Web Core Ink and Handwriting Services	power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.

10. Expand .NET Framework 3.5 Features and select these check boxes:

- .NET Framework 3.5 Features
- .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- HTTP Activation

11. Expand .NET Framework 4.5 Features and select these check boxes:

- .NET Framework 4.5
- ASP .NET 4.5
- 12. Within **.NET Framework 4.5 Features**, expand **WCF Services** and select these check boxes:
 - HTTP Activation
 - Message Queuing (MSMQ) Activation
 - Named Pipe Activation
 - TCP Activation
 - TCP Port Sharing

13. From the **Select features** screen shown above, click **Next** to open the **Application Server** screen.



14. Click Next to open the Select role services dialog box.

Before You Begin Installation Type Server Selection Server Roles Features Application Server Role Services Web Server Role (IIS) Role Services Confirmation Results	Select the role services to install for Application Server Role services	Description Distributed Transactions provides services that help complete transaction over multiple databases hosted on multiple computers on the network. Th results in high-performance business applications that are more resilient and reliable.
---	---	--

15. From the **Role services** list, select these check boxes:

- .NET Framework 4.5
- TCP Port Sharing
- Web Server (IIS) Support
- Windows Process Activation Service Support
- HTTP Activation
- Message Queuing (MSMQ) Activation
- Named Pipe Activation
- TCP Activation

16. Click Next to open the Web Server Role (IIS) screen.

Troubleshooting



17. Click Next to open the Select role services screen.

Select role servi	ces	DESTINATION SERVER WIN-2CT76058IE7
Before You Begin Installation Type Server Selection Server Roles	Select the role services to install for Web Server (IIS) Role services	Description Web Server provides support for HTML Web sites and optional support for
Features Application Server Role Services Web Server Role (IIS) Role Services Confirmation Results	 Common HTTP Features Default Document Directory Browsing HTTP Errors Static Content HTTP Redirection WebDAV Publishing Health and Diagnostics HTTP Logging Custom Logging Logging Tools ODBC Logging Request Monitor Tracing Performance 	ASP.NET, ASP, and Web server extensions. You can use the Web Server to host an internal or external Web site or to provide an environment for developers to create Web-based applications.

18. From the Role services list many check boxes are selected by default. Click Next to accept these defaults and open the Confirm installation selections screen.



- 19. Select the **Restart the destination server automatically if required** check box.
- 20. On the message that appears, click **Yes** to confirm that you allow the destination server to automatically restart.
- 21. Click **Install** to start the installation.

Troubleshooting

E	Add Roles and Features Wizard	= 🗆 ×
Installation prog	ress	DESTINATION SERVER WIN-2CT76058IE7
Before You Begin Installation Type Server Selection Server Roles	View installation progress Starting installation	
Features Application Server Role Services Web Server Role (IIS) Role Services Confirmation Results	.NET Framework 3.5 Features .NET Framework 3.5 (includes .NET 2.0 and 3.0) HTTP Activation .NET Framework 4.5 Features ASP.NET 4.5 WCF Services HTTP Activation Message Queuing (MSMQ) Activation Named Pipe Activation	
	TCP Activation Application Server You can close this wizard without interrupting running tasks. View task progress or of by clicking Notifications in the command bar, and then Task Details. Export configuration settings	open this page again
	< Previous Next > Inst	tall Cancel

22. Once the installation finishes, and you see an installation succeeded message below the installation progress bar, click **Close**.



Appendix



These settings should only be changed for advanced troubleshooting and for a limited time. You might need instruction from the Hexagon Technical Support.

Define SMART Quality Settings

This dialog box configures the server settings so that you can connect to the HxGN SMART Quality server.

To open the SMART Quality Settings dialog box, click Start, point to All Programs, click SMART Quality, and then click SMART Quality Settings.

The SMART Quality application restarts if you make any changes in the SMART Quality Settings dialog box.

*	SMART Quality Settings	×					
Server Settings							
Server:	WIN2012VBServer						
Site name:	MMSServer						
File server:	WIN2012VBServer						
File site name:	MMSFileServer						
Vault:	C:\Vaults	Browse					
Q-DAS web server:	180.168.202.164						
Q-DAS web site name:	QDasWeb						
DataServer:	DataServer: WIN2012VBServer						
Upload Folder C:\inetpub\wwwroot\sq3\Uploads 2MB Clear							
English ~	ОК	English ~ OK Cancel					



Server Settings - You can configure the following options to define server access:

Server - This defines your server's name or Internet Protocol (IP) address.

Site name - This defines the web site's domain name.

File server - This defines your file server name or IP address.

File site name - This defines the file web site domain name.

Vault - This sets the vault folder.

Q-DAS web server - This defines the Q-DAS server's name or IP address.

Q-DAS web site name - This defines the Q-DAS web site's domain name.

Data server - This defines your data server's name or IP address.

Upload folder - This folder stores any files uploaded to the server as temporary files. You can click the **Clear** button to delete all files from the folder.

