




CygNet v9.7 Release Notes

Release Date: April 3, 2023

This document describes new features and changes to CygNet Software since the v9.6 release.

For instructions on updating your host, refer to the  [CygNet v9.7 Upgrade Procedure](#) for more information.

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Product Lifecycle

For more information on the lifecycle of CygNet components, refer to the **CygNet Software Product Lifecycle Matrices** on the [Software Support portal](#) (login required) under **CygNet Software > Maintenance & Support Info**.

CygNet Lifecycle Notice

CygNet Software follows a fixed product lifecycle policy and offers three years of support (two years of mainstream support followed by one year of limited support). Contact your Weatherford Account Manager or CygNet Sales (via email at [CygNet Sales](#)) for more information about your support options.

The following table lists the release and support dates for the currently supported versions of CygNet Software.

CygNet Version	Release Date	Limited Support Begins	Limited Support Ends (End of Life)
9.7	April 3, 2023	March 27, 2025	March 27, 2026
9.6	March 2, 2022	March 2, 2024	March 2, 2025
9.5	February 5, 2021	February 5, 2023	February 5, 2024

The following CygNet versions have reached lifecycle milestones with the release of CygNet v9.7:

- **CygNet v9.6** will enter Limited Support on March 2, 2024, and will reach its End of Life on March 2, 2025.
- **CygNet v9.5** entered Limited Support on February 5, 2023, and will reach its End of Life on February 5, 2024.

The following CygNet components have reached lifecycle milestones with the release of CygNet v9.7:

- **CygNet v9.4 Online Help** will enter Limited Support with the release of CygNet v9.7. It will reach its **End of Life** with the release of v9.8 and will be removed from the documentation website. See the note [here](#).
- **CygNet Web** will enter Limited Support with the release of CygNet v9.7 and will reach its End of Life with the release of v9.8. See the note [here](#).

The following Windows operating systems are no longer supported with the release of CygNet v9.7:

- **Windows 8.1**

Refer to the [Microsoft Lifecycle Policy](#) for information about Windows operating system support.

Upgrade Assistance

Upgrade assistance is provided through prepaid professional service hours provided with your annual services subscription or through time-and-materials consulting services. If you need assistance in planning, upgrading, or deploying this release, please contact CygNet Support for more information about these options. Contact CygNet Support at the [Software Support portal](#) (login required), via phone at 1-866-4CYGNET (1-866-429-4638), or via email at [CygNet Support](#).

CygNet Documentation

Refer to the [CygNet Help](#) for CygNet v9.7 for user assistance. The online help is best viewed in Microsoft Edge or Google Chrome browser. Microsoft Internet Explorer 11 is not supported.

Highlights in v9.7

This section highlights some of the major new features and enhancements in the v9.7 release. Please see [Changes in v9.7](#) below for a detailed list of changes. Refer to the [CygNet Help](#) for user assistance on these enhancements, modifications, and other updates.

CygNet Measurement and Dispatch

An array of enhancements, modifications, and fixes for CygNet Measurement and Dispatch are included in the v9.7 release, as listed below and further detailed [here](#).

In [CygNet Dispatch](#), issues have been addressed to improve scheduling and reporting of jobs.

In [CygNet Measurement](#), additional functionality has been provided in a variety of arenas including the following.

Performance improvements have been realized across the product to improve CPU usage, speed, and efficiency, and to optimize SQL server interactions.

Balance control enhancements increase performance, functionality, and provide new user interface options for record display.

History Grid control enhancements add exceptions-handling functionality and provide new user highlighting options in the data grid.

Configuration control enhancements support viewing and managing configuration records for liquid device Nodes, and normalization of liquid configuration data is now supported in FMS.

Alarms and Events file import commands have been added to support bringing alarm and event data into CygNet Measurement via .csv files.

OAuth 2.0 support has been added as an alternative email authorization option for reporting data out of CygNet Measurement.

Additional modifications and fixes have been implemented throughout CygNet Measurement to improve performance and to provide additional usability of FMS controls, commands, and reports. See additional notes for CygNet Measurement [here](#).

CygNet Core

It is now possible to **suppress the creation of SetPoint audit records** in the AUD service database based on a security setting for the user ID performing the Setpoint request to prevent the database from overflowing with audit records. See the full note [here](#).

