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Revised: Oct 2019
Issued: June 2009


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## Document Updates

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**Acronyms and Abbreviations**

- **BOP**: Balance of Plant
- **DA**: Data Access
- **DB**: Database
- **EGD**: Ethernet Global Data, a control network and communication protocol
- **EMT**: Ethernet Global Data Management Tool
- **HDA**: Historical Data Access
- **HMI**: Human-machine Interface
- **IIS**: Internet Information Services
- **ODBC**: Open Database Connectivity
- **OEM**: Original Equipment Manufacturer
- **OPC**: OLE for Process Control, a standard for data exchange in the industrial environment.
- **PDH**: Plant Data Highway
- **SCADA**: Supervisory Control And Data Acquisition
- **SDK**: Software Development Kit
- **SIM**: Software Improvement Modules
- **SOE**: Sequence of Events
- **UDH**: Unit Data Highway

**Related Documents**

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<td>GEH-6700 or GEH-6703</td>
<td>ToolboxST User Guide for Mark Controls Platform</td>
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<td>Mark VIe and Mark VleS Control Systems Volume II: System Guide for General-purpose Applications</td>
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1 Overview

The ControlST* Historian is a data archival system, based on Proficy® Historian client-server technology. The Historian system provides data collection and storage of power distribution and auxiliary process data for display in the WorkstationST* application. It can be configured for turbine-related data and balance of plant (BOP) process data.

The Mark* VI and Mark Vle controllers use the Unit Data Highway (UDH) as the communications network between individual turbine unit controllers and system operator components, as well as Human-machine Interfaces (HMI).

The Historian system comes with a standard upgradable license, which is required for a functional Historian. The Proficy Historian server has limited connections. There are six interface licenses, which can be used to collect and place data in the Historian system. The normal interface is an OLE for Process Control Data Access (OPC® DA) client to the WorkstationST OPC DA server installed on the same computer as the Proficy Historian application.

The Proficy Historian OPC HDA server is also supplied with the Proficy Historian server. With the OPC HDA server, the ToolboxST* Trender can retrieve historical data from the Proficy Historian server through the WorkstationST application installed on the Historian computer. The OPC HDA connection only retrieves the data. This feature is available in WorkstationST version 4.0 and above.

The Excel® Add-in feature allows the use of historical data in third-party applications such as Microsoft® Excel.
System Data Flow from Controllers to Historian

The WorkstationST application allows the local computer to obtain data from all consumed EGD devices through the OPC DA server. Through the WorkstationST application and the EGD Configuration server, the local computer automatically receives updates for any configuration change to EGD variables. The OPC DA server provides communication between the HMI and Mark VIe components, as well as the Proficy Historian application. The Proficy Historian OPC Collector receives data from the WorkstationST OPC DA server and passes it to the Proficy Historian. The Proficy Historian server compresses the data, based on user-defined compression settings, and stores it in the Proficy Historian archives.
1.1 Data Collection and Storage

Note Further setup is required to configure the WorkstationST and Proficy Historian applications if the Proficy Historian OPC DA Collector and the Proficy Historian server are on separate computers.

The Historian communicates on a plant data highway (PDH) and a unit data highway (UDH). Supervisory data is exchanged between Historian and operator stations, engineering workstations, and printers on the Information Network in redundant or non-redundant configurations. Data is sent from components on the UDH, using the EGD protocol, to the WorkstationST OPC DA server. The Proficy Historian OPC Collector connects the Proficy Historian system to the OPC DA server. The Collector does not need to be installed on the same computer as the Proficy Historian application.

The Historian samples data from control systems on the control network once per second. Data values and time stamps originate in the controller. For alarms, events, and sequence of events (SOE), data is received on an exception basis. Since time synchronization is essential for determining the root cause of an event, the data can be synchronized to ±1 ms time accuracy between a controller and local time server or ±2 ms time coherence between control systems.

The Proficy Historian stores data in a series of archives. As each archive fills, the data rolls over to the next archive until all archives are full. The oldest archive is then overwritten. Exception data is stored by the alarm server in files matching the exception data type: alarm, event, SOE, holds, or diagnostics.

The actual amount of data storage depends on the data exception and compression settings. Tighter deadbands produce increased data storage and looser deadbands have less data storage.
1.2 Proficy Historian Applications

The Historian Administrator allows you to monitor, supervise, archive, retrieve, and control data gathering functions from the server, a client, or one or more remote web or non-web-based nodes.

The Historian Administrator allows you to:

• Examine key operating statistics for archives and collectors, and display or search system alerts and messages

• Perform archive maintenance, including:
  - Setting archive size
  - Selecting options and parameters
  - Displaying security parameters
  - Adding and restoring archives
  - Performing routine backup and restoration tasks

• Perform tag maintenance, including:
  - Adding, deleting, and copying tags
  - Searching for tags in a data source or in the Historian Database
  - Starting and stopping collection on a tag
  - Configuring, displaying, and editing tag parameters and options
  - Displaying trend data for selected tags

• Perform data collector maintenance, including:
  - Adding or deleting collectors
  - Configuring, displaying, and editing parameters for all types of collectors
  - Creating calculation formulas
  - Displaying performance trends for selected collectors

The Proficy Historian Excel Add-in feature provides a connection between the Proficy Historian system and Microsoft Excel to create reports and perform complex data analysis in a familiar environment. Through Excel, you can import, export, and manipulate data from different Proficy Historian servers.
2 Installation

The Proficy Historian application is typically pre-installed on the Historian system.

The Proficy Historian application allows you to install each system component.

To install a data collector, you must first install the source software. If you have added new source software since installing Historian, you must install the Historian again. Keep currently installed components checked when reinstalling Historian. Some components may be restarted when installing new data collectors.

**Note** After installing CIMPLICITY Server or Proficy Historian, install the latest Software Improvement Modules (SIMs) (available from GE Digital).

If you are installing all system components on a single computer, run the installer(s) on that computer only. If you plan to use multiple computers as server, data collector, administrator, and other clients, run the respective installer (Historian, Collectors, or Client Tools) on each computer to install the specific components needed for that computer.

If you are installing system components on a machine with any previous Historian components installed, those items are selected in the components screen. Select the new components and continue with the upgrade.

2.1 Proficy Historian 7.1 Installation

**Prerequisites**

It is recommended that older versions of CIMPLICITY, Proficy Historian, and WebSpace be uninstalled prior to installing the latest release.

The following must be completed on the Historian computer **prior** to starting the installation process:

- Download the installation package (.iso) to a local drive. Do NOT install from a network location.
- Verify that the Computer Name is set to the desired system name.
- Install CIMPLICITY 11 (licensing is optional).
- Install WorkstationST (to get the GE WorkstationST OPC DA Server service).
- Verify that the GE WorkstationST OPC DA Server service is set to Automatic and is running (to be able to select the GeCssOpcServer during the Historian Collector install).
- Install Historian Reports.
- Verify Excel 2016 (64-bit) is installed (to be able to install the Proficy Historian Excel Add-in).
- Create the folder `D:\ProficyHistorianData` for the Proficy Historian archives and log files.
- Create the folder `E:\Backup` for the Proficy Historian archives backup.
- Verify that Internet Information Services (IIS) has been installed with the items in the following figure enabled. These can be checked / added from Control Panel, Programs and Features, Turn Windows Features on or off.
Historian V7.1 IIS Enabled Settings
Installation Overview

Proficy Historian 7.1 installation requires three separate installs:

1. Install Historian
2. Install Client Tools
3. Install Collectors

➢➢ To install Historian

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.1 Installation window, select Install Historian.
5. When the Historian Installation Welcome Wizard displays, click **Next**.

6. Read the **End User License Agreement**, select (check) **Accept**, and click **Next**.
7. Select C: for the installation disk and click **Next**.

8. Click **Browse** and navigate to \D:\ProficyHistorianData for the Historian data path, then click **Next**.

9. Select **Historian Single Server** as the installation type and click **Next**.
10. Enter a password to use to log in to the Historian Administrator (Admin) account. Re-enter the password in the second line to confirm, then click Next.

Attention

Make sure to document the password you set for the Historian Admin account. This is the password you will enter to access the data.
11. The fully qualified domain name (FQDN) for the computer is pre-populated in the FQDNs field. You may add other domain names (use semicolons to separate names) or leave the field blank. Click Next.

12. Do not use an LDAP server as the identity provider. Select No and click Next.
13. Click **Install** to begin the Historian installation.

14. When the **Installation Successful** window displays, click **Exit**.
15. When the **Reboot Required** dialog box displays, click **Yes** to restart the computer. This may take several minutes.

16. After restart, install Client Tools. Refer to the procedure *To install Client Tools*.

The Historian Client Tools installation installs the following components by default:

- Historian Client Tools
- Historian Administrator
- Historian Documentation and Help
- OLE DB Driver and Samples
- HDA Server
- User API and SDK
- Historian Client Access Assembly
- Collector Toolkit

The Historian Excel Add-in 64-bit component is not selected by default in the **Select Features** window. You may select (check) Historian Excel Add-in 64–bit to install it with the Historian Client Tools, or you can install it in a separate installation using the install option **Install Excel Add-in** from the **Historian 7.1 Installation** window. Refer to the section *Proficy Historian 7.1 Excel Add-in Installation* for installation instructions.
➢ To install Client Tools

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.1 Installation window, select Install Client Tools.

5. The Select Features window displays with Historian Client Tools selected (checked). By default, the check boxes for Historian Administrator, HDA Server, Historian Documentation & Help, OLE DB, and User API and SDK are also selected (checked). Select (check) Historian Excel Add-in 64 bit and click Next.

**Note** Excel Add-in will not be installed unless Office/Excel (64-bit) is already installed.
6. When the *Historian Server Security* window displays, select **All Users** to give all local and domain users full access to the Historian server, then click **Next**.
The **OPC Core Components** window displays briefly, then the installation proceeds.

7. When the **Question** dialog box displays, prompting the start of Historian services, click **Yes** or **No**.

8. When installation is complete, select **Yes, I want to restart my computer now**, then click **Finish**.

9. After restart, install Collectors. Refer to the procedure **To install Collectors**.
➢ To install Collectors

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.1 Installation window, select Install Collectors.

5. When the Historian Collectors Installation Welcome Wizard window displays, click Next.
6. Read the *End User License Agreement*, select (check) **Accept**, and click **Next**.

7. Select **C: \** for the installation disk and click **Next**.
8. Click **Browse** and navigate to `D:\ProficyHistorianData` for the Data Directory path, then click **Next**.

9. Select **File Collector**, **OPC Collector**, and **OPC HDA Collector** as the collectors to install and click **Next**.
10. When the *Begin configurations for File Collector! Wizard* displays, click **Next**.

