CygNet Thin Web Client v1.6 Release Notes

Release Date: November 15, 2024

This document describes features and changes included in the CygNet Thin Web Client v1.6. The CygNet Thin Web Client v1.6 is compatible with CygNet v9.7 and later.

For instructions on updating your host, refer to the *CygNet v9.8 Upgrade Procedure* for more information.

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CygNet Thin Web Client Overview

The **CygNet Thin Web Client** (TWC) is CygNet's browser-based Human-Machine Interface (HMI) client application, which allows users to view operational screens and workflows in a web browser using sophisticated web-based technologies. The Thin Web Client is a Single Page Application (SPA) that is built using customer provided and built screens. Those screens are constructed using the design and screen building components of the CygNet Canvas desktop client. Use Canvas to layout HMI components onto a screen (a page of controls) and configure a logical workflow between controls on the screen and other related screens. When published, those screens are converted and compiled into the SPA that resides on the main TWC server.

This document describes enhancements, modifications, and fixes to CygNet Thin Web Client v1.6 and Canvas in CygNet v9.7 and later.

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**.

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 user assistance. The online help is best viewed in the Microsoft Edge or Google Chrome browser. Microsoft Internet Explorer 11 is not supported.

Refer to the following sections of the *CygNet Help* for further user assistance:

- Canvas Help
- CygNet Thin Web Client Help

Changes in CygNet TWC v1.6

This section describes major features in CygNet Thin Web Client (TWC) v1.6.

TWC Features

The following enhancements have been made in TWC v1.6.

TWC User Interface

- The Thin Web Client v1.6 **user interface** has been redesigned to enhance the usability and overall experience of the application. Improvements include:
    - an updated login and application start page
    - a collapsible sidebar to hold all published applications
    - a Menu Items popup to access all screens in the current application
    - a Saved Charts popup to access all saved ad hoc charts
    - an enhanced color palette to improve legibility and create a visually pleasing design.
- The Thin Web Client v1.6 user interface has been updated to use the **Roboto** font family throughout to ensure consistency in design. If the computer where you view the TWC does not have Roboto installed, it will be installed for you.
- Screen resizing is now supported in the CygNet TWC web view allowing for **responsive screen design** to ensure your screens and applications work properly when viewed on any device, screen, or browser window size. All TWC-supported controls, modal windows, and the ad hoc chart have been enhanced to support resizing.
- Users can now optionally specify a friendly name and an icon for each TWC application, which will show on the **Application** sidebar in the TWC web view. A **Friendly name** option and an **Icon** option have been added to the Application configuration tab in the Web Settings page in the Canvas Backstage view.

TWC Installer

- CygNet Thin Web Client v1.6 now requires **Microsoft .NET 8** to operate, offering performance optimization, security enhancements, Blazor improvements, and more. .NET 8 and other required packages will be installed and/or upgraded by the TWC.Installer.SetUp.exe installer; no additional action is required. If, after an upgrade, you see publishing errors indicating that any of the following packages are missing: "Microsoft.NET.ILLink.Tasks", "Microsoft.NET.Sdk.WebAssembly.Pack", or "Microsoft.NETCore.App.Runtime.Mono.browser-wasm", refer to the TWC help for information about how to update the collected packages.

TWC Server Metrics

- Several **server metrics** (e.g., CPU usage, memory, usage, number of logged-in users, current and total server connections, server state, active job ID, active application, etc.) are available for collection from the TWC servers and optionally passed to CygNet allowing you to monitor the performance of the **TWC.Service.Server** and **TWC.PublishingService.Server**. Points must be manually created in the CygNet PNT if you want to collect the performance data. UDCs, points, and values can be visualized by creating screens to view server data in Canvas native or in the TWC web view. Optionally, point values can be historicized, and alarms can be set, by manually adding threshold values in the point configuration record. Some sample Server Metrics screens are available in the CygNet **Reference_Packages.zip** distributed with the CygNet Thin Web Client v1.6 upgrade files. See the TWC help for a list of all available server metrics.

TWC Reference Packages

An updated **CygNet Reference Packages** implementation is now available for use with Canvas and the CygNet Thin Web Client v1.6. The screens, workflows, and sample data provided in the CygNet Reference Package represent the most current capabilities of Canvas and the CygNet TWC and is offered as an example of how you might implement Canvas and TWC to create a similar set of screens for your operators to visualize enterprise data in the Canvas Native view or the CygNet Thin Web Client web view.

A **Reference_Packages.zip** is included with the CygNet Thin Web Client v1.6 upgrade files and contains all the files you need to get started. Refer to the **CygNet Reference Packages, Installation Guide and Data Model** for more information.

A new **Reference_Packages.zip** has been posted to the CygNet Download Site (login required).

Canvas and TWC Changes

The following changes have been made to Canvas and CygNet Thin Web Client v1.6.

