



OSIsoft PI Protocol Converter FAQs

This document answers questions about OSIsoft PI software integration with the DeltaV Continuous Historian using the PI Protocol Converter.



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1 Introduction

1.1. What is the PI Protocol Converter?

The PI Protocol Converter (Protocol Converter) is a software application that enables PI client applications and the PI to PI Interface to connect to the Continuous Historian.

1.2. Who developed the Protocol Converter?

The Protocol Converter was developed by OSIsoft with input from Emerson Process Management (Emerson).

1.3. Why was the Protocol Converter developed?

The Emerson developed DeltaV Continuous Historian (Continuous Historian) introduced in DeltaV v7.4 does not provide native connectivity to PI software as the embedded PI Historian in DeltaV v7.3 and earlier releases provided. The Protocol Converter was developed to provide connectivity to the Continuous Historian for new and existing PI client applications and the PI to PI Interface for the DeltaV v7.4.1 and later releases.

1.4. When is the Protocol Converter required?

The Protocol Converter is required any time PI client applications are used with the Continuous Historian in DeltaV v7.4.1 and later releases. The DeltaV v7.3 and earlier releases contained an embedded PI Historian from OSIsoft that provided native support for PI clients. DeltaV v7.3 and earlier systems may also be upgraded to later versions of the DeltaV system and choose to retain the embedded PI Historian on the Application Station. The Protocol Converter is not required for use on any DeltaV workstation where the embedded PI Historian is available. The Continuous Historian introduced in DeltaV v7.4 is an Emerson product that does not contain native support for PI clients; thus the Protocol Converter is required to use PI client applications with the Continuous Historian.

1.5. What PI software is available for use with the Protocol Converter?

The PI software available for use with the Protocol Converter includes the PI client applications PI DataLink, PI ProcessBook, PI ActiveView, and RtPortal and the PI to PI Interface.

1.6. Which DeltaV releases support the Protocol Converter?

The Protocol Converter is supported with the DeltaV v7.4.1 and later releases.

1.7. Will the Protocol Converter require additional licensing fees?

No. The Protocol Converter is provided free of charge from OSIsoft and will not require additional OSIsoft or DeltaV license fees. To use the Protocol Converter, you will need a Continuous Historian license (a 250 tag Continuous Historian license is provided with each DeltaV workstation software license) and the appropriate PI client application and/or the PI to PI Interface license.



1.8. Do I need to purchase an Enterprise PI Server in order to use the PI client applications?

No. There was a brief period of time when an Enterprise PI Server was required to use PI client applications with the DeltaV system. This is no longer the case. The Protocol Converter is provided free of charge and will not require additional OSIsoft or DeltaV license fees.

1.9. Does the Protocol Converter provide all the functionality of the embedded PI Historian?

Not yet. There are two features that are not available in the Continuous Historian and hence not available in the Protocol Converter that were available with the embedded PI Historian: read/write interface and a complete set of data aggregates. Currently, the Protocol Converter provides a read-only interface to the Continuous Historian, so there is no way to write data from a PI client application into the Continuous Historian. In addition, the Protocol Converter only provides a subset of the data aggregates that were available in the embedded PI Historian. The additional data aggregates are implemented in the DeltaV v9.3 release, but the read/write interface will not be available until a later DeltaV release. The list of data aggregate functions is provided in Section 2.

1.10. How do I get a copy of the Protocol Converter?

You have three options: (1) Contact your local OSIsoft sales person, (2) contact your local Emerson sales person, or (3) send an email request to Emerson@osisoft.com. With your request, include the DeltaV system ID, DeltaV system version number (e.g. v7.4.1), contact details, and shipping address. OSIsoft will email you an OSIsoft Software License Agreement (SLA) for your execution. After OSIsoft receives a fully executed SLA from you, they will ship the Protocol Converter installation CD to your shipping address.

1.11. How do I get copies of the PI client applications and the PI to PI Interface?

The PI client applications and PI to PI Interface may be purchased from OSIsoft or Emerson. Contact your local OSIsoft or Emerson sales representative for more information. The Protocol Converter is provided free of charge from OSIsoft, but each PI client application and/or the PI to PI Interface that is used with the Protocol Converter requires a license fee.