11. Enter the Historian Server name (for example HST1) for the destination historian server and click **Next**.
12. When the Begin configurations for OPC Collector! Wizard displays, click Next.

13. From the Source Server Configuration window, select GeCssOpcServer and click Next.
14. Leave the *Remote OPC Server Details* blank and click **Next**.

15. Select **Historian** as the destination and click **Next**.
16. Enter the Historian Server name (for example HST1) for the destination historian server and click **Next**.

17. When the *Begin configurations for OPC HDA Collector!* Wizard displays, click **Next**.
18. From the Source Server Configuration window, select Proficy.Historian.HDA and click Next.

19. Leave the Remote OPC HDA Server Details blank and click Next.
20. Select **Historian** as the destination and click **Next**.

21. Enter the Historian Server name (for example HST1) for the destination historian server and click **Next**.
22. Click **Install** to begin the Historian Collectors installation.

23. When the **Installation Successful** window displays, click **Exit**.

24. Install software licensing and updates. Refer to the procedure **To install software licensing/updates**.
To install software licensing/updates
1. License the Proficy product.
2. Install the latest Windows updates.
3. Install the latest approved Proficy Historian SIM.
4. Install the latest approved CIMPLICITY SIM.

2.2 Proficy Historian 7.1 Standalone Help Installation

Proficy Historian Standalone Help permits access to Help files using a desktop shortcut icon instead of an active internet connection.

➢ To install Standalone Help
1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.1 Installation window, select Install Standalone Help.
5. When the Welcome to Historian Help! window displays, click Next.
6. Read the *End User License Agreement*, select (check) **Accept**, and click **Next**.

7. Select **C:** for the installation location and click **Next**.
8. Leave the default port number (for example 7070) and click **Next**.

9. Click **Install** to begin Historian Help installation.
10. When the *Installation Successful* window displays, click **Exit**.

11. From the *Historian 7.1 Installation* window, click **Exit**.

### 2.3 Proficy Historian 7.1 Excel Add-in Installation

Install the Proficy Historian 7.1 Excel Add-in component if it was not installed with the *Historian Client Tools*.

**Note** Microsoft Office 2013 (or later) 64-bit must be installed prior to installing the Proficy Excel add-in.

➢ **To install Excel add-in**

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run *InstallLauncher.exe*.
4. From the *Historian 7.1 Installation* window, select **Install Excel Add-in**.
5. After installation is complete, click **Yes** if prompted to restart your computer.
6. After restarting, activate the Excel Add-in.
2.4 Proficy Historian 7.0 Installation

Prerequisites

It is recommended that older versions of CIMPLICITY, Proficy Historian, and WebSpace be uninstalled prior to installing the latest release.

The following must be completed on the Historian computer prior to starting the installation process:

- Download the installation package (.iso) to a local drive. Do NOT install from a network location.
- Verify that the Computer Name is set to the desired system name.
- Install CIMPLICITY 9.5 if using the Proficy Advanced Trend application.
- Install WorkstationST to be able to select GeCssOpcServer during the Historian install. You may need to build and download WorkstationST with only OPC DA server enabled to get GeCssOpcServer in the registry.
- Install Office 2013 (64-bit) to be able to install the Proficy Historian Excel Add-in.
- Create the folder D:\Proficy_DataArchiver for the Proficy Historian archives and log files.
- Verify that Internet Information Services (IIS) has been installed with the items in the following figure enabled. These can be checked / added from Control Panel, Programs and Features, Turn Windows Features on or off.
Historian V7.0 IIS Enabled Settings
Installation Overview

Proficy Historian 7.0 installation requires three separate installs:

1. Install Historian
2. Install Client Tools
3. Install Collectors

➢➢➢ To install Historian

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.0 SP1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.0 Installation window, select Install Historian.
5. When the Historian Installation Welcome Wizard displays, click Next.

6. Read the End User License Agreement, select (check) Accept, and click Next.
7. Select C: for the installation disk and click Next.

8. Click Browse and navigate to D:\Proficy_DataArchiver for the Historian data path, then click Next.

**Note** Typically, a separate data drive exists for the Historian archives. In this document we refer to the separate data drive as D:. If you do not have a separate data drive or your data drive has been assigned a different letter, substitute the appropriate drive letter.

---

**Attention**

Do not click Next until you enter the Archive location path as D:\Proficy_DataArchiver.
9. Select **Single Server** as the installation type and click **Next**.

10. Enter a password to use to login to the Historian Administrator (Admin) account. Re-enter the password in the second line to confirm, then click **Next**.

---

**Attention**

Make sure to document the password you set for the Historian Admin account. This is the password you will provide to access the data.
11. The fully qualified domain name (FQDN) for the computer is pre-populated in the FQDNs field. You may add other domain names (use semicolons to separate names) or leave the field blank. Click Next.

12. Do not use an LDAP server as the identity provider. Select No and click Next.
13. Click **Install** to begin the Historian installation.

![Historian Installation Screen]

14. When the installation is complete the *Installation Successful* window displays and indicates the computer may need to be restarted. Click **Exit** and restart your computer.

![Historian Installation Successful Screen]

15. After restart, install Client Tools. Refer to the procedure *To install Client Tools*. 

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➢ To install Client Tools

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 7.0 SP1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run InstallLauncher.exe.
4. From the Historian 7.0 Installation window, select Install Client Tools.
5. The Select Features window displays with all features selected (checked) except Historian Excel Add-in. Select (check) **Historian Excel Add-in 64 bit** and click **Next**.

**Note** Excel Add-in will not be installed unless Office/Excel (64-bit) is already.
6. When the *Historian Server Security* window displays, select **All Users** to give all local and domain users full access to the Historian server, then click **Next**.
7. When the Historian Collector Configuration window displays, select **Local System Account** and click **Next**.

![Historian Collector Configuration](image)

When connecting to Historian 5.0 or newer Data Archiver, the account running the collector must exist on both collector and archiver.

- **Local System Account**
  - Historian collectors will run as the Local System account. Note this account cannot be used to connect to remote archivers that have Strict Collector Security enabled.

- **This User**
  - If you want to run the collector under a different account enter that here or you can enter the account later in the Windows Control Panel in the Services configuration.

  - **User Name**
  - **Password**
  - **Confirm Password**

8. When the **Question** dialog box displays, prompting the start of Historian services, click **Yes** or **No**.

![Question](image)

*Do you want to start the Historian services now? Click no if you want to apply software updates (SIMs) before starting Data Archiver.*
9. When installation is complete, select **Yes, I want to restart my computer now**, then click **Finish**.

10. After restart, install Collectors. Refer to the procedure **To install Collectors**.
➢ To install Collectors

1. Log in as a local Administrator.

2. Navigate to the Proficy Historian 7.0 SP1 install folder and mount the .iso image.

3. Navigate to the mounted DVD and run InstallLauncher.exe.

4. From the Historian 7.0 Installation window, select Install Collectors.

5. When the Historian Collectors Installation Welcome Wizard window displays, click Next.
6. Read the *End User License Agreement*, select (check) **Accept**, and click **Next**.

7. Select **C:** for the installation disk and click **Next**.
8. Click **Browse** and navigate to *D:\Proficy_DataArchiver* for the Data Directory path, then click **Next**.

*Note* Typically, a separate data drive exists for the Historian archives. In this document we refer to the separate data drive as D:. If you do not have a separate data drive or your data drive has been assigned a different letter, substitute the appropriate drive letter.

9. Select **Legacy Collectors** as the collectors to install and click **Next**.
10. Click **Install** to begin the Historian Collectors installation.

11. When the **Select Features** window displays, select the options shown in the following figure. (At a minimum, select **File Collector** and **OPC Collector**.) Click **Next**.
12. When the Historian Server Security window displays, select **All Users** to give all local and domain users full access to the Historian server, then click **Next**.
13. When the Historian Collector Configuration window displays, select Local System Account and click Next.

14. When the Select your OPC Server ProgIds window displays, select (check) GeCssOpcServer and click Next.
15. Leave all fields blank in the *Remote OPC Server Details* window and click **Next**.

16. When the *Question* dialog box displays, prompting the start of Historian services, click **Yes** or **No**.
17. When the installation is complete the Historian Collectors Installation Welcome Wizard displays Installation Successful and indicates the computer may need to be restarted. Click Exit.

18. When the Reboot Required dialog box displays, click Yes to restart your computer.

19. After restart, install software licensing and updates. Refer to the following procedure, To install software licensing/updates.

➢ To install software licensing/updates

1. Install the Proficy license. Check the Proficy Common License Client located in your Start menu for licensing details.
2. Install the latest Windows updates.
3. Install the latest approved Proficy Historian SIM.
4. Install the latest approved CIMPLICITY SIM (if used).
2.5 *Proficy Historian 6.0 Installation*

**Prerequisites**

The following must be completed on the Historian computer prior to starting the installation process:

- Verify that the operating system is Windows Server 2012 R2.
- Verify that the Computer Name is set to the desired system name.
- Install CIMPLICITY 9.0 if using the Proficy Advanced Trending application.
- Install WorkstationST to be able to select GeCssOpcServer during the Historian install. You may need to build and download WorkstationST with only OPC DA server enabled to get GeCssOpcServer in the registry.
- Create the folder `D:\Proficy_Historian\Archives` for the Proficy Historian archives and log files.
- Verify that Internet Information Services (IIS) has been installed with the items in the following figure enabled. These can be checked/added from Control Panel, Programs and Features, Turn Windows Features on or off.

![Historian V6.0 IIS Enabled Settings](image-url)
➢ To install Historian 6.0

1. Log in as a local Administrator.

2. Navigate to the Proficy Historian 6.0 SP1 install folder and mount the .iso image.

3. Navigate to the mounted DVD and run InstallLauncher.exe.

4. From the Proficy Historian 6.0 SP01 Installation window, select Install Historian.
5. When the Select Features window displays, select the options shown in the following figure and click Next.
6. When the **Historian Server Security** window displays, select **All Users** to give all local and domain users full access to the Historian server, then click **Next**.

7. When the **Historian Collector Configuration** window displays, select **Local System Account** and click **Next**.
8. When the *Select your OPC Server ProgIds* window displays, select (check) **GeCssOpcServer** and click **Next**.

**Note** The WorkstationST OPC DA Server must be configured for the GeCssOpcServer to display in this window.

9. Leave all fields blank in the *Remote OPC Server Details* window and click **Next**.
10. When the *Choose the Historian Program Folder* window displays, accept the default folder (C:\Program Files\Proficy \Proficy Historian) and click **Next**.