Advanced DataServer Configuration

Database Configuration

This file contains the connection string to link the database to the service. You need to modify it for the environment where the service is installed. You can find the DataServerHostService.exe.config file in this folder:

C:\Program Files\Hexagon\DataServer <version> 64-bit\

Where <version> is your version of the DataServer.

- 1. Open the DataServerHostService.exe.config configuration file in a text editor, such as Notepad.
- Near the bottom of the file, locate the lines between <connectionStrings> and </connectionStrings>. You need to modify the item for the database type (Oracle or SQL Server) that you will use for HxGN SMART Quality.
- 3. For the source, modify the connectionString value to specify the SQL Server or Oracle instance to use. This may involve identifying the name of the computer running the Central DataServer. To identify the name of the source for SQL Server, open SQL Server Management Studio.



Once you identify the name you can name in the .config file as shown in the example below.

Here's an example of the SQL Server:

Suppose, your SQL Server instance name is **OPERATOR\SQLSERVER2012**. In that case, you need to update the name in the data source value in the following line in the .config file:

```
<add name="SQLServer" connectionString="
```

data source=SQLSERVERINSTANCENAME;

Initial Catalog=DataServer;Persist Security Info=True;UserID=hexmet_datauser;Password=HEXMET_DATAUSER_PASSWO RD;MultipleActiveResultSets=True" providerName="System.Data.SqlClient"/>

It should say:

data source=OPERATOR\SQLSERVER2012;

- 4. In the .config file, set Initial Catalog to the same database name that the scripts used to create the database. For example, "initial catalog=Q-DAS;" logs you into a database named Q-DAS. Make the database visible in SQL Server Management Studio.
- 5. The User ID field contains the name of the user logged into the database. Ensure you have the correct Q-DAS database user id.
- 6. The Password field contains the password for the user. Ensure you have the correct Q-DAS database password.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataServer Service".

Log File Settings

 (\bigcirc)

Each day DataServer generates a log file. You can use these log files to troubleshoot issues with the DataServer service. To troubleshoot issues with HxGN SMART Quality data, you need the latest log file.

You can find the log files in this folder:

C:\Program Files\Hexagon\DataServer <version> 64-bit\Logs

Where <version> is your version of the DataServer.

The DataServerLogger.config file lets you change the log file settings for the DataServer service. You can find the DataServerLogger.config file in this folder:

C:\Program Files\Hexagon\DataServer <version> 64-bit\

Where <version> is your version of the DataServer.

Based on the information you want to record in the log file, you can enable (1) or disable (0) these options:

Ö

Only enable options for advanced troubleshooting and for a limited time. Disable options to reduce the file size.

- LogInfo This records general information about the service. The default value is 1.
- LogError This records service errors. The default value is 1.
- LogSQL This records the SQL statements sent to the database. The default value is 0.
- LogEnterExit This records detailed information about all service behaviors. You can enable this option to do advanced troubleshooting for a limited time. The default value is 0.
- **LogServiceEnterExit** This records the API's tracing information that invokes from external applications. The default value is 1.
- **LogImportStats** This records statistics information when you import data from external applications. The default value is 1.
- LogEventInfo This records events. The default value is 1.
- **LogParameters** This records parameter data sent to the service API from the external applications. The default value is 1.
- LogPulseEnterExit This records detailed information on the Pulse behavior. You can enable this option if you want to do advanced troubleshooting for a limited time. The default value is 0.
- LogPulseSQL This records the SQL statements sent to the database for the Pulse API. The default value is 0.

- LogPulseServiceEnterExit This records the Pulse API's tracing information that invokes from external applications. The default value is 0.
- **LogPulseParameters** This records parameter data sent to the Pulse API from external applications. The default value is 0.
- LogPulseError This records errors that occur in the service for the Pulse API. The default value is 1.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataServer Service" below.

Service Options

 \bigcirc

You can use the ServiceOptions.config file to change advanced settings and enable additional DataServer service features. You can find the ServiceOptions.config file in this folder:

C:\Program Files\Hexagon\DataServer <version> 64-bit\

Where <version> is your version of the DataServer.

You can enable or disable these options:

- **DatabaseConnection** This lets you select the Oracle or SQL Server database. The default value is SQL Server.
- **SaveTheoreticalEachTime** This duplicates theoretical data from measurement software packages. The default value is 1.
- **SaveSourceData** This saves the original measurement results from measurement software packages. The default value is 1.
- EventBusEnabled This turns on the Event Bus for 360 SIMS systems. If you set the value to 0, this turns on RabbitMQ as a messaging technology for 360 SIMS systems. The default value is 0.
- **CentralDataServer** This specifies whether the DataServer uses a central or a local database. The default value is 1.

- **SPFEnabled** This turns on the SPF processing for the video of the day data sent from the DataSync service. The default value is 0.
- **SPFServerHost** This defines the SPF server's host name.
- **SPFServerSite** This defines the SPF server's site name.
- **SPFFileSiteName** This defines the SPF file's site name.
- **SPFUserName** This defines the SPF's user name.
- SPFUserPassword This defines the SPF's user password.
- **SPFDataFolder** This defines the SPF's data folder. The folder should be a network directory similar to this structure: \\COMPUTERNAME\FOLDER NAME
- **QDASEnabled** This enables the Q-DAS migration of measurement data to Q-DAS-specific database tables. The default value is 1. For more information on installation and configuration of the data migration feature, see Q-DAS Readme.
- **QDASDataFolder** This defines the folder for Q-DAS to process the measurement data.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataServer Service" below.