1.12. When was the Protocol Converter released?

The Protocol Converter was released in February, 2006 for use with the DeltaV v7.4.1 and v8.x releases. An updated release of the Protocol Converter, with support for the additional features in DeltaV v9.3, will occur in early 2007.



2 Architecture

2.1. How does the Protocol Converter connect to the Continuous Historian?

The Continuous Historian uses the DeltaV OPC Historical Data Access (HDA) Server (OPC HDA Server) as the means for external (non-DeltaV) applications to access DeltaV historical data. The OPC HDA Server is based on the OPC HDA standard maintained by the OPC Foundation. The Protocol Converter uses the OPC HDA Server to retrieve data from the Continuous Historian. It then translates the data requests from PI clients into corresponding requests for data from the OPC HDA Server.

2.2. How are the OPC HDA Server and the Continuous Historian related?

The OPC HDA Server maintains an OPC *item* (the OPC terminology for a “point” or “tag” in the OPC server) for every DeltaV parameter field configured for history collection in the Continuous Historian. When history collection configuration changes are downloaded to the Continuous Historian, the OPC HDA Server has access to all changes made to the history collection.

2.3. How does the Protocol Converter work?

The Protocol Converter has two major subcomponents, a Data Engine and an AutoPointSync (APS) Connector. The main component, the Data Engine, responds to requests from PI client applications. When a PI client makes a request, the Data Engine uses the OPC HDA Server to obtain the underlying data from the Continuous Historian and sends the results to the PI client. The second component, the APS Connector, monitors the OPC HDA Server for addition of new items, changes to existing items, and deletion of items. The APS Connector then provides these configuration changes to the Data Engine as necessary to maintain consistency between the Protocol Converter and the Continuous Historian.

2.4. Does the Protocol Converter store history data?

No. The Protocol Converter does not store the history data; it simply provides a pass-through connection to the Continuous Historian to enable the PI client applications and PI to PI Interface to read the history data from the Continuous Historian.

2.5. Can the Protocol Converter connect to multiple Continuous Historians?

No. The Protocol Converter only has access to the data available in the Continuous Historian on the workstation where it is installed, either the ProfessionalPlus or Application Station.

2.6. How does the Protocol Converter enable the Continuous Historian to behave like an embedded PI historian?

The concepts of *points* and *attributes* are fundamental to PI client applications. The Protocol Converter reads data from the OPC HDA Server and the DeltaV run-time system and uses this information to emulate the PI points (and their attributes) such that the Protocol Converter looks like an embedded PI Historian to the PI clients. This allows existing PI clients that were used with the embedded PI Historian to be used with the Continuous Historian with little or no reconfiguration.



2.7. Which attributes are available to the Protocol Converter?

The Protocol Converter has access to the following attributes from the OPC HDA Server and the DeltaV run-time system: step (defines data rendering behavior), minimum data compression value, maximum data compression value, control module description, engineering units, zero (from DeltaV EU0), and span (from DeltaV EU100 minus EU0). These attributes are kept up to date by the Protocol Converter APS Connector.

2.8. Which data types does the Protocol Converter support?

When the Protocol Converter APS Connector creates an emulated point in the Protocol Converter for an item in the OPC HDA Server, it selects the PI point type that best matches the data type of the underlying OPC HDA item. Protocol Converter points for OPC HDA floating-point items have PI point type float32. Protocol Converter points for OPC HDA string items have PI point type string. Protocol Converter points for OPC HDA integer items will generally be PI point type int32. Integer values will have the expected representation except for large unsigned int32 values in the Continuous Historian, which will appear as negative when interpreted as a PI int32 type.

2.9. Does the Protocol Converter provide data aggregate functions?

Yes. The Protocol Converter provides the same data aggregate functions that are available in the OPC HDA Server. The initial release of the Protocol Converter supports the following aggregates: Time Average, Minimum, Maximum, Count, and Interpolation. In the DeltaV v9.3 release, the additional aggregates Total, Mean, Standard Deviation, and Range are supported. These additional aggregates will be available in the second release of the Protocol Converter. Requesting the Total, Mean, Standard Deviation, or Range aggregates in the initial release of the Protocol Converter will return a message stating "NOT IMPLEMENTED".