11. When the *Choose the Data (Archives) and Configuration Folder* window displays, click **Browse** and navigate to D: \Proficy_Historian\Archives, then click **Next**.
12. When the Question dialog box displays, prompting the start of Historian services, click Yes or No.

13. When installation is complete, select Yes, I want to restart my computer now and click Finish.

14. After restart, install software licensing and updates. Refer to the following procedure, To install software licensing/updates.

➢ To install software licensing/updates
1. Install the ControlST Software Suite license that supports CIMPLICITY 9.0 (if used), Proficy Historian 6.0, and Proficy WebSpace V4.8 (if used).
2. Install the latest Windows updates.
3. Install the latest approved CIMPLCITY SIM (if used).
4. Install the latest approved Proficy Historian SIM.
5. Install the latest approved WebSpace SIM (if used).
2.6 **Proficy Historian 6.0 Excel Add-in Installation**

Install the Proficy Historian 6.0 Excel Add-in component if it was not installed during the Historian installation.

*Note*  Microsoft Office 2013 (or later), 64-bit must be installed prior to installing the Proficy Excel add-in.

➢ **To install Excel add-in**

1. Log in as a local Administrator.
2. Navigate to the Proficy Historian 6.0 SP1 install folder and mount the .iso image.
3. Navigate to the mounted DVD and run `InstallLauncher.exe`.
4. From the *Proficy Historian 6.0 SP01 Installation* window, select **Install Excel Add-in**.
5. After installation is complete, click **Yes** if prompted to restart your computer.
6. After restart, activate the Excel Add-in.
2.7 Proficy Historian 4.5 Installation

Prerequisites

The following must be completed on the Historian computer prior to starting the installation process:

- Verify that the operating system is Windows® 7 (64-bit).
- Verify the Computer name is set to the desired system name.
- Install CIMPLICITY V8.2.
- Install WorkstationST to be able to select GeCssOpcServer during the Historian install. You may need to build and download WorkstationST with only OPC DA server enabled to get GeCssOpcServer in the registry.
- Create D:\Proficy_Arch\Archives for the Proficy Historian archives and log files.
- Verify that Internet Information Services (IIS) has been installed with the items in the following figure enabled. These can be checked/added from Control Panel, Programs and Features, Turn Windows Features on or off.

Historian V4.5 IIS Enabled Settings
➢ To install CIMPLICITY Server

1. Log in as a local Administrator.

2. Place the **Proficy HMI/SCADA – CIMPLICITY** DVD into the CD-ROM drive.

3. Select **Install CIMPLICITY 8.2 Server**.

4. When the **Welcome, License Agreement, and Product Information** windows display, click **Next**.

5. When the **Setup Type** window displays, select **Custom** and click **Next**.

6. When the **Choose Destination Location** window displays, click **Next** to accept the default location, or click **Change** to set a new location, then click **Next**.
7. When the *Select Features* window displays, deselect (uncheck) **SQL Server Express 2008** and **Demo Project**, then click **Next**.

8. When the *AutoStart Services* window displays, verify that **CIMPLICITY WebView/ThinView Service** is deselected (unchecked) and click **Next**.
9. When the *Question* dialog displays, click **Yes** to integrate with Windows Firewall.

10. Click **Install** to begin the installation.

11. At the end of the CIMPLICITY install, the *Proficy Historian Installation Wizard* displays. Click **Next**.
12. When the *Select Features* window displays, select the options as shown in the following figure and click **Next**.

**Note** Make sure to deselect (uncheck) the OPC Alarm Collector.
13. When the *Windows Firewall* window displays, select (enable) **Yes** to set firewall exceptions and click **Next**.

14. When the *Select your OPC Server ProgIds* window displays, select (check) **GeCssOpcServer** and click **Next**.
15. When the *Choose the Historian Program Folder* window displays, accept the default location and click **Next**.

![Choose the Historian Program Folder window](image)

16. When the *Choose the Data (Archives) and Configuration Folder* window displays, click **Browse** and navigate to `D:\Proficy_Arch\Archives`, then click **Next**.

![Choose the Data (Archives) and Configuration Folder window](image)
Note Typically, a separate data drive exists for the Historian archives. In this document we refer to the separate data drive as D:. If you do not have a separate data drive or your data drive has been assigned a different letter, substitute the appropriate drive letter.

17. When the Configuration Review window displays, review the installation locations and click Next to continue the Historian software installation.

18. At the end of installation, a Warning message about the license displays. Click OK and restart the computer when prompted.

## 2.8 Proficy WebSpace V4.8 Installation

Proficy WebSpace V4.8 is designed for use with Proficy Advanced Trender.

Note Proficy WebSpace replaces the CIMPLCITY GlobalView application.

➢➢ To install Proficy WebSpace V4.8

1. Navigate to the install folder and run InstallFrontEnd.exe

2. From the Proficy WebSpace 4.8 Installation window, select Install Proficy WebSpace V4.8.

![Proficy WebSpace Installation Window]

The install will start and check for running processes.
3. Stop all Proficy processes. (Stop the WorkstationST Historian feature and stop all Historian Services: Data Archiver, File Collector, Calculation Collector). Click **OK**.

4. When the *Welcome to the InstallShield Wizard for Proficy Webspace* window displays, click **Next**.

5. Click **Accept License Agreement**.

6. When the *Logon* window displays, specify an Administrator account for the **User Name** and enter the **Password**, then click **Next**.
7. Click **Install** to begin installation.

8. When installation is complete, select **Yes, I want to restart my computer now** and click **Finish**.

![WebSpace installation complete](image)

After the restart, finish configuring WebSpace for operation.

9. From **CIMPLICITY**, select **Options** and **WebSpace** - from **main.cim** create **default.htm** startup page. Save the copy in `C:\Program Files\Proficly\Proficy WebSpace\Web`.

10. Install **WebSpace client** on all client HMI’s (including the Proficy Historian).
   
   a. From the Proficy Historian, install the WebSpace client plugin with the following file: `C:\Program Files\Proficly\Proficy WebSpace\Web\Clients\proficly-client.windows.exe`

   b. From the Proficy Historian, use Internet Explorer and go to `//pcname/ProficlyWebSpace/default.htm` to check WebSpace operation.
      
      (When it is working, a prompt displays for User Name and Password, then starts cimview and displays screen.)

   c. From the Proficy Historian, copy the file `C:\Program Files\Proficly\Proficy WebSpace\Web\Clients\proficly-client.windows.exe` to each client machine.

   d. Install the `proficly-client.exe` file on each client machine.

   e. Check WebSpace operation from each of the clients.
2.9 Historian Reports Installation

Historian Reports allows you to generate periodic and real-time reports using the historical data.

➢➢➢ To install Historian Reports

1. Place the ControlST Software Suite DVD in the CD-ROM drive.
2. From the Setup — GE ControlST Software Suite — Vnn.nn.nnC dialog box select Historian Reports — Vnn.nn.nnC.
3. In the Setup dialog box, click Yes.

4. From the Setup - ControlST Software Suite - Vnn.nn.nnC dialog box, click Install.
5. When the installation is complete, click Yes to exit setup.

After installation, the post-installation procedures must be performed. For these instructions, refer to the Historian Report Post-installation Instruction Guide (GEI-100753).
3 Configuration

3.1 Historian Excel Add-in

For Proфicy Historian 6.0 и later, the Proфicy Excel Add-in option requires Microsoft Office Excel 2013 (or later) 64 bit.

To enable the Proфicy Historian Excel Add-in
1. Open Microsoft Excel and select Blank workbook.
2. Select File, then select Options.
3. From the Excel Options dialog box, click Add-ins.
4. From the Manage drop-down list, select Excel Add-ins, then click Go.
5. From the Add-Ins dialog box, select (check) **Proficy Historian Add-In** and **Proficy_Historian_Helper**, then click OK.
The Add-in is ready to use. The Proficy Historian tab and menu is now available in the Microsoft Excel toolbar.

Excel Proficy Historian Tab and Menu

### 3.2 Historian Archives

Archives are created as fixed length files and initially contain no data. They are located on the history disk in the Archives directory on the Historian computer. The archives are named `Archive_3nn.iha`, where `nnn` equals a three-digit number that increments for each new archive. The typical archive size is 500 MB. Proficy Historian archives use 75% of the history disk. The number of available archives depends on the size of the history disk.

**Note** Typically, a separate data drive exists for the Historian archives. In this document we refer to the separate data drive as D:. If you do not have a separate data drive or your data drive has been assigned a different letter, substitute the appropriate drive letter.

The list of archives displays in the Historian Administrator with the primary archive listed first. Each archive listed has the associated Start Time and End Time. The archive with a valid Start Time (such as 5-Nov-98 05:37:48) and the value `Current Time` for the End Time, is the primary archive and should be the first archive listed. An archive with a valid Start and End Time was previously the primary archive. Archives with the value `Current Time` for the Start and End Times are empty.

Applications residing on the Historian system are responsible for sending data from the controllers to the Proficy Historian system. The Proficy Historian system shifts from the current primary archive to the next available archive (making it the new primary archive) when an archive reaches its size limit. This next available archive is either an empty archive or the oldest used archive (if an empty one is not available). The Proficy Historian system uses these archives in a circular queue.

**Note** Refer to the Historian Electronic Book (from the Help menu) for more information.
### 3.2.1 Data Compression

Collector compression applies a smoothing filter to data retrieved from the data source. By ignoring small changes in values that fall within a deadband centered around the last reported value, only significant changes are reported to the archiver. The definition of significant changes is determined by setting the collector compression deadband value.

The Historian Administrator calculates and displays the deadband in engineering units if you enter a deadband percentage. If you later change the high and low EGU limits, the deadband is a percentage of the new limits. A 20% deadband on 0 to 500 EGU span is 100 engineering units. When you change the limits to 100 and 200, the 20% is now 20 engineering units.

**Note** Historical filtering determines whether a variable value is archived or discarded.

The deadband is centered around the last reported sample, not added to it or subtracted from it. If you want a deadband of 1 unit between reported samples, you must have a compression deadband of 2 so that it is one to each side of the last reported sample. In an example of 0 to 500 EGU range, with a deadband of 20%, the deadband is 100 units, and the value has to change by more than 50 units from the last reported value.

Changes in data quality automatically bypass collector compression and are reported to the archiver. Any data reported to the collector that is out of time order automatically bypasses collector compression.

It is possible for collected tags with no compression to appear in the Historian system if the collector or archive compression options are disabled. The Historian Administrator System Statistics screen displays the amount of compression for each collector. The amount of Archive Compression also displays.