EventBus Configuration

You can use the EventManagerOptions.config file to change the EventBus connection. These settings in this configuration file are used in 360 SIMS systems.

You can find the EventManagerOptions.config file in this folder:

C:\Program Files\Hexagon\DataServer <version> 64-bit\

Where <version> is your version of the DataServer.

You can enable or disable the following options:

• EventBusIpAddress - This defines the Internet Protocol (IP) address and port number of the event bus.

0

• EventBusConnectionTimeoutSeconds - This defines the number of seconds before the EventBus connection times out.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataServer Service" below.

Restart the DataServer Service

0

You need to restart the DataServer service to affect any changes made in the configuration files. To restart the service, follow these steps:

- 1. Right-click the taskbar and click **Task Manager**. This opens the Windows **Task Manager**.
- 2. Click the Services tab. From the list, locate DataServerHostService.

File Options View				
Processes Performance Apphistory Startup Users Details	Services			
Name	PID	Description	Status	Group '
🔍 ClipSVC	19200	Client License Service (ClipSVC)	Running	wsap
COMSysApp		COM+ System Application	Stopped	
CoreMessagingRegistrar	1576	CoreMessaging	Running	Local
🔍 cphs	17708	Intel(R) Content Protection HECI Ser	Running	
🔍 cplspcon		Intel(R) Content Protection HDCP Se	Stopped	
🔍 CryptSvc	1076	Cryptographic Services	Running	Netw
G CscService		Offline Files	Stopped	Local
CataServerHostService	34232	Hexagon DataServer Service	Running	
CataSyncHostService	3732	Hexagon DataSync Service	Running	
😪 dbupdate		Dropbox Update Service (dbupdate)	Stopped	
😪 dbupdatem		Dropbox Update Service (dbupdatem)	Stopped	
G DbxSvc	3768	DbxSvc	Running	
🔍 DcomLaunch	976	DCOM Server Process Launcher	Running	Dcorr
G DcpSvc		DataCollectionPublishingService	Stopped	netsv
🤹 defragsvc		Optimize drives	Stopped	defra
C Dell Foundation Services	16756	Dell Foundation Services	Running	
C DellDataVault	13960	Dell Data Vault	Runnina	
<				>

🔿 Fewer details | 🎇 Open Services

- 3. Right-click **DataServerHostService** and select **Stop**.
- 4. After the DataServerHostService's status displays **Stopped** in the **Status** column, right-click on it again and select **Start**.

5. The **Status** column changes to display **Running** for the **DataServerHostService**.

Advanced Pulse Broker Configuration

Pulse Broker Properties dialog box

By default, the Pulse Broker service automatically restarts if there's a system error.

You can change settings with the SMART Quality Pulse Broker Properties dialog box.

To open the **SMART Quality Pulse Broker Properties** dialog box, follow these steps:

- 1. To open the **Services** application, click **Start**, search **Services**, and then click **Services**.
- 2. From the list, locate **SMART Quality Pulse Broker**.
- Right-click SMART Quality Pulse Broker and from the menu list, select Properties. This opens the SMART Quality Pulse Broker Properties dialog box.

SMART Quality Pulse Broker Properties (Local Computer)		
General Log On Recovery	Dependencies	
Select the computer's response if this service fails. Help me set up recovery		
<u>F</u> irst failure:	Restart the Service $\qquad \lor$	
Second failure:	Restart the Service $\qquad \lor$	
Subsequent failures:	Restart the Service $\qquad \checkmark$	
Reset fail c <u>o</u> unt after:	0 days	
Restart ser <u>v</u> ice after:	1 minutes	
Enable actions for stops with errors. <u>Restart Computer Options</u> Run program		
Program:		
<u>B</u> rowse		
Command line parameters: Append fail count to end of command line (/fail=%1%)		
OK Cancel Apply		

Log File Settings

Each day Pulse Broker generates a log file. You can use these log files to troubleshoot issues with the Pulse Broker service. To troubleshoot issues with HxGN SMART Quality data, you need the latest log file.

You can find the log files in this folder:

C:\Program Files\Hexagon\SMART Quality Pulse Broker\logs

The SQPulseBrokerLogger.config file lets you change the log file settings for the Pulse Broker service.

You can find the SQPulseBrokerLogger.config file in this folder:

C:\Program Files\Hexagon\SMART Quality Pulse Broker\

Based on the information you want to record in the log file, you can enable (1) or disable (0) these options:

Only enable options for advanced troubleshooting and for a limited time. Disable options to reduce the file size.