The **CygNet Alarm Manager** now supports **multiple filter rules** in a single filter file. See the full note [here](#).

Aliased volume and flow volume **engineering units** have been elevated to **first-class units** (units that can be selected from the Primary Units drop-down menu on the General page in the Point Editor). See the full note [here](#).

The maximum length of the command parameters for the **Send UIS Command** message has been increased to 1200 characters from 300 characters. See the full note [here](#).

New **assemblies** and **methods** have been added to the [CygNet.API](#) and [CygNet COM API](#) to aid in programmatic access to CygNet services and data:

- CygNet.API.Core.BlobFiles and CygNet.Data.Core.BlobPath assemblies
- CygNet.API.Points > ReadPointRecords method
- CygNet.API.ServiceManager > StopService method
- CxDds.DdsClient methods
- CxScript.FileSystemObject methods
- CxVhs.VhsClient and CxVhs.VhsDatastoreInterface methods

CygNet EIEs

The **OPC EIEs** have been enhanced to allow for **greater configurability on point processing** to handle unreliable values returned from an OPC server. See the full note [here](#).

Other modifications and fixes that have been added to remote device EIEs and device template files in this release are described [here](#).

CygNet Thin Web HMI Client

A new web-based HMI client for viewing and interacting with CygNet data is in development. The commercial version will be available in August 2023. A beta version is available for evaluation. Contact your Weatherford Account Manager or CygNet Sales (via email at [CygNet Sales](#)) for more information about this new client.

Changes in v9.7

This section describes enhancements, modifications, and fixes to existing components in CygNet v9.7.

CygNet v9.4 Online Help

Notice of Status Change (NSC)

- The [CygNet v9.4 Help](#) is now in **Limited Support** with the release of CygNet v9.7. It will reach its **End of Life** with the release of v9.8 and will be removed from the documentation website.

CygNet Alarm Manager

The following change has been made to the CygNet Alarm Manager in CygNet v9.7.


Enhancement

- The **CygNet Alarm Manager** now supports **multiple filter rules** in a single filter file. Two new sample files, CountMultiFilters.xml and ReportsMultiFilters.xml, contain all filter definitions used in the sample CAM operations in a single file organized by name. Previously you could only specify one filter rule per file making maintenance of multiple filter files for a large site difficult. Refer to the [CygNet Help](#) for more information.

CygNet Bridge and Bridge API

The following changes have been made to CygNet Bridge and Bridge API in CygNet v9.7.

Enhancements

- A new version of CygNet Bridge is available, CygNet Bridge v4.6, which is required to run Bridge features with CygNet v9.7. Refer to the  [CygNet v9.7 System Requirements](#) for more information.
- The CygNet Bridge API has been enhanced to enforce the **same Point Service security settings** that exist in the CygNet application for the **COMMENT** and **QUESTION** security events. The COMMENT security event is used to elevate permissions for reading and updating the Comment attribute of the point configuration record. The QUESTION security event is used to elevate permissions for reading and updating the Questionable/Verified flags and Questionable timestamp attributes of the point configuration record. The following endpoints have been added to the CygNet Bridge API to support this feature:
 - GET api/v1/points/{pointTag}/comment
 - POST api/v1/points/{pointTag}/comment
 - GET api/v1/points/{pointTag}/questionableflag
 - GET api/v1/points/{pointTag}/questionabletimestamp
 - POST api/v1/points/{pointTag}/questionable

CygNet Clients — Canvas

The following changes have been made to the Canvas client applications in CygNet v9.7.

Canvas Applications

Enhancement

- **Domain support** has been added to Canvas, Canvas.View, and Canvas.View.Lite to override the ambient domain when starting the application or performing a find and replace action in Canvas files via the command line. The syntax is as follows: `-Domain=[DomainId]`.

Canvas Application

Modification

- Updated references to Canvas Help topics to use the secure https.

Canvas.View.Lite Application

Fix

- Fixed an issue with Canvas.View.Lite where **broadcast messages** failed to send to the intended target. Previously Canvas.View.Lite was blocking broadcast messages originating from the base screen—the screen specified on the command-line when starting the application. With this fix Canvas.View.Lite will work as expected: sending broadcast messages from the originating screen to all other open screens.