When a succession of bad data quality samples occurs, the Historian system collects only the first sample. No new samples are collected until the data quality changes. The Historian system does not collect the redundant bad data quality samples, and this is reflected in the Collector compression percentage statistic.

The effect of Collector Compression Timeout is to behave, for one poll cycle, as if the collector compression feature is not being used. The sample collected from the data source is sent to the archiver. The compression is then turned back on, as configured, for the next poll cycle with new samples being compared to the value sent to the archiver.

### 3.2.2 Archive Compression

Archive compression is used to reduce the number of samples stored when data values for a tag form a straight line in any direction. For a horizontal line (a non-changing value), the behavior is similar to collector compression. However, in archive compression, it is not the values that are being compared to a deadband, but the slope of line those values produce when plotted value against time.

Archive compression logic is run in the data archiver, and can be applied to tags populated by methods other than collectors. Archive compression can be used on tags where data is being added to a tag by migration, by the File Collector, or by a Software Development Kit (SDK) program.

**Note** The Proficy Historian Tag Database contains the variable configuration. The database is created by the File Collector.

Each time the archiver receives a new value for a tag, a line is computed between this incoming data point and the last archived value. The deadband is calculated as a tolerance centered about the slope of this line. The slope is tested to see if it falls within the deadband tolerance calculated for the previous point. If the new point does not exceed the tolerance, it is held by the archiver rather than being archived. This process repeats with subsequent points. When an incoming value exceeds the tolerance, the value held by the archiver is written to disk and the incoming sample becomes held.

The effect of the archive compression timeout is that the incoming sample is automatically considered to have exceeded compression. The held sample is archived, and the incoming sample becomes the new held sample.

If the archive compression value on the System Statistics screen indicates that archive compression is occurring, and archive compression was not enabled for the tags, internal statistics tags with archive compression may be enabled.
3.2.3 Naming Conventions

Historian tag names vary according to the type of collector. By default, the tag name is the source address prepended with a string.

In the Historian system, a unit name and a variable uniquely identify values. The scheme allows unit definitions to be duplicated easily by only changing the unit name. The design of the database requires that each tag name be unique. The tag name is a simple string. The Historian uses the unit's controller name concatenated with a period and the variable name to uniquely identify each tag, for example **T1.TNH** is the tag name for unit T1 speed point.

**Note** Tag names should only use characters available for folders and filenames to avoid the limitations with some clients and filtering.

3.2.3.1 File Collector

The File Collector service configures the Proficy Historian Tag Database. It uses the ImportFiles folder for its operations, which is found in the Proficy Historian program folder. The ImportFiles folder contains the following subdirectories:

<table>
<thead>
<tr>
<th>Directory</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error</td>
<td>If a .csv or .xml file contains errors, the File Collector stops processing it and places the file in this folder.</td>
</tr>
<tr>
<td>Incoming</td>
<td>Configuration files that are to be processed by the File Collector are placed here.</td>
</tr>
<tr>
<td>Processed</td>
<td>Files that have been successfully imported by the File Collector are placed here.</td>
</tr>
<tr>
<td>Working</td>
<td>Files are placed in this folder while the File Collector is importing their contents.</td>
</tr>
</tbody>
</table>

Import a file by placing it in the Incoming folder. At the beginning of the next cycle (one of the parameters entered by the user through the Historian Administrator), the system initiates the file import operation, processes the data, stores the result in an archive, and moves the file from the Incoming folder to the Processed folder. During processing, the file moves to the Working folder and the filename changes to **YMDHMS-Data.csv** or **YMDHMS-filename.xml** file (for example, **010810103246-data.csv**).

When processing is complete, the name changes back to **YMDHMS-filename.csv** or **YMDHMS-filename.xml**, as appropriate (for example, **010810103246-tagtest3line.csv**). If errors occur during processing, error messages are logged in the **FileCollector_YMDHMS.log** file (for example, **FileCollector_01081214759.log**) within the LogFiles directory and the file moves to the Error directory.

When the number of days specified in the Processed File Purge parameter have passed, the system deletes the imported file from the Processed folder. The Error directory is never cleared.
3.2.4 Proficy Historian 7.1 DataStore Configuration

Configure the Historian DataStores (Archives) using the Historian Administrator.

**Note** Historian Administrator will not open if the data archiver service is not running or not licensed. Log files are located in D:\ProficyHistorianData\LogFiles.

➢➢➢

- **To configure the Historian 7.1 DataStores**
  1. From the **Start** menu, select **Proficy Historian 7.1**, then select **Historian Administrator**.
  2. From the **Proficy Historian Administrator System Statics** window, verify that the services are running (GeCssOpcServer may not be running yet), and verify the license information.

3. From the **Proficy Historian Administrator System Statics** window top menu, select **DataStores** to pre-configure the Data Stores (archives). There are two Data Stores to configure: **System Data Store** and **User Data Store**.

4. Select **System** from the **DataStores** drop-down list to configure the System Data Store.

5. Configure the settings for the System Data Store as shown in the following figure, then click **Update** to save the changes.

---

**Attention**

If you do not click **Update** the system will revert to the default settings.
6. Select **Add New Archive(s)** and configure only one System Data Store archive.

7. Select **User** from the **DataStores** drop-down list to configure the User Data Store.
8. Configure the settings for the User Data Store as shown in the following figure, then click Update to save the changes.

If you do not click Update the system will revert to the default settings.
9. Select the **Global Options** tab and verify that *Maintain Auto Recovery Files* is set to **Enabled**. Also verify that *Default Data Store for Tag Add* is set to **User**.
10. Select the **Security** tab and set **Enforce Strict Client Authorization** to **Disabled**. Also set **Enforce Strict Collector Authentication** to **Disabled**.

![Proficy Historian Administrator interface](image)

11. Select **Add New Archive(s)** and configure multiple 500 MB archives. The user archives will consume 75% of the allocated drive space.

**Note** User Data Stores are configured to overwrite the oldest archive.

- a. In the **Archive Name** field, enter **Archive_001**.
- b. In the **Data Store** field, select **User** from the drop-down list.
- c. In the **File Location** field, enter `D:\ProficyHistorianData\Archives\Archive_001.iha`.
- d. In the **Each Archive Size (MB)** field, enter **500**.
- e. In the **Number of Archives** field, enter the number that will allocate 75% of the space, OR use the slider in the **Allocate Space** field to allocate 75% of the disk.
- f. Click **OK**.
g. Click **Yes** to create multiple archives.

### 3.2.5 Proficy Historian 7.1 Collector Configuration

➢➢ To configure GeCssOpcServer collector

1. From the **Proficy Historian Administrator** window top menu, select **Collectors**.
2. Select the **GeCssOpcServer** collector (located in left panel), set the parameters as shown in the following figures, then click **Update** (on each tab) to save the changes.
➢ To configure redundant collectors: refer to the section Redundant Collectors.
3.2.6 Proficy Historian 7.1 OPC HDA Server Configuration

➢ To configure the OPC HDA Server

1. From the Proficy Historian Administrator window top menu, double-click Main.
2. From the Proficy Historian Administrator Login window, click the ellipsis (…) next to the Server name.

3. Select (check) the Is Default Server option and click Set Selected Server as Target of HDA Server.

4. Click Update to save the changes, then click OK to close the dialog box.
5. Click the X to close the Proficy Historian Administrator Login window.
3.2.7 Proficy Historian 7.0 DataStore Configuration

Configure the Historian DataStores (Archives) using the Historian Administrator.

**Note** Historian Administrator will not open if the data archiver service is not running or not licensed. Log files are located in D:\Proficy_DataArchiver\LogFiles.

➢➢➢ To configure the Historian 7.0 DataStores

1. From the Start menu, select All Programs, Proficy Historian 7.0, then select Historian Administrator.

2. From the Proficy Historian Administrator System Statics window, verify that the services are running (GeCssOpcServer may not be running yet), and verify the license information.

![Proficy Historian Administrator System Statics](image)

**Note** The Historical Tags item does not display any tags yet.

3. From the Proficy Historian Administrator System Statics window top menu, select DataStores to pre-configure the DataStores (archives). There are two DataStores to configure: System DataStore and User DataStore.

4. Select DHSSystem DataStore from the DataStores drop-down list to configure the System DataStore.

5. Configure the settings for the DHSSystem DataStore as shown in the following figure, then click Update to save the changes.
If you do not click Update the system will revert to the default settings.

6. Select **Add New Archives** and configure five DHSSystem DataStore archives.

**Note** The DHSSystem DataStore is not part of the normal User Data Store archives. As a result, only a few DHSSystem DataStores are created (for two months), with the option to overwrite the previous.
7. Select User from the DataStores drop-down list to configure the User DataStore.
8. Configure the settings for the User DataStore as shown in the following figure, then click **Update** to save the changes.

If you do not click Update the system will revert to the default settings.
9. Select the **Global Options** tab and verify that **Maintain Auto Recovery Files** is set to **Enabled**. Also verify that **Default Data Store For Tag Add** is set to **User**.
10. Select the Security tab and set Enforce Strict Client Authorization to Disabled. Also set Enforce Strict Collector Authentication to Disabled.

![Security Options](image)

11. Select Add New Archive(s) and configure multiple 1 Day archives.

**Note** Normally, the user archives have been fixed by Size (500 MB) and consume 75% of the data drive space. However, with Historian 7.0, the new configuration is to create 1 Day archives. When using the Add Archives Wizard, add enough for 2 – 3 years of data (750 or 1200).

User DataStores are configured to overwrite the oldest archive.

![Add New Archive(s)](image)
3.2.8 Proficy Historian 7.0 Collector Configuration

➢ To configure GeCssOpcServer collector

1. From the Proficy Historian Administrator window top menu, select Collectors.
2. Select the GeCssOpcServer collector (located in left panel), set the parameters as shown in the following figures, then click Update (on each tab) to save the changes.
Note: You may have to manually start/stop the Historian OPC Collector from Start menu before it displays in Historian Administrator (or may also need to open/close historian admin).

➢ To configure redundant collectors: refer to the section Redundant Collectors.
To configure the OPC HDA Server

1. From the Proficy Historian Administrator window top menu, double-click Main.

2. From the Proficy Historian Administrator Login window, click the ellipsis (…) next to the Server name.

3. Select (check) the Is Default Server option and click Set Selected Server as Target of HDA Server.

4. Click Update to save the changes, then click OK to close the dialog box.
3.2.10 **Proficy Historian 6.0 DataStore Configuration**

Configure the Historian DataStores (Archives) using the Historian Administrator.

*Note* Historian Administrator will **not** open if the data archiver service is not running or not licensed. Log files are located in `D:\Proficy_Historian\LogFiles`.