- **LogInfo** This records general information about the service. The default value is 1.
- LogError This records service errors. The default value is 1.
- **LogEnterExit** This records detailed information about all service behaviors. You can enable this option to do advanced troubleshooting for a limited time. The default value is 0.
- **LogServiceEnterExit** This records the API's tracing information that invokes from external applications. The default value is 0.
- **LogPulseInfo** This records the environmental data received from all Pulse devices. You can enable this option to do advanced troubleshooting for a limited time. The default value is 0.
- **LogPulseEventInfo** This records the environmental events such as Temperature, Critical, Humidity, and Warning. The default value is 0.
- LogMMSWebInfo This records information about the communication with the SMART Quality. The default value is 1.

Service Options

You can use the Settings.config file to change advanced settings and enable additional Pulse Broker service features. You can find the Settings.config file in this folder:

C:\ProgramData\Hexagon\SMART Quality Pulse Broker\

You can enable or disable the following options:

- Enabled This enables the Pulse Broker service. The default value is true.
- **ProcessingIntervalInSeconds** This is the frequency, in seconds, with which the service processes the data. The default value is 60.

- **DataServerProcessingIntervalInSeconds** This is the frequency, in seconds, with which the Pulse data is saved to the database. This records the data based on the **PulseProcessingIntervalInSeconds**. The default value is 30.
- **PulseProcessingIntervalInSeconds** This is the frequency, in seconds, with which the sample Pulse data is taken. This lets the database store a sample of the environmental values instead of all values. This increases the performance and minimize the network traffic and database size. The default value is 20.

If data is sent every second for each sensor, the Pulse Broker saves 3 samples per minute (one after 20 seconds interval) per sensor per hub in the factory.

To save all the data, you need to change the value to 1. This interval does not affect the rate to save the environmental events. The interval affects the reporting time for SMART Quality.

- MMSWebProcessingIntervalInSeconds This is the frequency, in seconds, with which the Pulse Broker service communicates with SMART Quality. The default value is 30.
- **MMSWebAddress** This defines the address of the SMART Quality website.
- ValidateMosquitto This verifies the installation of the mosquitto broker and runs on the server. You can turn off this option for advance troubleshooting for a limited amount of time. The default value is true.

DataServer

The SQPulseBrokerHostService.exe.config file lets you change the Dataserver address. You can find the SQPulseBrokerHostService.exe.config file in this folder:

```
C:\Program Files\Hexagon\SMART Quality Pulse Broker\
```

If you change the location of the DataServer service, you also need to update the localhost address within the <client></client> tags.

<client>
```
<endpoint
address="http://localhost/DataServerWCFService/streaming"
binding="basicHttpBinding" bindingConfiguration="basic"
contract="DataServerWCFService.IDataServerWCFService"
name="basic" />
<endpoint address="http://localhost/DataServerWCFService/wsHttp"
binding="wsHttpBinding" bindingConfiguration="wsHttp"
contract="DataServerWCFService.IDataServerWCFService"
name="wsHttp" />
</client>
```

Port

The Pulse Broker listens to port 4233. If this port is turn off, only your IT personnel can enable it. The web.config file lets you add a new port. You need to modify the Pulse Broker address.

You can find the web.config file in this folder:

```
C:\inetpub\<SMART Quality installation directory>\
```

To add a new port, you can change the following setting:

```
<add key="SQPulseBrokerPortNumber" value="4233"/>
```

From the SQPulseBrokerHostService.exe.config file, you need to change the Pulse Broker service address.

You can find the SQPulseBrokerHostService.exe.config file in this folder:

C:\Program Files\Hexagon\SMART Quality Pulse Broker\

You need to change the following setting:

```
<baseAddresses>
<add
baseAddress="http://localhost:4233/SQPulseBrokerService" />
</baseAddresses>
```

Advanced DataSync Configuration

The DataSync service should be installed only on computers that have 360 SIMS and if there is a need to send the data to HxGN SMART Quality (such as Q-DAS or Video of the Day).

Log File Settings

Each day DataSync generates a log file. You can use these log files to troubleshoot issues with the DataSync service. To troubleshoot issues with HxGN SMART Quality data, you need the latest log file.

You can find the log files in this folder:

C:\Program Files\Hexagon\DataSync <version> 64-bit\Logs

Where <version> is your version of the DataSync.

The DataSyncLogger.config file lets you change the log file settings for the DataSync service. You can find the DataSyncLogger.config file in this folder:

C:\Program Files\Hexagon\DataSync <version> 64-bit\

Where <version> is your version of the DataSync.

Based on the information you want to record in the log file, you can enable (1) or disable (0) these options:

Only enable options for advanced troubleshooting and for a limited time. Disable options to reduce the file size.

- LogInfo This records general information about the service. The default value is 1.
- LogError This records service errors. The default value is 1.
- LogEnterExit This records detailed information about all service behaviors. You can enable this option to do advanced troubleshooting for a limited time. The default value is 0.

• **LogServiceEnterExit** - This records the API's tracing information that invokes from external applications. The default value is 1.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataSync Service".