2.10. Are there differences in the data aggregate results returned by the embedded PI Historian and the Protocol Converter?

Of the summary calculations that are available in the OPC HDA Server, some of the results may be different from the corresponding results provided by the embedded PI Historian. The differences are due to the differences between how the OPC HDA specification defines these summary calculations and how the embedded PI Historian defines them. The summary calculations for which results may differ in the Protocol Converter are: Minimum, Maximum, and Count.

2.11. I want to purchase an Enterprise PI Server to consolidate historical data from multiple systems. What are my options for transferring data from my DeltaV system to the Enterprise PI Server?

You have three options: (1) use the PI to PI Interface with the Protocol Converter, (2) use the PI OPC HDA Interface, or (3) use the PI OPC DA Interface. There are advantages and disadvantages with each option depending on your particular requirements and system architecture. In general, Emerson and OSIsoft recommend you use option (1) if you have an existing PI to PI Interface already in place and do not require real-time data transfer; option (2) if you have a new installation with no interface currently in place; or option (3) if you are not planning to use a Continuous Historian for local history collection or you require real-time data transfer.



3 Installation

3.1. Where do I install the Protocol Converter?

The Protocol Converter may be installed on the DeltaV ProfessionalPlus or the DeltaV Application Station, v7.4.1 or later.

3.2. Where do I install the PI client applications?

There are several choices. The PI client applications may be installed on any non-DeltaV workstation that has network connectivity to the DeltaV workstation where the Protocol Converter is installed. They may also be installed on the same DeltaV workstation where the Protocol Converter is installed or on another DeltaV Application Station. If installing the PI client applications on the DeltaV workstation where the Protocol Converter is installed, care must be taken to ensure that the resources required to service all clients does not overload the DeltaV workstation.

3.3. When should I install the Protocol Converter and PI client applications?

The Protocol Converter should be installed on the DeltaV workstation after installation of the DeltaV system software. If any new PI client applications are required on the DeltaV workstation where the Protocol Converter is installed, the PI clients must be installed *after* installation of the Protocol Converter. If there are existing PI clients on the DeltaV workstation (in use with the embedded PI historian), the DeltaV workstation is upgraded, and the embedded PI historian is replaced with the Continuous Historian, the existing PI clients *do not* need to be uninstalled before installing the Protocol Converter. Once the Protocol Converter is installed, there is no need to uninstall it while upgrading the DeltaV system. In this case, the Protocol Converter will be functional after the DeltaV upgrade is complete, the DeltaV workstation is downloaded, and the Protocol Converter has completed its synchronization cycle.

3.4. I have a DeltaV Application Station that is serving as my Continuous Historian, Event Chronicle, and OPC Server node. Can I also install the Protocol Converter and PI client applications on this Application Station?

It is technically possible to install the Protocol Converter and PI client applications on a DeltaV workstation that is serving multiple tasks. However, Emerson recommends that the Protocol Converter be installed on an Application Station that is dedicated to the Continuous Historian for all but the smallest systems.

3.5. Are there hardware requirements for the DeltaV workstations to use the Protocol Converter?

Yes. The Protocol Converter requires a 2 GHz or faster CPU and 1 GB or more of system memory (RAM). If you plan to run a large Continuous Historian (greater than 3,000 parameters) and/or multiple PI client applications or PI to PI interfaces (greater than 12), Emerson recommends you add an additional 1 GB of RAM to the DeltaV workstation. These requirements assume there are no other applications running on the DeltaV workstation besides the Continuous Historian, OPC HDA Server, and Protocol Converter. More memory and/or more CPU will be required if there are additional DeltaV or third party applications running on the workstation.



3.6. Is there anything I need to do with my DeltaV system to enable use of the Protocol Converter?

Yes. Before installing the Protocol Converter on the DeltaV workstation, the DeltaV system software must be installed with the appropriate hot fixes and the Continuous Historian must be enabled, configured, downloaded, and running.