➢➢➢ **To configure the Historian 6.0 DataStores**

1. From the **Start** menu, select **Proficy Historian 6.0**, then select **Historian Administrator**.

2. From the **Proficy Historian Administrator System Statistics** window, verify that the services are running (GeCssOpcServer may not be running yet) and verify the license information.

![Proficy Historian Administrator System Statistics](image)

3. From the **Proficy Historian Administrator System Statistics** window top menu, select **DataStores** to pre-configure the DataStores (archives). There are two DataStores to configure: System DataStore and User DataStore.

4. Select **System** from the **DataStores** drop-down list to configure the System Data Store.

5. Configure the settings for the System Data Store as shown in the following figure, then click **Update** to save the changes.

![Configuration GEH-6745F System Guide 101](image)

"Attention" If you do not click Update the system will revert to the default settings.
6. Select **Add New Archive(s)** and configure only one System Data Store archive.

**Note** The System DataStore is not part of the normal User data archives. As a result, only one System Data Store is created, with the option to create new ones as needed.

7. Select **User** from the **DataStores** drop-down list to configure the User Data Store.
8. Configure the settings for the User Data Store as shown in the following figure, then click **Update** to save the changes.

**Attention**

If you do not click Update the system will revert to the default settings.
9. Select **Add New Archive(s)** and configure multiple 500 MB archives. The user archives will consume 75% of the allocated drive space.

**Note** User Data Stores are configured to overwrite the oldest archive.

10. Click **Yes** to create multiple archives.
3.2.11 **Proficy Historian 6.0 Collector Configuration**

➢ To configure GeCssOpcServer collector

1. From the *Proficy Historian Administrator* window top menu, select **Collectors**.
2. Select the **GeCssOpcServer** collector (located in left panel), set the parameters as shown in the following figures, then click **Update** (on each tab) to save the changes.

---

**Attention**

If you do not click Update the system will revert to the default settings.

---

![Image of Proficy Historian Administrator window with GeCssOpcServer collector configuration](image-url)
➢ To configure redundant collectors: refer to the section Redundant Collectors.
3.2.12 Proficy Historian 6.0 OPC HDA Server Configuration

➢ To configure the OPC HDA Server

1. From the Proficy Historian Administrator window top menu, double-click Main.

2. From the Proficy Historian Administrator Login window, click the ellipsis (…) next to the Server name.

3. Select (check) the Is Default Server option and click Set Selected Server as Target of HDA Server.

4. Click Update to save the changes, then click OK to close the dialog box.

5. Click the X to close the Proficy Historian Administrator Login window.
3.2.13    Proficy Historian 4.5 Archive Configuration

Set the following parameters to create multiple archives simultaneously.

<table>
<thead>
<tr>
<th>Tab</th>
<th>Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details</td>
<td>File Attribute to Read/Write</td>
</tr>
<tr>
<td>Global Options</td>
<td>Maximum Query Time (seconds) to 60 seconds</td>
</tr>
<tr>
<td></td>
<td>Maximum Query Intervals to 100000 intervals</td>
</tr>
<tr>
<td></td>
<td>Automatically Create Archives to Disabled</td>
</tr>
<tr>
<td></td>
<td>Overwrite Old archives to Enabled</td>
</tr>
<tr>
<td></td>
<td>Maintain Auto Recovery Files to Enabled</td>
</tr>
<tr>
<td></td>
<td>Store OPC Quality to Disabled</td>
</tr>
<tr>
<td>Security</td>
<td>Data is Read-only After (hours) to 96 hours</td>
</tr>
<tr>
<td></td>
<td>Security Groups to Use Local</td>
</tr>
<tr>
<td></td>
<td>Generate Message on Data Update to Disabled</td>
</tr>
<tr>
<td></td>
<td>Require Point Verification to Disabled</td>
</tr>
</tbody>
</table>

**Attention**

Because the Allocate Space slider does not indicate available hard-drive space, verify that enough space is available when creating multiple archives on a remote machine. If there is not enough space, the following error message displays: _Runtime error 330 Invalid Property Value_. Click OK, create more space, and restart the Historian Administrator.

**Note** Typically, a separate data drive exists for the Historian archives. In this document we refer to the separate data drive as D:. If you do not have a separate data drive or your data drive has been assigned a different letter, substitute the appropriate drive letter.

X in the target directory indicates a user-selected location (user can select the target directory during installation).

➢➢ To add archives

1. From the Start menu, select Programs, Proficy Historian 4.5, and Historian Administrator. The Proficy Historian Administrator displays.
2. From the Proficy Historian Administrator top menu, select Archives.
3. From the Archive Maintenance window, select Add New Archive(s).

![Proficy Historian Archive Maintenance](image)

4. From the Add New Archive(s) window, configure the settings as follows:
   a. In the Archive Name field, enter Archive001.
   b. In the File Location field, enter D:\Proficy_Arch\Archive001.iha.
   c. In the Each Archive Size (MB) field, enter 500.
   d. In the Number of Archives field, enter the number of archives you want to create OR use the Allocate Space slider bar to allocate 75%.
e. Click **OK**. A progress status bar displays. Click **Cancel** to stop the operation. If you stop the operation in the middle of creating archives, the created archives are deleted.

![Add New Archive(s) dialog](image)

**Note** When the current archive is full, the system writes to the next archive in the sequence in which it was created.

### 3.2.14 Set Archive Size

**Note** For each archive, you need approximately 1MB of archive space for every 1000 tags.

Archive files grow to a user-configured maximum size as data is recorded by the server. When an archive becomes full, the system can automatically open a new, empty archive file of the same user-specified size. If the automatic feature is not enabled, however, you must open a new archive manually.

Archive size is a function of the rate at which you archive data and the time period you want the archive to cover (for example, 30 days). Factors that affect the rate at which you archive data are as follows:

- large number of tags increases the data rate
- high polling frequency increases the data rate
- disabling compression or setting narrow deadband parameters increases the data rate
- selecting data types that increase the number of bytes per value increases the data rate

The following is an example of manually calculating the required archive size using typical parameter values:

**Assumptions**
- Number of tags: 5000
- Polling rate: 1 value/5 seconds

**Note** Pass compression is the number of data values archived relative to the number of values read, expressed as percent.

% Pass compression: 5%
- Bytes/value: 4
- Duration: 30 days
3.2.14.1 Calculation

\[
\text{MB} = \frac{\#\text{Tags} \times \frac{\text{Values}}{\text{Tag}} \times \frac{\text{Tags}}{\text{Second}} \times \frac{\%\text{Pass}}{\text{Value}} \times \frac{\text{Compr}}{\text{Hour}} \times \frac{\text{Seconds}}{\text{Day}} \times \frac{\text{Hours}}{\text{Day}} \times \frac{\text{MB}}{\text{Bytes}}}{\text{Day}}
\]

\[
5000 \times \frac{1}{5} \times \frac{1}{100} \times \frac{5}{1} \times \frac{4}{1} \times \frac{3600}{1} \times \frac{1}{1024} \times \frac{1}{1024} \times 30 = 494 \text{ MB}
\]

The calculation shows that a file size of 500 MB is adequate for archiving one month of data.

**Note** It is recommended that you set the default archive size to 512 MB for systems with 1000 tags or more.

If computed size is too large for your application, modify the parameters as follows:

- Decrease the polling frequency.
- Increase compression deadband, reducing the pass percentage.
- Reduce the number of tags.
- Add more disk capacity to your computer.
3.3 Redundant Collectors

Note For Historian OPC collector configuration instructions, refer to the section Proficy Historian 7.1 Collector Configuration, Proficy Historian 7.0 Collector Configuration, or Proficy Historian 6.0 Collector Configuration.

Historian includes support for collector redundancy, which decreases the likelihood of lost data due to software or hardware failure. Implementing collector redundancy ensures that collection of your data remains uninterrupted. Collector redundancy uses two or more collectors, gathering data from a single source.

Two or more collectors may be configured in a redundant group. All collectors in the group actively gather the same tags from a data source, but only the active collector sends data samples to the Historian server. The non-active collectors buffer their data against failover of the active collector. The Historian server actively monitors the health of the redundant collectors and will automatically switch to a backup if certain user-configured failover trigger conditions are met.

3.3.1 Redundancy Configuration Properties

The Redundancy tab on the Historian Administrator Collectors page provides the properties that can be configured for collector redundancy. The following tables describe the available properties.

### General Settings

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redundant Collector</td>
<td>If enabled, specifies the collector as a redundant collector</td>
</tr>
<tr>
<td>Backup For</td>
<td>Specifies the primary collector. This configuration will be preserved if you disable collector redundancy. This allows you to temporarily take a redundant collector offline without losing its configuration.</td>
</tr>
<tr>
<td>Backed Up By</td>
<td>Name of the collector providing redundancy for the selected collector</td>
</tr>
</tbody>
</table>

### Status

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Status</td>
<td>Current status of the collector</td>
</tr>
<tr>
<td>Redundancy Status</td>
<td>Current redundancy status of the collector. If a secondary collector has been activated, this displays as Activating.</td>
</tr>
<tr>
<td>Make Active Collector Now!</td>
<td>If selected, brings the selected collector online immediately. This is useful for testing or in situations where the primary collector must be taken offline quickly.</td>
</tr>
</tbody>
</table>

### Failover Triggers

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Status</td>
<td>If enabled, the collector will fail over if the status changes to Unknown.</td>
</tr>
<tr>
<td>Watchdog Tag</td>
<td>Specifies the tag to use to determine the status of the collector. If the watchdog tag meets any of the conditions specified in the Failover properties (the following properties in this table), the secondary collector is brought online to replace it.</td>
</tr>
<tr>
<td>Failover on Bad Quality</td>
<td>If enabled, the secondary collector is promoted when a data sample from the watchdog tag is received with bad quality. Failover happens on every write of a bad data sample to the watchdog, not just on the transition from good to bad quality.</td>
</tr>
<tr>
<td>Failover When Value Transitions from Zero</td>
<td>If selected, the secondary collector is promoted when a data sample from the watchdog tag with a non-zero value is received from the primary collector. Failure occurs every time a non-zero value is received, not just when the value promotes from zero to a non-zero value.</td>
</tr>
<tr>
<td>Failover When No Value Changes for ___ Seconds</td>
<td>If selected, the secondary collector is promoted when no data value changes have been received within the specified time period. This could be tied to a Heartbeat status indicator. The value is checked every 5 seconds. To prevent failure, a value must be changed.</td>
</tr>
</tbody>
</table>
3.3.2 Redundant Collector Configuration

➢ To configure a redundant collector

1. From the Historian Administrator Collectors page, select the collector that will be the first collector in your redundant group.