Canvas Controls

All Controls (Canvas and TWC Web View)

- Control and screen resizing is now supported in the CygNet Thin Web Client allowing for responsive screen design to ensure your screens and applications work properly when viewed on any device, screen, or browser window size. All TWC-supported controls, modal windows, and the ad hoc chart have been enhanced to support **resizing**.

  In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties have been exposed in the web client mode for all TWC-supported controls and are now available when creating screens to be published and viewed in the TWC web view.

All Controls that support Relative Facilities

- Relative facility resolution now works as expected across **multiple UISs** in the same site. Previously a Canvas control with a source facility tag of SITE.UIS1::SOURCETAG that should resolve to SITE.UIS2::RESOLVETAG, was resolving to SITE.UIS1::RESOLVETAG, which was incorrect. This erroneous resolution was not always obvious if the system had only one UIS or the RESOLVETAG was also in UIS1.

Alarm Grid

- Fixed a **background and text SingleColor** (point state) display issue in an Alarm Grid when viewed in the TWC web view so that cell elements show the expected color. Previously, when setting the background and text color to the same SingleColor (point state) the text was visible, where it should be hidden from view.

- Fixed some **background and foreground color** issues in an Alarm Grid when viewed in the TWC web view so that colors match the color configuration from Canvas and text (foreground) is legible.

- **Sorting and filtering** of Alarm Grid columns has been improved in the TWC web view to better handle numeric columns. If a cell in a numeric column contains a non-numeric value, a placeholder ({non-numeric}) will be shown in its place. The filter options have been improved to allow numeric filtering (such as <, <=, >, and >=) on values.

- The **Text alignment** property is now supported for all column types (except Alarm Icon columns) in the TWC web view.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Alarm Grid have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Chart

- The Chart now supports a **configurable toolbar** in the TWC web view. Several buttons can be added to the toolbar, which is displayed at the top of the chart:
    - Toggle buttons to enable and disable **live updating**
    - A **date-range** button to configure live updates, relative dates, and absolute dates for the chart
    - Unlimited number of **quick-range buttons** to quickly adjust the time range displayed in the chart
    - A **print** button to print the current chart to a network printer or save as a .pdf file
    - A button to **export** the chart as a .jpg image
    - A button to **export** chart data to a .csv file for viewing in a spreadsheet application, e.g. Excel.
- The Chart's **Legend** properties (**Legend date format**, **Legend format**, **Legend value format**, and **Show legend**) for a screen displayed in the TWC web view are now configurable in Canvas. You can set the Legend format to display either as a tokenized text string or the name of the series (by leaving the **Legend format** property empty). Previously the TWC supported only the name of the series in a chart's legend. The legend, if configured to show, will always display under the chart; the **Legend location** property is not configurable in the Canvas web client mode.
- Fixed a display issue in the **x-axis** of a Chart in the TWC web view where the date and time labels overlapped making the timestamps difficult to read.
- Fixed a display issue with Chart **x-axis labels** in the TWC web view, so that the x-axis now displays as correctly. Previously if a chart had only one data point the x-axis labels appeared in the middle of the chart.
- Fixed a display issue with Chart **y-axis labels** in the TWC web view, so that the y-axis now displays correctly. Previously the y-axis labels were missing their decimal digits causing the labels to appear duplicated.
- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Chart have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

CygNet Grid

- A point-state **Image** column has been added to the CygNet Grid, which can be configured to display a CygNet-aware image or icon that can change based on the point state of the associated point. The Image column is supported in both the Canvas native view and the TWC web view.
- The CygNet Grid now supports a **Summary Row** for a **Point** column type in the TWC web view and includes the following options: Sum, Min, Max, MinMax, Count, and Mean. Note that the **Row summary update rate** property does not apply to the TWC and is hidden in the **Properties** pane in web client mode. The summary row data is recalculated every time there is a data update for the configured column.
- **Sorting and filtering** of CygNet Grid columns has been improved in the TWC web view to better handle numeric columns. If a cell in a numeric column contains a non-numeric value, a placeholder ({non-numeric}) will be shown in its place. The filter options have been improved to allow numeric filtering (such as <, <=, >, and >=) on values.
- The **Text alignment** property is now supported for all column types (except Image columns) in the TWC web view.

- Modified the way a CygNet Grid displays data in the TWC web view when the **Row configuration Facility filter** is *empty*. Previously the grid displayed a row for every facility in the database along with any defined columns. With this change no rows are displayed, which matches the behavior in the Canvas native view. If you want to show every facility in a grid, configure the **Row filter** to include all facilities.

- Added validation to the CygNet Grid to ensure the **date and time format** for a point's timestamp is displayed as configured (either based on the Default date format configured in the Backstage view or overridden for the control). Previously the date and time format in the Canvas native view and the TWC web view were displayed in a different format.

- Fixed an issue with data display in the CygNet Grid in the TWC web view where the **Facility ID and SiteService was not getting passed** to the grid from the page's URL.