CygNet Grid

Modification

- A non-scripted option is now available when **hyperlinking** to another Canvas screen from a cell or row in a CygNet grid. A double-click mode has been added to support the selection of a Hyperlink mode or a scripted action. The CygNet grid supports the following hyperlink modes: Open, Modal open (a subordinate popup window), Open and close, Replace, Replace with navigation, and Close. Note that grid cells can display a different facility from that configured for the grid row. The double-click hyperlink action will pass the cell or row's facility to the receiving screen. The following properties are now supported for the CygNet grid:
 - Double click mode (DoubleClickBehavior)
 - Hyperlink mode (HyperlinkMode)
 - Screen file source (ScreenFileSource)
 - Screen path (ScreenPath)

Linear Gauge Controls

Fixes

- Fixed two issues with the Horizontal Linear Gauge and Vertical Linear Gauge:
 - A **narrow border** previously displayed on both sides of the linear gauge is now removed. The bar that represents the point value and the empty bar that represents the scale now display all the way to the edge of the linear gauge.
 - **Configured colors** for the linear gauge's bars now display as expected. Previously the colors failed to persist in run mode.

Navigation Button

Fix

- Fixed the **Objects.Screen.Hyperlink()** method on a screen or object and the **HyperlinkMode.OpenAndClose** option on the navigation button when previewing a screen in Canvas. Previously the current screen closed, but the target screen did not open as expected.

Screen or Object

Fix

- Fixed the **Objects.Screen.Hyperlink()** method on a screen or object and the **HyperlinkMode.OpenAndClose** option on the navigation button when previewing a screen in Canvas. Previously the current screen closed, but the target screen did not open as expected.

Tag Chooser

Enhancement

- Added **text color options** to the Tag Chooser to allow the configuration of the control's foreground color: the new properties are **Text color** (TextColor) and **Text color source** (TextColorSource). The Text color source can be set to *Self* or *Auto* (Default).

CygNet Clients — CygNet Studio


The following changes have been made to the CygNet Studio client application in CygNet v9.7.

Modifications

- The **CygNet CAS View Control (CxHmiCas.ocx)** has been modified to optionally hide any of the default menu items that appear in the control's context menu. The Custom Context Menu Configuration dialog has been enhanced to include a list of all the default menu options, any of which can be hidden as necessary. The ContextMenuXML ActiveX property includes a new <itemsHidden> section to specify any hidden default menu items.
- Modified the **CygNet Dynagraph Control (CxDynagraph.ocx)** so that you can now customize the background color of the control and the background color of the graph. Two new ActiveX properties (BackColor and GraphBackgroundColor) have been added to the control. Version manage and register the new control prior to use.

CygNet Dispatch

The following changes have been made to CygNet Dispatch in CygNet v9.7.

Important: **CygNet Bridge v4.6** is required to run Dispatch with CygNet Measurement in v9.7. Refer to the  [CygNet v9.7 System Requirements](#) for more information about additional version compatibility details.

Fixes

- Fixed an issue so that **jobs scheduled via the CygNet MSS** (Master Scheduling Service) synchronize properly from FMS Explorer to CygNet Dispatch.
- Fixed an issue with **locked data cells** in reports so that they now remain locked. Previously ostensibly locked cells could sometimes be modified or deleted by users.

CygNet Measurement (FMS)

The following changes have been made to CygNet Measurement in CygNet v9.7.

Enhancements

- Increased performance across **CygNet Measurement** by optimizing SQL queries thereby reducing requisite SQL server interaction.
- Improved CPU usage in **FMS Explorer** by optimizing the processing of connection status changes.
- Added support for **OAuth 2.0** to the FMS service, and added new keywords to the service configuration file (fms.cfg), to provide an alternative email authorization option when sending published reports out of CygNet Measurement via email. When used, authorization is provided via Microsoft Cloud resources, including Microsoft 365 and Azure Active Directory (AzureAD), to provide a more secure protocol for accessing and sharing information.
- Added support for normalization of **configuration** records for liquid device Nodes (raw configuration records were previously supported).
- Added support for additional volume and flow rate **units** in FMS, to include E3m3 (thousand cubic meters), E3m3/D (thousand cubic meters per day), E6m3 (million cubic meters), and E6m3/D (million cubic meters per day).
- Added a new **Import: Events CSV** command to allow importation of Events data into CygNet Measurement via .csv files, thereby enhancing data collection options for custody transfer standards and practices purposes.
- Added a new **Import: Alarms CSV** command to allow importation of Alarms data into CygNet Measurement via .csv files, thereby enhancing data collection options for custody transfer standards and practices purposes.
- Greatly increased performance in the **Balance** control by optimizing data retrieval while minimizing required messaging volume and database interactions.
- Increased speed and efficiency of the **Balance** control and improved performance in the user interface. In addition, provided a new option to further boost performance by initially showing only monthly or daily records and displaying hourly records upon request.