2. On the Redundancy tab, in the Settings section, select the Redundant Collector Enabled option and click Update.

3. On Collectors page, select the collector to be your second (or backup to the first) collector in your redundant group.

4. On the Redundancy tab, in the Settings section, select the Redundant Collector Enabled option.

5. From the Backup For property drop-down list, select the name of the collector that this collector will backup (in this case, it would be the first collector in your redundant group), then click Update.

6. When the dialog box displays that tags that are configured for the backup collector will no longer be collected, click Yes. Redundancy is now configured for these two collectors. From the Historian Administrator Main page, the Redundancy Status of the first collector will be Active and Standby for the backup collector.

➢ To add more collectors to the redundant group

1. On Collectors page, select the collector that will be the last collector in your redundant group.

2. On the Redundancy tab, in Settings section, select the Redundant Collector Enabled option.

3. From the Backup For property drop-down list, select the name of the collector that backs up this currently last collector in the group, then click Update.

➢ To configure collectors in your redundant group to failover when the active collector’s status is set to unknown: from the Redundancy tab, in the Failover Triggers section, select the Collector Status Enabled option, then click Update.

➢ To define a watchdog tag

1. From the Redundancy tab, in the Failover Triggers section, click Watchdog Tag property browse ellipse (…) and select the appropriate tag.

   Note  Make sure you are browsing for the principal (or first) collector in your redundant group.

   Tip  From the Redundancy tab, in the Status section, you can click (to enable) Make Active Collector Now! to manually failover to the backup collector.

   Note  Failover precedent is cyclical in that the last collector in a redundant group will automatically failover to the first collector in the group.
3.4 Historian Variables

➢ To configure Historian variables

1. From the Start menu, select Programs, GE ControlST, ToolboxST, and ToolboxST. The System Editor displays.

2. From the System Editor Tree View, open the Mark VIe component with the desired variables. The Component Editor displays.

3. From the Component Editor Software tab, expand the Tree View and select Variables.

4. In the Data Grid, right-click the column header and select Organize Columns to display the Organize Columns dialog box.

5. In the Organize Columns dialog box, scroll down the Hidden column and select Historian Deadband and Historian Deadband Definition. Click the single arrow to move them to the Shown column and click OK.
6. In the Data Grid **Historical Deadband** column, select **Logged on Change** for digital variables. For analog variables, enter a value for **Historical Deadband** and then select **Engineering Units** or **Percent of Range** in the **Historian Deadband Definition** column.

![Table showing historical deadband examples](image)

**Note** If the application code in a controller is linked to a library container, the Historian Deadband must be changed in the library container, and the application code instanced in the controller. This provides a system-wide library update.

### 3.5 WorkstationST Historian

The WorkstationST Historian is a feature of the WorkstationST application that allows users to configure Proficy Historians to collect long-term data from the system components. The Proficy Historian’s OPC® client is configured to read the data from the WorkstationST OPC Data Access (DA) server. The collected data is accessible through the ToolboxST Trender, as well as the Proficy Historian’s data access applications.

The WorkstationST Historian feature allows users to:

- Configure storage of all data available through the WorkstationST OPC DA server
- Automatically configure variables with a defined Historian Deadband
- Override pre-configured variables
- Add non-configured variables
- Configure Historian reports
- Configure Archive Backup Management

**Note** For WorkstationST Historian configuration procedures and more information, refer to the *WorkstationST Historian Instruction Guide* (GEI-100628).
3.6 Archive Backup Management

3.6.1 Historical Data Backup
The Historian products use archives to store data. Each archive is a fixed length file. A set number of archive files are created during factory setup. Once these archives become filled, the oldest, writable archive is re-used. Therefore, archives should be backed up regularly.

An archive backup utility is automatically installed on your system. The default path for this file is typically `C:\Program Files\Proficy\Proficy Historian\x86\Server\ihArchiveBackup.exe`.

3.6.2 Proficy Backup Procedure
The application supplied with the Proficy Historian for backing up archives and archive configuration information is `ihArchiveBackup.exe`. It is located in the Proficy install directory within the `\Server` folder (typically `C:\Program Files\Proficy\Proficy Historian\x86\Server\ihArchiveBackup.exe`). The `ihArchiveBackup.exe` file backs up the current archive, additional archives (if specified), and a site-specific configuration file. The backup procedure does not delete any previously backed-up files. As data is accumulated and the current archive shifts to the next archive, the older archive remains in the backup directory.

**Note** Do not schedule `ihArchiveBackup.exe` if the Historian Archive Backup manager is scheduled to run.

The `ihArchiveBackup.exe` file can be run interactively from a Command Prompt, or run at regular intervals using the Task Scheduler.

**Note** For detailed information on Proficy Historian backup, from the Start menu, select Programs, Proficy Historian n, and Historian Electronic Book.

**Note** It is recommended that backups be scheduled regularly.

The `ihArchiveBackup.exe` file accepts the following optional arguments. If no arguments are supplied, `ihArchiveBackup.exe` backs up the current Historian archive.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-s serverNodeName</td>
<td>The Historian node from which to access archive data</td>
</tr>
<tr>
<td>-u Username</td>
<td>The username required to connect to the Historian archive</td>
</tr>
<tr>
<td>-p Password</td>
<td>The password required to connect to the Historian archive</td>
</tr>
<tr>
<td>-t TimeoutSecs</td>
<td>The time, in seconds, to wait before timing out and failing</td>
</tr>
<tr>
<td>-n NumberOfArchives</td>
<td>The number of archives to back up, counting backwards from the current archive</td>
</tr>
<tr>
<td>-a ArchiveName</td>
<td>The name of a specific archive to back up</td>
</tr>
<tr>
<td>-C</td>
<td>Backs up only the historian configuration (IHC) file</td>
</tr>
</tbody>
</table>
To schedule regular backups (for Windows Server 2012 R2 and later with Proficy 6.0 and later)

1. Create a backup directory (such as X:\backup).

   Note  X in the target directory indicates a user-selected location (user can select the target directory during installation).

2. From the Start menu, select Proficy Historian n.n. and Historian Administrator. The Proficy Historian Administrator window displays.

3. Select DataStores.

4. From the User Data Store Data Store Options tab, Maintenance Default Backup Path field, enter X:\backup.

5. From the Control Panel, click Administrative Tools, then double-click Task Scheduler.

6. From the Task Scheduler window, click Create Task....

7. From the Create Task window, set the parameters as follows:
   
a. Select the General tab.
   
b. In the Name field, enter Historian_Backup.
   
c. Under Security Options:
      
      i. Select Run whether user is logged on or not.
      
      ii. Select (check) Do not store password.
      
      iii. Select (check) Run with highest privileges.
   
d. Select (check) Hidden.
   
e. In the Configure for field, select your operating system from the drop-down list.
   
f. Click the Triggers tab, then click New....
   
g. In the New Trigger window, set the parameters as follows:
      
      i. Under Settings:
         
         1. Select Daily.
         
         2. In the Start field, enter 3:15:00 AM for the time and select (check) Synchronize across time zones.
         
         3. In the Recur every field, enter 1 days.
         
         ii. Under Advanced Settings:
             
             1. Select (check) Stop task if it runs longer than and select 8 hours from the drop-down list.
             
             2. Select (check) Enabled.
            
      iii. Click OK.
   
h. Click the Actions tab, then click New....
   
i. In the New Action window, set the parameters as follows:
      
      i. In the Action field, select Start a program from the drop-down list.
      
      ii. In the Program/script field, browse to C:\Program Files\Proficy\Proficy Historian\x86\Server\ihArchiveBackup.exe.
         
      iii. Click OK.
   
j. Click the Conditions tab, and verify that all options are unchecked except for Start the task only if the computer is on AC power and Stop if the computer switches to battery power.
   
k. Click the Settings tab, and set the parameters as follows:
      
      i. Select (check) Allow task to be run on demand.
ii. Select (check) **Stop the task if it runs longer than** and select **8 hours** from the drop-down list.

iii. Select (check) **If the running task does not end when requested, force it to stop.**

1. Click OK.

➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢➢ geli
3.7 Historian Reports

Refer to the Historian Report Configuration Instruction Guide (GEI-100752).

3.8 Variable Aliasing

The Variable Aliasing option allows you to specify an alternate name for a variable (for example, the alias for the gas turbine speed variable, TNH, is specified as SPEED). Aliases are defined where the variable is defined, and must be unique throughout the system.

**Note** Aliases cannot be overridden on the Historian Feature tab.

**Note** Existing variables in the Historian cannot be renamed.

➢➢

To enable variable aliasing

1. From the System Editor Tree View, double-click a component, such as G1. The Component Editor displays.
2. From the Component Editor General tab Property Editor, set Enable Alias Prefix to True.

**Note** Each system component can enable alias prefixes. This adds the component name to the beginning of each alias name (for example, G1.Speed).
➢ To create a variable alias

1. From the Component Editor Software tab Tree View, select Variables. The variables display in the Data Grid.
2. In the Data Grid Alias column, add the variable alias names.

To use defined aliases instead of the variable name in the Historian system, the Use Alias Name property must be enabled in the Historian WorkstationST component. If a variable alias is not defined, the variable name creates the variable in the Historian system.

➢ To use defined aliases

1. From the System Editor Tree View, double-click the Historian WorkstationST component. The Component Editor displays.
2. From the Property Editor, set Use Alias Name to True.
Note  Setting the Enable Alias Prefix property to True on the Historian WorkstationST only applies the component name prefix to variables defined in the Historian WorkstationST (for example, client-driven variables defined on the OPC DA Server tab).

3.9 Upgrade Existing Historian System for Variable Aliasing

If a variable with its original name already exists in the Historian system, enabling the Use Alias Name property creates a new variable in the Historian system with the alias name. Each variable is counted in the Proficy Historian's point license. The variable with the original tag is separate from the variable with the alias tag. The original variable can be deleted from the Historian system using the Proficy Historian Administrator.

Attention  Permanently deleting a variable from the Historian system removes all access to the data for that variable.
Notes
4 User Operations

4.1 Proficy Historian Server Tags

Server tags are the Proficy Historian equivalent of ToolboxST variables. Whenever a Historian WorkstationST component is built and downloaded, the tag configuration in the Proficy Historian server is updated. The ToolboxST application converts its variable names that are configured for archiving in the Proficy Historian and updates the Proficy Historian system. After these tag names are created, Proficy Historian uses the Proficy OPC Collector to connect to the WorkstationST OPC DA server to obtain the variable values.