3.7. What DeltaV hot fixes are required to use the Protocol Converter?

The Protocol Converter requires DeltaV system hot fixes if used with the DeltaV v7.4.1 and v8.3 releases. DeltaV v7.4.1 requires hot fix number DeltaV_741_73024 and DeltaV v8.3 requires hot fix DeltaV_83_73024. Refer to KBA AP-0600-0027 for more information. DeltaV v8.4 and later releases contain the hot fix updates.

3.8. What operating systems does the Protocol Converter support?

The Protocol Converter supports Windows XP Professional Service Pack 2 and Windows Server 2003. The DeltaV v7.4.1 release does not support Windows XP Professional Service Pack 2, so if the Protocol Converter is used with DeltaV v7.4.1, it must be installed on a DeltaV workstation with Windows Server 2003.

3.9. How many PI client applications or PI to PI Interfaces can I use with the Protocol Converter?

The recommended limits for using PI client applications and PI to PI Interfaces with the Protocol Converter are up to 2 PI clients and PI to PI Interfaces on the DeltaV ProfessionalPlus and up to 20 PI clients and PI to PI Interfaces on the DeltaV Application Station. If more than 20 PI clients and PI to PI Interfaces are required, use of a separate Enterprise PI Historian should be considered.

3.10. I want to use multiple PI client applications with my Continuous Historian. Do I need multiple copies of the Protocol Converter?

No. One instance of the Protocol Converter will support multiple PI client applications, up to 2 on the DeltaV ProfessionalPlus and up to 20 on the DeltaV Application Station.

3.11. Is there a limit to the number of the Protocol Converters I can use in a DeltaV system?

No. The recommended limits for using PI client applications and PI to PI Interfaces with the Protocol Converter are up to 2 PI clients and PI to PI Interfaces on the DeltaV ProfessionalPlus and up to 20 PI clients and PI to PI Interfaces on the DeltaV Application Station. However, these PI clients and PI to PI Interfaces may be distributed across multiple DeltaV workstations if required, up to the workstation limits of the DeltaV system (one ProfessionalPlus and 10 Application Stations per system).



4 Operation

4.1. How much historical data is available through the Protocol Converter?

The Protocol Converter has access to all the historical data stored in the Continuous Historian where it is installed. It connects to the Continuous Historian through the DeltaV OPC History Server, which exposes all of the data available in the Continuous Historian. This includes data that is currently being scanned by the historian and data that is no longer being scanned but still resides in the historian database.

4.2. How do the PI client applications know what parameters are available in the Continuous Historian?

When the Protocol Converter is connected to the DeltaV OPC History Server, it scans the DeltaV OPC History Server for the list of parameters available in the Continuous Historian. It builds a list of these “points” and their attributes so that when a PI client application makes a connection to the Protocol Converter, it has a complete list of all parameters available in the Continuous Historian.

4.3. If I add/delete/modify a tag in the Continuous Historian, do I also have to add/delete/modify the tag in the Protocol Converter?

No. The Protocol Converter will automatically add, update, and delete tags as they are changed in the Continuous Historian. The Protocol Converter APS Connector is responsible for keeping the Protocol Converter synchronized with the Continuous Historian.

4.4. How often does the Protocol Converter check the Continuous Historian for updates?

The Protocol Converter APS Connector runs at workstation startup, when the Continuous Historian is downloaded, and every 8 hours after download. When the APS Connector runs at startup or after download, it adds or deletes points and synchronizes the changes made to Continuous Historian configuration attributes and synchronizes any changes that may have occurred to the run-time attributes. When the APS Connector runs on the 8-hour schedule, it only synchronizes the changes that may have occurred to the run-time attributes.

4.5. How often can a PI client application request data from the Protocol Converter?

The Protocol Converter update interval is 5 seconds. The update interval indicates the frequency with which the Protocol Converter requests data from the Continuous Historian. The default setting of 5 seconds can be changed by means of a Windows Registry setting. Decreasing the time between updates will increase the CPU usage on the DeltaV workstation where the Protocol Converter is installed. Before changing the update interval, the DeltaV workstation performance should be monitored to obtain a reference point for CPU usage. If the update interval is changed, the CPU usage on the DeltaV workstation should be monitored to ensure that CPU usage is within acceptable range. Refer to the Protocol Converter Release Notes for more details on changing the update interval.