Service Options

You can use the ServiceOptions.config file that contains the location for an area for temporary files to be processed. You can find the ServiceOptions.config file in this folder:

C:\ProgramData\Hexagon\DataSync\

You can use the Settings.config file to change advanced settings and enable additional DataSync service features. You can find the Settings.config file in this folder:

C:\ProgramData\Hexagon\DataSync\

You can enable or disable these options:

- Enabled This enables the DataSync service. The default value is true.
- **PollingIntervalInSeconds** This is the frequency with which the service synchronizes the data. The default value is 30.

You need to restart the service to implement the changes.

For more information on how to restart the service, see "Restart the DataSync Service" below.

Restart the DataSync Service

You need to restart the DataSync service to affect any changes made in the configuration files. To restart the service, follow these steps:

1. Right-click the taskbar and click **Task Manager**. This opens the Windows **Task Manager**.

File Options View				
Processes Performance Apphistory Startup Users Details S	ervices			
Name	PID	Description	Status	Group
🔍 COMSysApp		COM+ System Application	Stopped	
CoreMessagingRegistrar	1576	CoreMessaging	Running	Local
🖧 cphs	17708	Intel(R) Content Protection HECI Ser	Running	
😪 cplspcon		Intel(R) Content Protection HDCP Se	Stopped	
G CryptSvc	1076	Cryptographic Services	Running	Netw
G CscService		Offline Files	Stopped	Local
CataServerHostService	20252	Hexagon DataServer Service	Running	
DataSyncHostService	3732	Hexagon DataSync Service	Running	
🗟 dbupdate		Dropbox Update Service (dbupdate)	Stopped	
😪 dbupdatem		Dropbox Update Service (dbupdatem)	Stopped	
G DbxSvc	21272	DbxSvc	Running	
🖓 DcomLaunch	976	DCOM Server Process Launcher	Running	Dcom
G DcpSvc		DataCollectionPublishingService	Stopped	netsv
🖓 defragsvc		Optimize drives	Stopped	defra
G Dell Foundation Services	16756	Dell Foundation Services	Running	
🖗 DellDataVault	13960	Dell Data Vault	Running	
C. DellDataVaultWiz	16692	Dell Data Vault Wizard	Running	

2. Click the **Services** tab. From the list, locate **DataSyncHostService**.

🔿 Fewer details | 🍓 Open Services

- 3. Right-click **DataSyncHostService** and select **Stop**.
- 4. After the DataSyncHostService's status displays **Stopped** in the **Status** column, right-click on it again and select **Start**.
- 5. The Status column changes to display Running for the DataSyncHostService.

Setup an Email Server

Once the new HxGN SMART Quality account is created, you must receive the notification email in your registered email address to verify your account. The email also provides your user name and temporary password.

The email contains the following format:

[Title]

A SMART Quality account has been created for you.

User name: [user name]

Setup an Email Server

Password: [password]

Please change your password at first logon.

Thanks!

SMART Quality

Example

Welcome to SMART Quality

A SMART Quality account has been created for you.

User name: SMARTQualityEmailUser1

Password: 123456

Please change your password at first logon.

Thanks!

SMART Quality

To configure the settings, follow the steps below:

1. Navigate to the ServerManager folder in this location:

C:\inetpub\wwwroot\SmartQuality\SpfFiles\ServerManager

- 2. Right-click on the ServerManager.exe file, and click Run as administrator.
- 3. From the left pane of the SmartPlant Foundation Server Manager dialog box, expand SmartPlant Foundation Sites, expand SPF, and then click Settings.

e <u>E</u> dit <u>D</u> atabase <u>T</u> ools <u>H</u> elp						
• 🚺 🕅 🗙 🕫 🕼 🗟 🔮						
SmartPlant Foundation Server Manager	Properties	Value				
SmartPlant Foundation Sites	Data Source	MMS2012Server\SQLEXPRESS				
😑 🦢 MMS	Dinitial Catalog	MMSDATA				
— File Service Settings	Multiple active result sets	True				
- Settings	User ID	Mms_Data				
Trace Settings	Password .					
B- MMS	Site path	C:\inetpub\wwwroot\sq4\SpfFiles\Server Files\Web_Sites\MMSServer				
- System Settings	Site virtual directory	MMSServer				
	ConfigServiceURL	net.pipe://localhost/MMSConfigSvc				
	RequestURI	http://localhost/MMSServer/ServerRequest.asmx				
	DisableAutoLogin	False				
	InternalServicesSSLEnab	False				
	InternalServices/WAEna	False				
	atabasetype	SQLSERVER				
	CaseInsensitiveOracle	True				
	UnderscorelsWildcard	False				
	DefaultConfigTreeLevels	3				
	ProgressLogDirectory	c/itemp				
	FileServiceDirectory	MMSFileServer				
	FileServiceTimeout	40000				
	RemoteServiceTimeout	300000				
	FTRServiceTimeout	100000				
	InternalRequestTimeout	600000				
	XMLCompression Enabl	False				
	Email=DefaultFromAddr_	SmartQuality@hexagon.com				
	Email::MailClient	CDO				
	Email::SMTPHost	smtp1.hexagonmetrology.com				
	B SiteSchemaLocation	C:\Program Files (x86)\Common Files\Intergraph\EFSchema				
	DefaultPublishWorkflow					
	PublishedDataProcessin	10000				
	SkipFailedDocumentsIn_	False				
	LoaderOutputGroupCo	20				
	D8CommandTimeoutSe	3600				
	HybridQueryThreshold	500				
	DBMaxRetryConnection	2				
	DBMaxRetryConnection	2000				
	FetchSize	1216000				
	CDWEnabled	False				
	EnableScheduler	True				
	DTCTitleDisplay	(Server name: \$SERVERNAME Site: \$WEBHOST\\$WEBDIR User: \$USER)				
	DefaultSPFServerURL	http://localhost/MMSServer				
	CacheServiceURL	net.pipe://localhost/MMSCacheSvc				
	LicenseServerURL	http://localhost/SPFLS				
	RemoteServiceURL	http://localhost/SPFRemoteServices				
	SPFTransactionParallelis	-1				
	ENSLockNumberOfRetri					
	PerfmonStatus	0				
	API Services Max Page	1000				
	API Services Default Qu	25				
	MMSViewDir	C:\inetpub\wwwroot\sq4\SPFFiles\Server Files\FileService\MMSViewDir				
	MMSViewDirHostlP					
	MMSFilePostProcessFilter	.dfq				
	DFQFolder	C\DFQFolder				
	I SMARTQualityURL	http://localhost/SmartQuality/				
	AdministratorsRole	Administrators				
	RequireHttps	False				
	57 EX 1683					