- Added a new event, EventGridFinished, to the **Balance** control in support of grid color and performance enhancements.
- Added functionality to the **Configuration** control so that users can view, create, edit, and view audit details for normalized configuration records for liquid device Nodes.
- Added the ability to the **History Grid** control to optionally highlight cells that contain data causing exceptions.
- Added the ability to the **History Grid** control to multi-select data records generating exceptions and ignore the associated exceptions in a single action.

Modifications

- Streamlined the **FMS validation engine** options by removing an ineffectual rule type, Time Synchronization, and its Device Rule category.
- Modified the behavior of the embedded Node Chooser in the **Balance** control to retrieve and list only Nodes for which balance data can be displayed: Station Nodes (including station meters or station groups) or Liquid Device Nodes (supporting periodic history). Previously additional Node categories could be listed although not selected.
- Added collection detail values for Batch (B) and Ticket (T) data types to better describe missing data status for liquid device Nodes, as displayed in the **Dashboard** control "Collection details" data view.
- Modified the **History Graph** control so that "Native" no longer appears as a Record span option when in Station data view; Native record span is meaningful only in Device data view.
- Modified the **History Grid** control so that "Native" no longer appears as a Record span option when in Station data view; Native record span is meaningful only in Device data view.
- For users of CygNet Dispatch, modified the **Jobs** control so that, when a single Node is selected in the control, the "Device" field is automatically populated when creating a new job.
- Updated property details for several **FMS ActiveX** controls (Dashboard, Node Chooser, Raw Data, Balance, Close Period, Exceptions, Jobs, Report) to streamline scripting values and property options for consistency.
- The CygNet email handler has been renamed as the **CygNetEmailEngine.exe**. This file and an associated .config file are now automatically installed to the **/Bin** directory. The old **/Bin/GnsEmailHandler.exe** will be deleted upon upgrade.

Fixes

- Fixed a potential memory usage issue arising with some **FMS commands** (Request New Data, Request Missing Data, Estimate Station Data) so that allocated memory is released appropriately.
- Fixed an issue with the **Archive Data** system command, to prevent disruption of the Archive process when archiving history for a very large number of devices. Previously, such circumstances could cause memory overflow errors and prevent successful completion of the Archive operation.
- Fixed an issue with the **Purge Data** command so that, when purging periodic data when associated exceptions are present, only exceptions within the configured date range are removed. Previously additional exceptions could be deleted in certain circumstances.
- Fixed an issue with the **Update Normalization View** command to ensure that incremental synchronization occurs as expected when using database storage.