4.6. What happens if I request too much data from the Protocol Converter?

The Protocol Converter is installed on the DeltaV ProfessionalPlus or Application Station where the Continuous Historian and OPC HDA Server are running. The Continuous Historian, OPC HDA Server, and Protocol Converter all consume computing resources, as does any other application which may be running on these workstations. The computing resources required by the Continuous Historian, OPC HDA Server, and Protocol Converter consist of their



their baseline requirements plus the additional resources to satisfy requests from other DeltaV workstations and PI client applications. Care must be taken to ensure that the resources required to service all clients do not overload the host computer. Overloading the host computer may result in a loss of history collection in the Continuous Historian and/or loss of data to the PI client. If the DeltaV workstation does not have enough idle resources to support additional PI clients via the Protocol Converter, PI clients can be offloaded to an Enterprise PI Server that maintains a copy of the data from the Continuous Historian.

4.7. I need to get historical data into an Excel spreadsheet to create daily shift reports. Should I use the DeltaV Reporter or PI DataLink with the Protocol Converter?

The answer depends on where you want to run Excel. Both the DeltaV Reporter and PI DataLink enable historical data input to an Excel spreadsheet. Each application is also able to retrieve raw, interpolated, and aggregate data (minimum, maximum, and average) from the Continuous Historian. DeltaV Reporter also has access to the status associated with the data values and is provided free of charge, but must be run on a DeltaV workstation. PI DataLink does not provide the status information and requires the purchase of a license, but provides more data aggregate functions and is capable of operation on a non-DeltaV workstation. In the DeltaV v9.3 release, the DeltaV Reporter includes access to the same data aggregate functions and will run on a non-DeltaV workstation.



5 Performance

5.1. Does the Protocol Converter add more CPU load to the DeltaV workstation?

When there are no PI client applications requesting data, the Protocol Converter is idle, and therefore does not require any additional CPU resources. When a PI client requests data from the Continuous Historian, the Protocol Converter, the OPC HDA Server, and the Continuous Historian work together to provide data to the PI client. This work results in additional CPU usage on the DeltaV workstation. The amount of additional CPU usage depends on the hardware specifications of the DeltaV workstation and the amount of data requested by the PI client. For example, a DeltaV Application Station with a 3.0 GHz CPU and 1 GB RAM, serving 12 ProcessBook trend displays with 8 pens per display, requesting data every 5 seconds, resulted in an additional CPU load of about 10%.

5.2. Does the operation of the Protocol Converter APS Connector affect the performance of the DeltaV workstation?

When the Protocol Converter APS Connector runs (after Continuous Historian download or on its 8-hour schedule), it consumes additional CPU resources. The amount of additional CPU usage depends on the hardware specifications of the DeltaV workstation and the amount of data available in the Continuous Historian. For example, a DeltaV Application Station with a 3.0 GHz CPU and 1 GB RAM, with a 5000-parameter Continuous Historian, resulted in an additional CPU load of about 15% during the time the APS Connector was running. The APS Connector required about 30 minutes to complete the synchronization cycle for all 5000 parameters. Note that the APS Connector runs at reduced priority; therefore, the point synchronization function will use only CPU resources that are not needed by other applications on the DeltaV workstation. Because the APS function runs at reduced priority, other clients and applications can “starve” the APS function. If the APS function is not allowed to run during its regular schedule due to the lack of CPU resources, it will run when CPU resources become available.

5.3. Does the number of parameters available in the Continuous Historian affect the performance of the Protocol Converter?

Yes. The performance of the Protocol Converter is dependent on the number of parameters available in the Continuous Historian. The Protocol Converter maintains a list of parameters available in the Continuous Historian and keeps this list synchronized; therefore, more parameters require more work which results in higher CPU usage.

5.4. Does the sample rate of data collected by the Continuous Historian affect the performance of the Protocol Converter?