4. From the right pane of the **SmartPlant Foundation Server Manager** dialog box, the Email:DefaultFromAddress, Email:MailClient, and Email:SMTPHost display these properties:

- Email:DefaultFromAddress This property sets the return address for system-generated emails. For example, the value is set to SmartQuality@hexagon.com.
- Email:MailClient This property sends automated emails, either through CDO or JMAIL software. For example, the value is set to CDO.
- Email:SMTPHost This property is the name of an email server that sends system-generated emails. For example, the value is set to smtp1.hexagonmetrology.com.

Logon Settings

You can configure HxGN SMART Quality and Inspect settings in one of the following ways:

Log on through user name and password (Anonymous authentication)

To use the user name and password to log on to the SMART Quality and Inspect applications, you need to configure the SMART Quality and SPF with Anonymous authentication. You can use any computer for these settings.

In this case, you can only use the user name and password to log on to the SMART Quality and Inspect applications. On the **Sign In** screen, the **Domain account** option does not appear.

Log on through domain account (Windows authentication)

If you want to use Windows authentication to log on to the SMART Quality and Inspect applications, you need to configure the SMART Quality and SPF with Windows authentication. You need to use the computer in the same domain. The logon account of the operating system (OS) must use the domain account.

In this case, you can use either the domain account or the user name and password to log on to the SMART Quality and Inspect applications.

Log on through mixed pattern

You can configure SMART Quality with Windows authentication and SPF with Anonymous authentication. Your computer can have any of the following specifications:

• Computers are in the domain and are logged on with a domain account.

- Computers are in the domain and are logged on with a user name and password.
- Computers are not in the domain and are logged on with a user name and password.

In all of the above cases, you can use either the domain account or the user name and password to log on to the SMART Quality application. Inspect can only use the user name and password.

Server Settings

These server settings need to be configured:

- SMART Quality web site and its application pool
- The three websites that SPF uses (MMSServer, MMSConfigSvc, MMSCacheSvc) and their application pool

All the four application pools must have the same settings.

For information on these server settings, see "Settings for Authentication" and "Settings for Application Pools".

Settings for Authentication

If you need to, you can access the **Authentication** window to change your authentication settings:

 On the server, click Start. In Search programs and files, type IIS, and then click Internet Information Services (IIS) Manager to open the Internet Information Services (IIS) Manager dialog box.

Internet Information Services (IIS) M	Manager	1.000		in a second			×
SWAI-PC-Q1807	 Application Pools 						1 in
Eile Yiew Melp							
Connections	Applica This page lets you pools are associate isolation among dif Filter:	view and m d with wor ferent app	anage the list ker processes, lications.	of application; contain one or ; ow All Group by:	pools on the server. Appli nore applications, and pro	vide	Actions Actions Add Application Pool Set Application Pool Defends Defends Map Online Kelp
▷- aspnet_client ▷-∰ QDasWeb	Fane	Status	.NET Fra	Managed Pip	Identity	Applicat:	
> 💮 QDasWebService	ASP. NET v4.0	Started	. MEI FF6	Integrated	ApplicationPoolIdentity		
🛛 💮 SnartQuality	ASP. NET v4.0	Started	v4.0	Classic	ApplicationFoolIdentity		
> - O SeartTask	DefaultAppFool	Started	v4.0	Integrated	ApplicationPoolIdentity		
⊳ - 🔛 WebReporter ⊳ - 🌅 wr	QDasWeb	Started	v4.0	Integrated	ApplicationPoolIdentity		
y	QDasWebServi ce	Started	v2.0	Integrated	NetworkService	1	
	SnartQuality	Started	v4.0	Integrated	LocalSystem LocalSystem	1	
	•			111		3	
	Features View	Content Vi	ex				
							•

Internet Information Services (IIS) Manager dialog box

- 2. Expand your computer node, expand **Sites**, expand **Default Web Site**, and then select the SPF server site (for example, SmartQualityTesting).
- 3. In the IIS area, double-click **Authentication** to display the **Authentication** window.