- Fixed an issue with user messaging for the **Update Normalization View** command to accurately clarify a situation involving the processing of existing normalization views when new normalization views are created.
- Fixed an issue with FMS Explorer controls so that **Node chooser** functionality is maintained when the "Use Point in Time" mode is selected. Previously, selection of PIT mode could cause aberrant behavior in certain controls.
- Fixed an issue with the processing of **Validation Rules** for Gas Quality - Composition Normalization, so that exceptions are generated as expected upon polling.
- Fixed an issue with configuring a **Station Meter Node** (a gas meter Node set to also function as a station), to only retain "Station Meter" as the Node type when the "Meter is a Station" check box is still selected when completing Node creation. Previously the Node type could errantly persist in cases where the check box had been selected but subsequently cleared.
- Fixed a **change queue issue** to prevent a potential data cache loop when searching for data records which are no longer present in the FMS service. Previously, in a particular set of circumstances, this could cause incomplete client cache updating and/or overgrown log files, and could similarly impact master or slave service replication/data synchronization processes.
- Fixed an issue with the processing of imported **gas analysis data** so that, when a GA record is rejected for a selected (parent) Node, it is also rejected for its child Nodes and reflects a consistent record status. Previously in this circumstance, the residual GA record status would incorrectly remain for the child Nodes.
- Fixed an issue with the **CygNet FMS Dashboard** control so that, when the "Configure filter" option is selected while the FMS service is not running, CygNet Studio operation is undisturbed. Previously the application could crash in such circumstances.
- Fixed an issue in the **Close Period** control so that the confirmation dialog clearly reflects the period closure without misidentifying a Node type, as could previously occur.
- Fixed an issue with the optional **Export: Flow-Cal Data CFX** command so that, in situations where the meter type value is not present in the raw data and is therefore determined by FMS, the MeterType value now appears accurately in the CFX file structure to facilitate third-party data export and processing.
- Fixed an issue that could occur when building **Balance Contribution, Overview, or Details Reports** for groups containing large numbers of Nodes by appropriately throttling SQL calls to avoid errors. Also fixed an issue with processing gas station data for virtual stations in cases where no data is present for the date range.
- Fixed an issue with Gas Analysis and Gas Quality data tokens in **Device QTR** and **Device Total QTR** reports, so that tokens using the _Begin or _End variants are processed successfully. Previously, some GA/GQ data tokens using these variants were not reporting the requested values.
- Fixed an issue with the **Liquid Device QTR** and **Liquid Device Raw QTR** reports so that gas composition data values are displayed with the decimal properly located. Previously some values were shown with an incorrect decimal location.
- For users of CygNet Dispatch, fixed an issue so that **jobs scheduled via the CygNet MSS** (Master Scheduling Service) synchronize properly from FMS Explorer to CygNet Dispatch.
- For users of CygNet Dispatch, fixed an issue with **locked data cells** in reports so that they now remain locked. Previously ostensibly locked cells could sometimes be modified or deleted by users.

CygNet Services

The following changes have been made to CygNet services in CygNet v9.7.

Access Control Service (ACS)

Enhancement

- CORE-5576 A new security event, **SUPSPAUD**, has been added to the Access Control Service (ACS) to suppress the creation of SetPoint audit records based on user ID. See the related note [here](#).

Audit Service (AUD)

Enhancements

- A feature has been added to **suppress the creation of SetPoint audit records** in the AUD service database based on a security setting for the user ID performing the Setpoint request to prevent the database from overflowing with audit records. To implement this feature:
 1. Configure the following keywords in the service config file for each CVS where SetPoint operations will be received:
 - a. Set `AUDIT_LEVEL_SETPOINT` to '1' to ensure SetPoint auditing is enabled.
 - b. Set `AUDIT_SETPOINT_USERSEC_ENABLED` to 'YES'.
 2. Configure the following security event for the user ID performing the SetPoint request in the ACS:
 - a. Set the user's access level for the SUPSPAUD event to '5-Admin'.

The following components have been added to support the suppression of the creation of SetPoint audit record based on user ID:

- A keyword, **AUDIT_SETPOINT_USERSEC_ENABLED**, has been added to the four CVS service configuration files. Run the CygNet Config File Manager as part of the upgrade process to add the keyword to the configuration files.
- A security event, **SUPSPAUD**, has been added to the Access Control Service (ACS).
- An info item, **SETPOINT_USERSEC_ENABLED** (Setpoint User Sec Enbl) (UDC is SVMCVSSPAS), has been added for each configured CVS to indicate whether SetPoint audit record creation is suppressed based on user ID. Use the **Service Details** dialog box or the **CygNet ServiceMon Administration** utility to view this statistic.

Current Value Services (CVS)

See [Enhanced Alarm Configuration](#) for notes about the Enhanced Alarm Configuration (EAC) feature.

Enhancements

- A feature has been added to **suppress the creation of SetPoint audit records** in the AUD service database based on a security setting for the user ID performing the Setpoint request to prevent the database from overflowing with audit records. See the related note [here](#).
- A new keyword, **AUDIT_SETPOINT_USERSEC_ENABLED**, has been added to the four CVS service configuration files to suppress the creation of SetPoint audit record based on user ID. Run the **CygNet Config File Manager** as part of the upgrade process to add the keyword to the configuration files. See the related note [here](#).