**Note** Tags and their parameters can be displayed in Microsoft Excel.

4.1.1 Export Tags

➢➢ To export tags (Excel 2016)

1. From the Start menu, select Excel 2016.
2. Select the Proficy Historian tab to display the menu items.
3. From the Proficy Historian menu, select Administration, then select Export Tags.
4. From the Proficy Historian Export Tags dialog box, configure the tag for export as follows:
   a. From the Server[Opt] drop-down list, select a server.
   b. Enter the Tag Mask/Tag Name(s) or Description Mask of the tag(s) for export.
   c. (Optional) Enter a Collector name.
   d. From the Filter Data Type drop-down list, select a data type.
e. From **Export Options**, select the destination for the export. If you select the **To CSV File** or the **To XML File** option, enter the path and **File Name**.

f. From **Fields To Export**, select **Tagname** and additional fields as applicable. (Always select **Tagname**.)

**Note** If you do not enter a tag name, the filter uses other criteria for selecting tags. If you do not enter any criteria, the filter returns all tags. If you specify a range of tag names to read from multiple cells in the Tag Mask/Tag Name(s) field, only the first tag in the range is exported. Always select **Tagname** as a selection for Fields to Export.

5. Click **OK** to export the tag(s).
   When the export is complete, the *Export Succeeded* dialog box displays.

➢➢ **To export tags (Excel 2007)**

1. From the **Start** menu, select **Programs**, then select **Microsoft Excel**.

2. Select the **Add-Ins** tab.

3. From the **Add-Ins** tab, select **Historian**, then select **Administration and Export Tags**. The *Proficy Historian Export Tags* dialog box displays.
4. From the Proficy Historian Export Tags dialog box, configure the tag(s) for export as follows:
   a. From the Server[Opt] drop-down list, select a server.
   b. Enter the Tag Mask/Tag Name(s) or Description Mask of the tag(s) for export.
   c. (Optional) Enter a Collector name.
   d. From the Filter Data Type drop-down list, select a data type.
   e. From Export Options, select the destination for the export. If you select the To CSV File or the To XML File option, enter the path and File Name.
   f. From Field to Export, select Tagname and additional fields as applicable. (Always select Tagname.)

   **Note** If you do not enter a tag name, the filter uses other criteria for selecting tags. If you do not enter any criteria, the filter returns all tags. If you specify a range of tag names to read from multiple cells in the Tag Mask/Tag Name(s) field, only the first tag in the range is exported. Always select Tagname as a selection for Fields to Export.

5. Click OK to export the tag(s).
   When the export is complete, the Export Succeeded dialog box displays.
4.2 Proficy Advanced Trender

The Proficy Advanced Trender allows users to display archived data from the Proficy Historian.

Data is organized by data type (for example, vibration or exhaust temperatures) and the designated turbine. Up to nine trend objects display data versus time. Each trend can be configured from templates stored in a configuration database or dynamically at runtime. Custom trends can also be created or edited using CimEdit.

Attention

This package is installed and configured by the requisition team and is job specific. It is not part of the ControlST installation.

Note Proficy Advanced Trender, which provides two client licenses, requires Proficy CIMPLICITY HMI/SCADA version 8.0.2 or higher.

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proficy Historian</td>
<td>4.5</td>
</tr>
<tr>
<td>CIMPLICITY</td>
<td>8.2</td>
</tr>
<tr>
<td>Proficy Advanced Trender</td>
<td>✓</td>
</tr>
<tr>
<td>Optional</td>
<td></td>
</tr>
</tbody>
</table>

Components are as follows:

- **Proficy Historian Server** holds system historical data in archives. Proficy Historian is configured as a WorkstationST component in the ToolboxST application.
- **Proficy CIMPLICITY HMI/SCADA Advanced Viewer** provides screens, graphic objects, charts, and connectivity to Proficy Historian archives. The CimEdit screen editor and CimView screen viewer are included in CIMPLICITY Advanced Viewer.
- **Navigation bar** allows users to design and build the navigation. CIMPLICITY allows users to modify the initial navigation bar configuration file.
Trender Data Flow

Note
1. The * ind files store the trend object configuration.
2. The user can edit and save changes to the trend configuration files from CimView.
4.2.1 Proficy Advanced Trend Common Procedures

The following sections provide common procedures associated with the use of Proficy Advanced Trender.

➢ To create a shortcut for the Main.cim window
1. Right-click on the desktop and select New, then select Shortcut. The Create Shortcut wizard displays.
2. Click Browse and navigate to the Main.cim file (usually located at E:\Site\Proficy\screens), then click Next.
3. When the Select a Title for the Program wizard displays, enter a name for the shortcut (for example, shortcut1) and click Finish to create the shortcut on the desktop.
4. Right-click on the desktop icon (shortcut1 in this example) and select Properties. The Proficy Trender Properties dialog box displays.
5. In the Target text box, enter CimView.exe /maximized /zoomtobestfit and click OK. The text box populates with the folder path.

➢ To open a trend: open Proficy Advanced Trender and select the Unit (for example G1). The drop-down list displays all trend charts available for that controller.

➢ To navigate from a trend on one unit to a different unit: click the desired trend drop-down list (for example, Compressor Discharge Temperatures) and select the unit.

➢ To display and organize trend favorites: click the Star icon.
➢ To display previously viewed trends: click the History icon.

➢ To zoom in on a trend: click and drag a rectangle around the area.

➢ To unzoom on a trend (reset after zoom): right-click and select Unzoom.

➢ To scroll half of the trend duration: click the single arrow.

➢ To scroll the full trend duration: click the double arrow.
4.2.2  **Trend Customization**

Modify or create trend screens from within the trend rather than in CimEdit. The following example describes how to add a tag, change the Y axis limits, and change the trend chart color.

➢ **To create custom trends**

1. From the navigation bar, open a trend.
2. Double-click the trend. The *CIMPLICITY Trend Control Properties* dialog box displays.
3. From the **Lines** tab, select **Lines** and add a line for your variable (for example, G1.CSRGV).

![CIMPLICITY Trend Control Properties dialog box]

4. From the **Axis** tab, select **Chart Y Axis** and configure the settings as follows:
   a. Deselect (uncheck) **Autoscale** and **Use point display limits**.
   b. Change the **Default lower limit**.
   c. Change the **Default upper limit**.
   d. Click **OK**. The trend displays the changes.
5. From the **Chart** tab, click the **Chart color** drop-down list and select a color, then click **Apply**.
Click **Save** to save the trend, or **Save As** to rename and create a new trend. Click **Previous** to display the original trend.

### 4.2.3 Access Proficy Advanced Trender from Remote Computer

➢ To access Proficy Advanced Trender from a remote computer

1. Open an Internet browser and enter the Historian IP address. The GE Historian Home Page displays.

2. From the GE Historian Home Page, select **Proficy Advanced Trender**.

3. When the Logon dialog displays, enter a valid user name and password. The Main.cim window displays.
4.2.4 Modify Main.cim Display

You can modify the Main.cim display, such as change the font style or replace the image.

➢ To open the Main.cim window

1. From the Start menu, select Programs, Proficy HMI SCADA – CIMPLICITY n.n, then select CimEdit. The CimEdit 1 – CimEdit window displays.

2. From the Main menu, select Open Window, navigate to X:\Site\Proficy\Screens\Main.cim, and double-click the file. The selected Main.cim window displays.

Note X in the target directory indicates a user-selected location (user can select the target directory during installation).
➢ **To modify text on the Main.cim window**

1. From the Main.cim window, right-click on the text to be changed and select **Properties**. The Properties-Object dialog box displays.

2. From the Properties-Object dialog box, click the **String** field ellipsis (...). The Text Box dialog box displays.
3. In the Text Box dialog box, enter the appropriate text and click Close. The new text displays in the Properties-Object dialog box.

4. From the Properties-Object dialog box, click Apply to apply the changes. The new text displays on the screen.

5. Click OK to close the Properties-Object dialog box.

➢➢ To change the image on the Main.cim window

1. From the Main.cim window (in CimEdit), select the Drawing tab, then select Picture and right-click on the screen. The Properties-Object dialog box displays.

2. In the Properties-Object dialog box, click the Source Picture file field ellipsis (...). The Select Image dialog box displays.

3. Navigate to the new image and click Open. The path to the image displays in the Properties-Object dialog box.

4. Click OK. The new image displays on the Main.cim window.

**Note** Use the drag-and-drop feature to move the image.

➢➢ To delete an image from the Main.cim window

1. Right-click on the image and select Cut.

2. Verify that the image is removed.

3. Click Save.
4.2.5 *Edit Trend Screens*

➢➢ **To edit trend screens**

1. From the **Start** menu, select **Programs, Proficy HMI SCADA – CIMPLICITY n.n,** and **CimEdit.** The **CimEdit1 - CimEdit** screen displays.

   **Note** Trends can only be edited in CimEdit.

2. From **CimEdit,** select the **Drawing** tab.

3. Click the trend object in the **Objects** group.

4. Drag the trend object handles to resize.

5. To display the configuration, double-click the trend chart. The **CIMPLICITY Trend Control Properties** dialog box displays.

   **Note** If security is enabled, enter a valid **User Name** and **Password.**

6. From the **CIMPLICITY Trend Control Properties** dialog box **Lines** tab, configure the settings as follows:
   a. In the **Line type** field, select **Historian** from the drop-down list.
   b. In the **Server** field, enter the name of the Historian.
   c. In the **Tag ID** field, enter the tag name.

![CIMPLICITY Trend Control Properties dialog box](image)

7. Select the **Axis** tab and configure the settings as follows:
   a. Select a **Y Axis ID** and enter lower and upper limits.
   b. Click the **Axis map** icon. The **Line-Axis Mapping** dialog box displays.
8. In the *Line-Axis Mapping* dialog box, verify mapping and colors. In the following example, G1.CPD is mapped to the cpd Y axis, which has the correct color and scale.

9. Click **OK**.
4.2.6 Add Screen to Navigation Bar

The navigation bar menu items contain drop-down lists.

➢➢➢ To add a screen to the navigation bar

1. Navigate to X:\site\proficy\screens\historian.navbar.

   **Note** X in the target directory indicates a user-selected location (user can select the target directory during installation).

2. From the Navigation Configuration (Historian.navbar) – CIMPLICITY Configuration Editor window, expand the Tree View items Navigation Configuration, Units, and Children to find the desired child location.

3. Right-click on Children and select Add Configuration Object. The Add Configuration Object dialog box displays.

4. In the Add Configuration Object dialog box, enter a name in the Name field (for example, G1 Startup) and click OK.
5. From the **Navigation Configuration (Historian.navbar) – CIMPLICITY Configuration Editor** window (lower-right panel), move **G1_Startup.cim** to the **Screen name** line in the pane above.