Group by: No Grouping	· · · · · · · · · · · · · · · · · · ·	
Name 🔺	Status	Response Type
Anonymous Authentication	Disabled	
ASP.NET Impersonation	Disabled	
Basic Authentication	Disabled	HTTP 401 Challenge
Digest Authentication	Disabled	HTTP 401 Challenge
Forms Authentication	Disabled	HTTP 302 Login/Redirect
Windows Authentication	Enabled	HTTP 401 Challenge

- 4. From the **Name** column, select either **Anonymous Authentication** or **Windows Authentication**. Right-click and select **Enabled**. Ensure that all the other options are **Disabled**.
 - **Windows Authentication** Tells the system to use the Windows logon information for the user's authentication.
 - A. Once you set the **Status** to **Enabled**, the **Providers** option is available.

Providers	<u>? ×</u>
Enabled Providers:	
NTLM Negotiate	Move <u>U</u> p
	Move <u>D</u> own
	<u>R</u> emove
Select a provider from the list of available providers and dick Add to add it to the enabled providers. Available Providers:	
· · · · · · · · · · · · · · · · · · ·	Add
ОК	Cancel

B. Click **Providers** to open the **Providers** dialog box.

Providers dialog box

- C. Select **NTLM** and then click **Move Up** to move it to the top. Click **OK**.
- D. Next, you need to change some settings in the application pool. For information on how to do this, see "Windows Authentication".
- Anonymous Authentication Tells the system to use the account name and password for the user's authentication.
 - A. Next, you need to change need to change some settings in the application pool. For more information, see "Anonymous Authentication".

Settings for Application Pools

Windows Authentication

- 1. From the Anonymous Authentication, follow step 1 through step 5.
- 2. Select Custom account. Click Set to open the Set Credentials dialog box.

User name:			
Password:			
Confirm passv	vord:		

Set Credentials dialog box

In the **User name** box, type the domain user's name. Type the password in Password and Confirm password dialog boxes.

- 3. Click **OK**. This closes the **Set Credentials** dialog box.
- 4. Click **OK** to close the **Application Pool Identity** dialog box.
- 5. From the **Advanced Settings** dialog box, click **OK**.

Add the domain user to user group

- 1. Click **Start**, right-click on **Computer**, and then from the menu list, click **Manage** to open the **Computer Management** screen.
- 2. From the **Computer Management** screen, on the left-pane, click **Local Users and Groups**.
- 3. From the right-pane, double-click on **Users** folder and then click **tester** to open the **tester Properties** dialog box.



- 4. From the **tester Properties** dialog box, click **Member Of** tab and then click **Add** to open the **Select Groups** dialog box.
- 5. Click the Advanced button.

8 23
8
Object Types
Locations
les):
Check Names
OK Cancel

6. From the advanced area of the dialog box, click **Find Now** to find the groups within the specified location.

lect Groups	8 ×
Select this object type:	
Groups	Object Types
From this location:	
USWAI-PC-Q1807	Locations
Common Queries	
Name Starts with *	Columns
Description: Starts with *	Find Now
Disabled accounts	Stop
Non expiring password	
	1921 (St. 1971)
Days since last logon:	
Days since last logon: 👻	OK Cancel
	OK Cancel

7. From the Search results area, double-click IIS_IUSRS item from the list:

Search results:		OK Car	ncel
Name (RDN)	In Folder		<u>^</u>
R vnware	USWAI-PC-G1807		
Administrators	USWAI-PC-Q1807		=
Backup Oper	USWAI-PC-Q1807		
Cryptographic	USWAI-PC-Q1807		1.0
Distributed C	USWAI-PC-Q1807		
Event Log Re	USWAI-PC-Q1807		
Guests	USWAI-PC-Q1807		
HelpLibraryUp	USWAI-PC-Q1807		
HomeUsers	USWAI-PC-Q1807		
R IIS_IUSRS	USWAI-PC-Q1807		

8. Click **OK** to close the **Select Groups** dialog box.

Select this object type:	
Groups	Object Types
From this location:	
USWAI-PC-Q1807	Locations
Enter the object names to select (<u>examples</u>):	
USWAI-PC-Q1807\IIS_IUSRS	Check Names
	1

- 9. From the **tester Properties** dialog box, select **IIS_IUSRS**. Then, click **Add** to open the **Select Groups** dialog box.
- 10. Click the **Advanced** button. From the advanced area, click **Find Now**.
- 11. From the **Search results** area, double-click **spfuser** item from the list.
- 12. Click **OK** to close down the **Select Groups** dialog box.
- 13. From the **tester Properties** dialog box, click **Apply** and then click **OK** to close this dialog box.