Yes. By default, the Protocol Converter retrieves data from the Continuous Historian every 5 seconds. The amount of data collected during this 5-second period depends on the sample rate of the data requested. For example, if a parameter is collected at a 1-second sample rate, the Protocol Converter will retrieve 5 samples every 5-second period. If a parameter is collected at a 5 second sample rate, the Protocol Converter will retrieve 1 sample every 5-second period. The DeltaV workstation works harder to retrieve 5 samples than to retrieve 1 sample. CPU usage on the DeltaV workstation can be decreased by optimizing the sample rate of the data sent from the Continuous Historian to the PI client application.



5.5. What is the recommended CPU loading for a DeltaV workstation?

As a general rule, Emerson recommends that the CPU load on the DeltaV workstation should not exceed 75% for an extended period of time, regardless of the applications that are running on the workstation.

5.6. Do I need a new workstation to run the Protocol Converter?

Not necessarily. The Protocol Converter requires a 2.0 GHz or faster CPU and 1 GB or more system memory (RAM), so if you have a DeltaV workstation that meets these requirements, you do not need a new workstation. However, if you have a large Continuous Historian, and want to use multiple PI client applications with the Protocol Converter, you should consider adding additional memory and perhaps a faster CPU.

5.7. Can I run several copies of PI ProcessBook and a PI to PI Interface simultaneously with the Protocol Converter?

Yes. However, the amount of data that can be read by PI ProcessBook and transferred by the PI to PI Interface is dependent on the DeltaV workstation hardware. A DeltaV workstation meeting the minimum hardware specification will not be able to serve as much data as a DeltaV workstation with greater hardware specification. For example, a DeltaV Application Station with a 3.0 GHz CPU and 1 GB RAM, with a 5000-parameter Continuous Historian, was able to serve 12 PI ProcessBook trend displays with 8 pens each and a PI to PI Interface transferring all 5000 tags every 15 minutes, with acceptable CPU usage.

5.8. Do Emerson and/or OSIsoft have a recommendation on how to configure the PI to PI Interface when used with the Protocol Converter?

Yes. Emerson and OSIsoft recommend the PI to PI Interface be configured for periodic data transfer as opposed to real-time data transfer when used with the Protocol Converter. Real-time data transfer may cause an unacceptable load on the DeltaV workstation. The transfer rate of the data should be determined based on the requirements of the clients on the target PI Server.

5.9. I want to run 20 copies of PI ProcessBook simultaneously with the Protocol Converter on my DeltaV Application Station. Will doing this cause performance problems on the Application Station?

It depends on the DeltaV hardware and the configuration of the PI ProcessBook clients. If the DeltaV hardware specification meets or exceeds the minimum requirements and the PI ProcessBook clients are optimized to work with the Protocol Converter, then there should not be any performance concerns on the DeltaV Application Station. For example, a DeltaV Application Station with a 3.0 GHz CPU and 1 GB RAM, with a 5000-parameter Continuous Historian, was able to serve 20 PI ProcessBook trend displays with 8 pens each of 5-second sample rate data, and the default Protocol Converter 5-second update interval, with acceptable CPU usage.

5.10. I am purchasing a new DeltaV v9.3 system. What type of DeltaV workstation will provide the best performance with the Protocol Converter?

Any of the new DeltaV v9.3 workstations will provide acceptable performance when used with the Protocol Converter. However, if you are planning to use a large Continuous Historian and/or multiple PI client applications, you will have better workstation performance with a server class machine that provides increased system memory and more efficient disk access.



6 Migration

6.1. I am currently using PI DataLink and PI ProcessBook with the embedded PI Historian in my DeltaV v7.3 system. Can I still use these PI client applications when I upgrade to the DeltaV v9.3 release?

Yes. In the DeltaV v9.3 release, you have three options for using your PI client applications: (1) retain your embedded PI Historian, (2) upgrade to the Continuous Historian and use the Protocol Converter, or (3) add an Enterprise PI Server. The option to retain the embedded PI Historian will remain at least through the DeltaV v9.x release. When the option to retain the embedded OSIsoft historian on an Application Station upgrade is removed in a later DeltaV release, only options (2) and (3) will be available. Note that using PI ProcessBook with the Protocol Converter requires PI ProcessBook version 3.0.14 or later.