- A new info item, **SETPOINT_USERSEC_ENABLED** (Setpoint User Sec Enbl'd) (UDC is SVMCVSSPAS), has been added for each configured CVS to indicate whether SetPoint audit record creation is suppressed based on user ID. Use the **Service Details** dialog box or the **CygNet ServiceMon Administration** utility to view this statistic. See the related note [here](#).

Device Definition Service (DDS)

Fix

- Fixed a functional bug in the DDS. Previously, when an **empty or zero-length transaction** was submitted to the DDS, the service would crash. The issue was evaluated, and it was determined that it does not affect the public CygNet APIs. The CygNet clients were also addressed and modified by providing a check for the length of the string to prevent the submission of empty or zero-length transactions to the service.

General Notification Service (GNS)

Modification

- The CygNet email handler has been renamed as the **CygNetEmailEngine.exe**. This file and an associated .config file are now automatically installed to the **/Bin** directory. The old **/Bin/GnsEmailHandler.exe** will be deleted upon upgrade.

Fixes

- **Email processing** in a GNS configured to use Microsoft Exchange Online (including Office 365) and the OAuth 2.0 protocol now performs as expected. Previously a GNS configured to use OAuth 2.0 failed to correctly read the inbox, sent erroneous email acknowledgements, causing the GNS to enter an infinite loop, and eventually fail.
- The GNS will create the required **AppData/LocalLow/Temp** folder if it does not exist. Previously a GNS configured to use the OAuth 2.0 protocol failed to correctly process email attachments if the AppData/LocalLow/Temp folder did not exist.
- The CygNet Email Engine now processes **POP3 acknowledgements** as expected. Previously, the GNS incorrectly logged multiple error messages when the inbox was empty.

Point Service (PNT)

See [Enhanced Alarm Configuration](#) for notes about the Enhanced Alarm Configuration (EAC) feature.

Enhancement

- Elevated the following previously aliased volume and flow volume engineering units to first-class units (units that can be selected from the **Primary Units** drop-down menu on the **General** page in the Point Editor):
 - E3m3 — thousand (e3) cubic meters
 - E6m3 — million (e6) cubic meters
 - E3m3/D — thousand (e3) cubic meters per day
 - E6m3/D — million (e6) cubic meters per day

CygNet Software has long supported aliases for some unit names, which can be entered manually in the Primary Units field on the General page in the Point Editor. Accepted unit aliases will be converted to standard engineering units when specified in a point's configuration record or associated data group.

All supported aliases for Point Engineering Units are now documented. Refer to the [CygNet Help](#) for more information.

Universal Interface Service (UIS)

Enhancement

- The maximum length of the command parameters for the **Send UIS Command** message has been increased to 1200 characters from 300 characters. Previously UIS Command messages that exceeded 300 characters were truncated and sent to the UIS without indicating that some parameters might be missing. The former limit also required that users break up command parameter strings into more than one data group. The new limit will eliminate the need to break up long command parameter strings. Additionally, CygNet Software has been modified to report if a UIS Command message exceeds the maximum parameter length (1200 characters for v9.7 or later services and 300 characters for prior versions).

Enhanced Alarm Configuration (EAC)

The following change has been made to the CygNet Enhanced Alarm Configuration feature in CygNet v9.7.

Fix

- Fixed an issue where the **Enhanced Alarm Settings** dialog box failed to correctly display points without an assigned UDC.

EIEs – Communication Devices

The following changes have been made to CygNet communication devices in CygNet v9.7.

OPC Comm EIE

Modification

- Added additional **DCOM error handling** to the OPC Comm EIE to detect errors during synchronous polls. If the DCOM errors are detected during polling, the connection will be reestablished at the next reconnect interval (set on the "Connection attempt rate" on the OPC Comm Device Editor).

EIEs – Device Template Files

Important: *If a device template file has been updated for this release, we strongly recommend that you obtain the applicable v9.7 sample device template file, edit it to retain customizations you added to your pre-v9.7 in-use template, and replace your pre-v9.7 in-use template with the version v9.7 sample template. Do not simply replace your pre-v9.7 in-use template with that provided on the source image because you will lose any template customizations that you previously made. Refer to the [Device Template Files](#) sections in the **CygNet Help** for detailed information about modifying templates.*

EIEs – Remote Devices

The following changes have been made to CygNet remote devices in CygNet v9.7.