![Image of CIMPLICITY Configuration Editor](image)

6. From the top menu, click **Configuration**, then select **Validate**. A validate message displays in the lower-right panel.

7. When the validate message closes, click **Save** and **Exit**.
➢ To enable the navigation bar display

1. From CimEdit, click the **Main** icon to open the **Main** menu.

2. From the **Main** menu, click **Global Configuration**. The **Global Configuration** dialog box displays.
3. From the Global Configuration dialog box, enter (or browse for) the full navigation bar file in the Default navigation bar field.


5. Click OK.

The following figure illustrates a fully integrated navigation bar.
4.3 **Delete Tags from Proficy Historian**

Proficy Historian allows users to *delete* tags and *permanently delete* tags. When a tag is deleted, the tag is removed from the tag database but any data for that tag is retained in the archive. When a tag is permanently deleted, the data for that tag is completely lost and the tag name is available for reuse.

➢ **To delete a tag (tag deleted but data retained)**

1. From the *Proficy Historian Administrator Tag Maintenance* window, select a tag from the list (located to the left in the window).

   **Tip** If the tag list is not populated, click *Search Historian Tag Database*. In the Search Historian Tag Database dialog box, enter the search criteria, or leave all fields blank to return all tags, and click *OK* to retrieve search results.

2. Click **Delete** (located in lower-right of the window).
3. From the Delete Tag dialog box, select **Remove Tag(s) From System** and click **OK**.

*Note* This selection removes the tag from the Tag Database but retains the data for that tag in the archive.

4. A dialog box displays, prompting you to confirm the deletion. Click **Yes** to delete the tag.
➢ To permanently delete a tag (tag deleted and data lost)

1. From the *Proficy Historian Administrator Tag Maintenance* window, select a tag from the list (located to the left in the window).

   **Tip** If the tag list is not populated, click *Search Historian Tag Database*. In the *Search Historian Tag Database* dialog box, enter the search criteria, or leave all fields blank to return all tags, and click *OK* to retrieve search results.

2. Click **Delete** (located in lower-right of the window).

3. From the *Delete Tag* dialog box, select **Permanently Remove Tag(s) From System** and click *OK*.

   **Note** This selection removes the tag from the Tag Database permanently. No data is retained and the tag name is available for reuse.

4. A dialog box displays, prompting you to confirm the deletion. Click **Yes** to delete the tag.
4.4 Directory Backup Scheduling

➢ To schedule regular backups (Windows Server 2012 R2 and later with Proficy 6.0 and later)

1. From the Control Panel, click Administrative Tools, then double-click Task Scheduler.
2. From the Task Scheduler window, click Create Task…
3. From the Create Task window, set the parameters as follows:
   a. Click the General tab.
   b. In the Name field, enter Historian_Backup.
   c. Under Security Options:
      i. Select (check) Run whether user is logged on or not.
      ii. Select (check) Do not store password.
      iii. Select (check) Run with highest privileges.
   d. Select (check) Hidden.
   e. In the Configure for field, select your operating system from the drop-down list.
   f. Select the Triggers tab, then click New….
   g. In the New Trigger window, set the parameters as follows:
      i. Under Settings:
         1. Select Daily.
         2. In the Start field, enter 3:15:00 AM for the time and select (check) Synchronize across time zones.
         3. In the Recur every field, enter 1 days.
      ii. Under Advanced Settings:
         1. Select (check) Stop task if it runs longer than and select 8 hours from the drop-down list.
         2. Select (check) Enabled.
      iii. Click OK.
   h. Click the Actions tab, then click New….
      i. In the New Action window, set the parameters as follows:
         i. In the Action field, select Start a program from the drop-down list.
         ii. In the Program/script field, browse to C:\Program Files\Proficy\Proficy Historian\x86\Server \ihArchiveBackup.exe.
      iii. Click OK.
   j. Click the Conditions tab, and verify that all options are unchecked except for Start the task only if the computer is on AC power and Stop if the computer switches to battery power.
   k. Click the Settings tab, and set the parameters as follows:
      i. Select (check) Allow task to be run on demand.
      ii. Select (check) Stop the task if it runs longer than and select 8 hours from the drop-down list.
      iii. Select (check) If the running task does not end when requested, force it to stop.
   l. Click OK.
➢ To schedule regular backups (Windows operating systems prior to Server 2012 R2 with Proficy 4.5)

1. From the **Control Panel**, double-click **Scheduled Tasks**.
2. Double-click **Add Scheduled Task**. The **Scheduled Task Wizard** window displays.
3. Click **Next**.
4. Click **Browse** and navigate to the *ihArchiveBackup.exe* file.
5. Double-click the *ihArchiveBackup.exe* file to display the .exe file from the **Scheduled Task Wizard** window.
6. Add the .exe file extension to the filename, followed by any desired command line parameters (for example, `C:\Program Files\GE Intelligent Platforms\Proficy Historian\Server\ihArchiveBackup.exe -s EIGER -u bsmith -p pword -t 30 -n 3`).

**Note** A space must be inserted between every parameter switch and the associated parameter information. For example, if you omit a space after the number of archive changes, only the most recent archive is backed up.

In the following example, the name of the .exe file *ihArchiveBackup.exe* is as follows: `-s server name (EIGER), -u user name (bsmith), -p password (pword), -t a 30-second timeout for the ihArchiveBackup call, -n number of files to be backed up (3). All command line entries are optional. This example backs up the three most recent archive files on server EIGER daily.

7. Select the task schedule by clicking one or more options and click **Next**.
8. Select the time of day to perform the task, the interval in weeks, and the days of the week to run the task and click **Next**.
9. Enter the username and password for which the task runs and click **Next**.
10. To review settings and/or select advanced parameters, click **Advanced Properties**, then click **Finish**.

**Note** It is recommended that archives and configuration information be backed up nightly to removable storage.
5 Troubleshooting

5.1 Data Flow Verification

Data flows from the data source, such as the controller, to the OPC DA server and through the Proficy Historian OPC Collector to the Proficy Historian server.

➢ To verify data flow to the OPC DA server

1. From the Start menu, select All Programs, GE ControlST, ToolboxST, and ToolboxST to display the System Editor.
2. From the Tree View, double-click the WorkstationST item to display the Component Editor.
3. From the EGD tab Tree View, select the controller, then click the Go On/Offline icon to go online.
4. Depending on the health of the values, perform the following steps:

a. If the values display red (unhealthy), verify the controller is up-to-date (build and download) and is online, verify the OPC DA server is running without problems (check status), and check to see if packets are being received from the controller. Repeat the previous steps until values display in green.

b. If the values display green (healthy), verify that the ProFicy OPC Collector is running, and that the data is being received by the ProFicy Historian server.

➢➢➢ To verify ProFicy OPC Collector operation

1. From the Start menu, select Programs, ProFicy Historian n.n, and Historian Administrator to display the ProFicy Historian Administrator System Statistics window.

2. Select the <Historian Server name>_OPC_GeCssOpcServer collector and verify that Collector Status is Running.

3. From the ProFicy Historian Administrator top menu, select Tags. The Tag Maintenance window displays.

4. From the Tag Maintenance window, click Search Historian Tag Database. The Search Historian Tag Database dialog box displays.
5. Using standard Windows wildcard characters, enter a Tag Mask or Description, then click OK.

The variables display in the Proficy Historian Administrator.

**Note** If fields are left blank, the search returns all tags.

6. Right-click on a variable and select Last 10 Values.

**Note** If 0 tags populate, there is a problem and it must be investigated.
If the Quality of the data for at least one Tagname is *Good*, ControlST is integrated with the Proficy Historian.

**Note** If the Quality column displays *Bad*, there is a problem and it must be investigated.

<table>
<thead>
<tr>
<th>Tagname</th>
<th>Timestamp</th>
<th>Value</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST.FUNCOUT</td>
<td>7/23/2019 15:28:25.400000</td>
<td>98.36247</td>
<td>Good</td>
</tr>
<tr>
<td>TEST.FUNCUT</td>
<td>7/23/2019 15:28:23.400000</td>
<td>93.65549</td>
<td>Good</td>
</tr>
<tr>
<td>TEST.FUNCUT</td>
<td>7/23/2019 15:28:22.400000</td>
<td>70.58171</td>
<td>Good</td>
</tr>
<tr>
<td>TEST.FUNCUT</td>
<td>7/23/2019 15:28:18.400000</td>
<td>0.3026753</td>
<td>Good</td>
</tr>
</tbody>
</table>
5.2 Report Configuration Errors

Report errors, which display when the report is run from the web browser, are controlled by the file `X:\site\reports\defaultstyle.css`. This file specifies font types, sizes, colors, and the default background colors. Background image files referenced in the `defaultstyle.css` file are located in the `X:\site\reports\images` directory. Correct logos are specified in the `reports.dat` file, with the logo image file located in `X:\site\reports\images`.

Other report configuration errors, such as incorrect start and stop times, report frequency, or event triggers display when the report is run with an incorrect time period. To correct these errors, adjust the report parameters as needed in the `X:\site\reports\reports.dat` file to produce the correct data.

**Note**  
X in the target directory indicates a user-selected location (user can select the target directory during installation).

When incorrect variable names display in the tag file, the following message displays in the report:

*Error executing query: OLE exception from "Microsoft® OLE DB Provider for ODBC Drivers": [OSI][PI-ODBC][PI]Tag < G1.AFPAP > not found Win32:OLE(0.15) error 0x80004005: "Unspecified error" in METHOD/PROPERTYGET "Execute" SELECT tag, descriptor, engunits, pointtype FROM pipoint WHERE tag = 'G1.DWATT' or tag = 'G1.AFPAP' or tag = 'G1.MVARHR' or tag = 'G1.MWATTHR'*

This is typically a copy of the SQL command that the script is trying to run to get the data, as well as the returned error message. Careful examination of the error message indicates the source of the problem (in this case G1.AFPAP was not found – point name should have been G1.AFPAP).

5.2.1 Automatic Report Generation Errors

Automatic report generation errors are usually related to scheduler problems. Verify that the `chain.pl` task is scheduled to run every hour. The tasks currently scheduled can be verified on a Windows NT system by opening a command window, and entering `at`. On a Windows 2000 or later system, the scheduled tasks can be monitored by selecting Start, Programs, Accessories, System Tools, and Scheduled Tasks. Additional information about each task displays in the scheduled task folder. Once the task is scheduled, actions are logged to `X:\site\reports\LOG\rpt.log` each time the task runs. Any problems encountered, as well as successful completion messages, are logged to this file.