General Mer	mber Of Profile	1		
Member of:				
March 115_1US				
Lisers				
			es to a user's gr	oup membership
Add	Remov	are no	t effective until ti	he next time the



Add HxGN SMART Quality URL to the local intranet

If you want to use Windows authentication, you also need to set the SMART Quality URL to the local intranet.

- 1. In Internet Explorer, on the **Tools** menu, click **Internet options** to open the **Internet Options** dialog box.
- 2. Click the **Security** tab, select **Local intranet** zone, and then click **Sites** to open the **Local intranet** dialog box.
- 3. Click **Advanced** to open the **Local intranet** dialog box.
- 4. In the **Add this website to the zone** box, type the URL of the SMART Quality. Click **Add**.

- 5. Click Close.
- 6. Click **OK** to close the **Local intranet** dialog box.
- 7. Click **OK** to close the **Internet Options** dialog box.

Anonymous Authentication

- On the server, click Start, type IIS in Search programs and files, and then click Internet Information Services (IIS) Manager to open the Internet Information Services (IIS) Manager dialog box.
- 2. Expand your computer node, and select Application Pools.
- 3. In the **Features View**, under the **Application Pools** area, select the SPF server site (for example, SmartQuality).

IN-HOMTWL49 (INGRNET)jas	Application Pools This page lets you view and manage t contain one or more applications, and					Acti	
	Filter: Name ASP.NET v4.0 ASP.NET v4.0 Classic .NET AppPool Classic .NET AppPool MMSConfigSvc MMSFielServer SmarQuality SmarQuality SPFLS	Status AET Fram. Status AET Fram. Stated v4.0 Stated v4.0 Stated v2.0 Stated v2.0 Stated v2.0 Stated v2.0 Stated v4.0 Stated v	Merent applications.	•	Applications 0 0	> 2 3 3 4	Add Application Pool Set Application Pool Tasks Stort Stort Storp Recycle Edit Application Pool Basis Settings Recycling Advanced Settings Renave Remove View Applications Help Online Help

4. Right-click, and select **Advanced Settings** to open the **Advanced Settings** dialog box.

			-
	.NET Framework Version	v4.0	
	Enable 32-Bit Applications	True	
i	Managed Pipeline Mode	Integrated	
	Name	MMS1	
. !	Queue Length	1000	11
	Start Automatically	True	
	CPU		
	Limit	0	
1	Limit Action	NoAction	
	Limit Interval (minutes)	5	
1	Processor Affinity Enabled	False	
1	Processor Affinity Mask	4294967295	
	Process Model		
	Identity	LocalSystem	
1	Idle Time-out (minutes)	0	
- 1	Load User Profile	True	
1	Maximum Worker Processes	1	
	Ping Enabled	True	
1	Ping Maximum Response Time ((s 90	
1	Ping Period (seconds)	30	
	Shutdown Time Limit (seconds)	90	T

5. In the **Process Model** area, select **Identity**, and then click **Browse** to open the **Application Pool Identity** dialog box.

plic	ation Pool Identity		? ×
0	Built-in account:		
	ApplicationPoolIdentity		
0	Custom account:		
			Set
		OK	Cancel

Application Pool Identity dialog box

- 6. Select Built-in-account. From the list, select LocalSystem.
- 7. Click **OK** to close the **Application Pool Identity** dialog box.
- 8. From the Advanced Settings dialog box, click OK.

Add New Tabs in SMART Quality

You can configure the HxGN SMART Quality application to contain custom tabs that point to custom URLs, such as a remote web application. This is helpful when you have other web-based applications that you want to combine into the SMART Quality application. This example below shows how to add a Hexagon tab that points to http://www.hexagonmi.com:

- Once you install SMART Quality, navigate to this folder: C:\inetpub\wwwroot\SmartQuality\Settings
- 2. Open the ServerSettings.xml file in a text editor.
- 3. Within the <ServerSettings> node, you need to add a <CustomTabs> node that in turn contains a <tab> node that points to the URL, like this:

<ServerSettings> <Settings ... /> <CustomTabs> <tab title="hexagon" url="http://www.hexagonmi.com" name="Hexagon"/>

```
</CustomTabs>
```

</ServerSettings>

- 4. Once you complete your changes, save the file.
- 5. Then restart the browser and log back into the SMART Quality web site to see the new tab:



A - This comes from the <tab> node's title attribute. B - This comes from the <tab> node's name attribute.

Passing the User Name

The remote web application or URL that you add as a custom tab may have the ability to track the user name from the SMART Quality application.

When the new tab loads, the user name is automatically passed to the web application used by the tab. This happens automatically and is not visible to the user. The code that passes the data takes this form:

http://www.hexagonmi.com?UserCode=testuser1&Source=SmartQuality

The two parameters that are passed to the remote web application are UserCode and Source:

UserCode passes the user name. The above example passes "testuser1" as the user name.

Source passes the source application name. This is where the information comes from. The above example passes "SmartQuality" as the source.