Emerson ROCPlus EIE

Fix

- Fixed the "**Login Request**" data group (using opcode 17) for Emerson ROCPlus devices to correctly send the optional access level. Previously the access level was not being sent to the field devices.

Flow Automation EIE

Fix

- Fixed a data-driven issue in the Flow Auto device driver. Previously the driver failed to correctly handle an invalid message with **data length of 0** causing the UIS to crash intermittently.

IoT Sparkplug EIE

Fix

- Fixed an issue in the IoT Sparkplug EIE where the UIS would fail if a Sparkplug payload was missing the **value parameter of a metric**.

All OPC EIEs (OPC EIE, OPC Lufkin EIE, and OPC Weatherford EIE)

Enhancements

- The OPC EIEs have been enhanced to allow for greater configurability on point processing to **handle unreliable values** returned from an OPC server. Before this change, a point value was updated to whatever the OPC server returned for an item ID regardless of its quality. With this enhancement, a user can optionally choose to change the point status bits and retain the point value. This is accomplished in two ways:
 - **Device Template File.** A new optional attribute "updateValue" is supported in the qualityMapping section of the device template file, which can be added to any mapped quality bit. When the attribute is set to "false", the status bit(s) on the CygNet point will be updated, but the point value will retain the last value. The default setting is "true".
 - **Sentinel Values.** To accommodate OPC servers that send sentinel values to indicate data quality, sentinels can be set on CygNet remote devices. Sentinels can be configured in the device template file (at the device level or on individual data groups), on the Device page of the Device Editor (where it would then apply to all data groups on that device), or on individual Data Groups (on the Data Group Properties dialog box). Refer to the [CygNet Help](#) for more information about configuring sentinel values.

This enhancement mirrors the way the OPCIS and OPC groups use sentinel values to indicate when to retain and when to discard values.

Fixes

- Fixed an issue with the OPC EIEs to **adhere to point history settings** when mapped points are configured to report values to the VHS. Previously all values were written to the VHS regardless of the history configuration settings on the point.

- The OPC EIEs have been modified to **correctly handle the optional quality attribute** "updateValue" (introduced in Patch-2022-03-11-OPCEIEs) when an OPC server returns a data type of "VT_EMPTY" for a tag. Previously, the OPC EIEs did not honor the "updateValue" setting in the DTF in this situation.

OPC Lufkin EIE

Fixes

- Fixed the OPC Lufkin EIE so that **point processing of reference DEIDs** will inherit the quality mapping from the source DEIDs and set the appropriate point status bits.
- Fixed an issue in the OPC Lufkin EIE with the dynacard downhole minimum and maximum values (**DEIDs "DLMin" and "DLMax"**) when retrieving data from the TOP Server OPC server.

OPC Weatherford EIE

Fix

- Fixed the OPC Lufkin EIE so that **point processing of reference DEIDs** will inherit the quality mapping from the source DEIDs and set the appropriate point status bits.

SonicMQ Export EIE

Enhancements

- The following enhancements have been made to the Sonic MQ Export EIE:
 - The **export folder paths** have been expanded to support system environment variable tokens in the format: "%MY_SPECIAL_ENV_VAR%\Listener". Restart the RSM that controls the UIS hosting the Sonic MQ Export drivers whenever an environment variable is changed.
 - A file **export retry feature** has been added when exporting to a file system, if a new export to a resolved export folder fails.
 - The **Export Destination** page of the device editor has been modified to allow configuration of system environment variable tokens in folder paths, specification of a retry folder path, and the maximum number of retry files.
 - Refer to the [CygNet Help](#) for more information about these new features.

Totalflow EIE

Modification

- Modified the Totalflow EIE to include **mass data in FMS History** for coriolis meters (device application SUCOR).

OPC Server

The following change has been made to the CygNet OPC Server in CygNet v9.7.

Fix

- The OPC Server now registers CygNet points in a timely manner. This fixes an issue introduced by a recent enhancement to support the **resolution of OPC items by an External ID**. The performance issue was caused by the inadvertent increase of messages to the Point Service when registering each OPC tag. The most efficient way to register tags with the CygNet OPC Server is to provide the tag format as either SITE.SERV.POINTID;<optional_property> or SITE.SERV.LONGID;<optional_property>. Providing other tag formats will incur some additional messaging to the Point Service to resolve the tag to the appropriate CygNet point.