6.2. I am currently using the PI to PI Interface with the embedded OSIsoft historian in my DeltaV v7.3 system to transfer data to my Enterprise PI Historian. Can I continue to use the PI to PI Interface when I upgrade to DeltaV v9.3?

Yes. In the DeltaV v9.3 release, you have two options: (1) retain your embedded PI Historian or (2) upgrade to the Continuous Historian and use the Protocol Converter. The option to retain the embedded PI Historian will remain at least through the DeltaV v9.x release. When the option to retain the embedded PI historian on an Application Station upgrade is removed in a later DeltaV release, only option (2) will be available.

6.3. I received a free copy of the PI to PI Interface when I purchased my DeltaV v5.3 system several years ago. Can I continue to use PI to PI with the Protocol Converter?

Yes. The PI to PI Interface will work with the Protocol Converter with little or no reconfiguration of the interface. In addition, OSIsoft has provided a service that allows you to transfer the PI to PI license to the site PI system which enables you to receive upgrades of the interface. See the OSIsoft Tech Support site for more details on transferring your PI to PI license, <http://techsupport.osisoft.com>.

6.4. I am currently using PI client applications with the embedded PI Historian in my v7.3 system. Are there any reasons why I should not upgrade to the Continuous Historian when I upgrade to the DeltaV v9.3 release?

There are two features that are not available in the OPC HDA Server and hence the Protocol Converter that were available with the embedded PI Historian: read/write interface and additional data aggregates. The additional data aggregates are implemented in the DeltaV v9.3 release, but the read/write interface is still not available. Thus, if you are using a PI client or other third party application to write data to the embedded PI Historian, then you should continue using the embedded PI Historian. Otherwise, there are no technical reasons why you should not upgrade to the Continuous Historian when you upgrade the DeltaV system.



6.5. I am using PI client applications with my embedded PI historian. When I upgrade to the Continuous Historian, will I need to modify the tag names in order to use the Protocol Converter?

Not likely. When the embedded PI Historian is replaced with the Continuous Historian, the configuration from the embedded PI Historian is transferred to the Continuous Historian. As a result, most ItemIDs in the OPC HDA Server have the same names as the embedded PI Historian points they replace. In two cases, the ItemIDs are different from the embedded PI Historian tag names:

- DeltaV parameter fields with an “array” data type require one PI point for each element of the array. In the embedded PI Historian, each tag name contained the element number enclosed in parentheses “(” and “)”. The corresponding ItemIDs in the OPC HDA Server contain the element number enclosed in square brackets “[” and “]”. However, the APS Connector translates the square brackets to parentheses, so this difference is transparent to PI clients.
- The DeltaV system permits control module names to begin with non-alphanumeric characters, such as underscore “_”. When a DeltaV parameter with a non-alphanumeric first character was configured for history collection in the embedded PI Historian, a leading lower case “x” was added to the embedded PI Historian tag name. The corresponding ItemID in the Continuous Historian does *not* have a leading “x” and, therefore, the emulated Protocol Converter point does not have the leading “x” either. If PI clients were configured to account for the leading “x”, then the PI clients will have to be modified to remove the leading “x”.

6.6. I am planning to use the PI to PI Interface with the Protocol Converter to transfer data from the Continuous Historian to my Enterprise PI Server. Can I use Process History View to view data in my Enterprise PI Historian?

Yes. Process History View (PHV) is capable of connecting to and displaying data from an Enterprise PI Historian. You will use the “File | Set Default Data Servers...” option in the PHV file menu to direct PHV to the Enterprise PI Historian. PHV is not capable of browsing the Enterprise PI Historian, so you must manually type in the tag name of the Enterprise PI tags that you want to add to PHV. However, once the PHV chart is created, you can save the chart and the tags will be available every time you open the chart. You must have the proper software licensed on the Enterprise PI Historian in order to use PHV with the Enterprise PI Historian.