Scripting

See [Bridge API](#) for notes about the CygNet Bridge API feature.

CygNet.API

The following enhancements have been made to the CygNet .NET APIs in CygNet v9.7. The CygNet.API assemblies are documented in a standalone help file, **CygNet\Bin\CygNet.API.chm**.

Enhancements

- The following assemblies have been added to **CygNet.API.Core** to provide scripted access to **CygNet Blob files** and **Blob paths**:
 - **CygNet.API.Core.BlobFiles**
 - **CygNet.Data.Core.BlobPath**
- A **ReadPointRecords** method has been added to **CygNet.API.Points.ConfigClient** to retrieve the point config records associated with the given point tags from the connected Point service. The maximum number of tags that can be requested at one time is 10,000.
- A **StopService** method has been added to **CygNet.API.ServiceManager.Client** to stop a CygNet service on a Remote Service Manager (RSM) service.

Fixes

- The **CygNet.API.Facilities.Client.GetFacilityTagList** method now accepts filter criteria that includes facility properties FacilityTableAttributeXX and FacilityTableAttributeXXDescription greater than 29. Previously, when any of these facility properties were included in a filter, the method would throw an exception similar to "'FacilityTableAttribute30' not supported in FilterCriteria". Now, it properly recognizes these properties and evaluates the filter accordingly.
- The **CygNet.API.Points.ConfigClient.GetPointTagList** method now detects when an unrecognized point property is used in a filter. Previously, the method returned all points when a filter referenced an unrecognized point property. Now the method throws an exception indicating that an unrecognized point property was used.

CygNet COM API

The following enhancements have been made to the CygNet COM APIs in CygNet v9.7.

CxDDS.DdsClient

Enhancements

- Several methods have been added to the **CxDDS.DdsClient** object so users can add, modify, and delete data group transactions through the COM API. A transaction is defined by data group transaction header, transaction data (as an XML string), or an XML file. The new methods:
 - AddDataGroupTransaction
 - AddDataGroupTransactionByFile
 - AddDataGroupTransactionByID
 - DeleteDataGroupTransaction
 - DeleteDataGroupTransactionByDbKey
 - DeleteDataGroupTransactionByFile
 - UpdateDataGroupTransaction
 - UpdateDataGroupTransactionByFile

CxScript.FileSystemObject

Enhancements

- Two new methods have been added to the **CxScript.FileSystemObject** COM API, **CanReadBlobFile** and **GetBlobFileSecurityChain**, to query the Blob file level security and the Blob folder level security settings fields from a BSS for a given file. These methods were added to support the new CygNet Thin Web Client to read Blob files, but are available for general use.

CxVhs.VhsClient and CxVhs.VhsDatastoreInterface

Enhancements

- Added a new method, **AddHistoryPointEx()** (and supporting request **AddHistoryPointExReq** and response **AddHistoryPointExResp** objects), to the **CxVhs.VhsClient** and **CxVhs.VhsDatastoreInterface** COM APIs to support assigning a Long PointId value when adding points to a VHS and VHS offline datastore respectively.

Utilities

The following changes have been made to CygNet utilities in CygNet v9.7.

Fixes

- Fixed an issue with the **CygNet Config File Manager** (ConfigFileMgr.exe) **to correct RSM service name validation errors**. Previously, the utility generated an error when editing remote configuration files if the selected RSM service name did not end with ".RSM*" (for example CYGNET.P_RSM) even though this is a valid service name.
- Fixed an issue with the **CygNet Config File Manager** (ConfigFileMgr.exe) where it crashed when upgrading service config files when **a new keyword could not be found** in a service config file template. Additionally, encryption support was enabled for some keywords that were not previously enabled for encryption.

CygNet Web

Notice

- The **CygNet Web** application has been validated to work with the Microsoft Edge browser with Internet Explorer (IE) mode. For information about configuring Microsoft Edge with IE mode, refer to [Get started with IE mode configuration](#). Note that support for Internet Explorer 11 ended on June 15, 2022.

Notice of Status Change (NSC)

- The **CygNet Web** application is now in Limited Support with the release of CygNet v9.7, and will reach its End of Life with the release of v9.8. See the [Product Lifecycle](#) for more information.