- The TWC will handle CygNet Grid **column width** configuration in the following way:

    - If the column width is not configured (i.e., the width is set to 0), the column will be auto sized
    - If the column width is configured with a fixed column width, no resizing will occur.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the CygNet Grid have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

DDS Button, DDS Edit Box, and DDS Text Tool

- Three new DDS-aware controls have been implemented in Canvas, the **DDS Button**, **DDS Edit Box**, and **DDS Text Tool**, which can be used to **get and send data group transaction data** (data group element Ids (DEIDs)) from a remote device for display and editing on a Canvas screen. These DDS-based controls are an efficient way to create transaction-based screens for displaying and manipulating data group information for remote devices. Use these controls to implement a scriptless solution for creating screens where data is encapsulated in a transaction, but not mapped to a CygNet point. For example, you could make a lift management screen for plungers or other device types in your CygNet environment. The DDS-based controls are not supported in TWC v1.6. In Canvas, non-supported properties are hidden when the target configuration environment is Web client.

Detail

- Several **display and formatting issues** with lines of text and the flip arrow in the TWC web view have been fixed. Previously the following display irregularities were observed:

    - Lines of text were truncated or overlapped, sometimes making the information illegible
    - When the text's Font size mode was set to "Fixed" lines of text were not properly aligned displaying large gaps between the lines
    - When increasing the size of the Detail control the first line of text became truncated
    - The flip arrow icon's placement was misaligned in the TWC web view.

- The Detail **Sparkline** configuration options in Canvas have been enhanced to include full date range configuration, including live updates. All date range options for the Sparkline are supported in both Canvas native view and the TWC web view.

- A **Sparkline** on a Detail control viewed in the TWC web view now displays at its full size conveying detailed information. Previously the sparkline was flattened and narrow.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Detail control have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Donut

- Fixed some **text display issues** for the three lines of text (bottom, main, and top) in a Donut when displayed in the TWC web view. Previously the text appeared clipped or collapsed making the text illegible.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Donut have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Dynagraph

- The **Dynagraph** control is now supported in the TWC web view to provide a window into rod-pump well performance by **displaying dynagraph cards for the available Pump-Off Control (POC) facilities** in your CygNet system. The control contains a card plot area displaying selected dynagraph cards (Surface, Downhole, or both), to graphically illustrate load versus position data. Load (in pounds) is plotted on the vertical axis; position (in inches) is plotted on the horizontal axis. Other graphical elements on the card plot area include the POC setpoint, dotted lines indicating the peak load and the mean load, and a vertical line indicating the stroke length. The control can be configured to receive its POC facility data from the screen or another Canvas control, such as a Tag Chooser, or the facility can be explicitly configured. An optional run-mode context menu is available to communicate with devices to retrieve card data, edit **Pumpoff Configuration**, and configure **Fluid Fill Setpoint (%)** values for the associated facility. In Canvas, non-supported properties are hidden when the target configuration environment is Web client.

- **Color configuration** properties for background and text (foreground) elements have been added to the **Dynagraph** for both the Canvas native view and the TWC web view. The foreground elements include the axis legends and labels. Text (foreground) color configuration does not include the axis lines, tic marks, or grid lines. Nor does it include the dynacard features (plot lines, POC point, dotted lines), which are auto-colored. The following properties are now supported:

    - **Background color** (DynagraphColorConfiguration.BackgroundSource and DynagraphColorConfiguration.BackgroundSelfColor)
    - **Text color** (DynagraphColorConfiguration.TextColorSource and DynagraphColorConfiguration.TextSelfColor).

- Enhanced the **Dynagraph** control in Canvas to reveal run-mode context menu items and implemented Canvas-specific dialog boxes to edit **Pumpoff Configuration** and configure **Fluid Fill Setpoint (%)** values for the associated facility. Previously the 64-bit versions of the CygNet Pumpoff Configuration and Fluid Fill SetPoint (%) dialog boxes were not available to the Canvas application and the context menu items were hidden.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Dynagraph control have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Facility Emitter

- A new control, the **Facility Emitter**, supported in the Canvas native view and the TWC web view, is available to leverage the facility receiving and sending model in Canvas allowing **multi-directional linking between controls without script**. The control takes facility information passed to it from a sending control (e.g., a tag chooser, map, or even a grid), applies a facility filter, then delivers filtered data to other receiving controls on the screen. Multiple controls can be daisy-chained together to allow deeper filtering before passing data to a final receiving control. The Facility Emitter is a hidden control, visible only in design mode. In Canvas, non-supported properties are hidden when the target configuration environment is Web client.

Image

- Modified the Image control in Canvas web mode to expose the **Enabled** property, which was previously hidden from view.
- The Image control will now **display as expected** in the TWC web view. Previously the control was not displaying on the screen because the **Suppress data retrieval** property was not used when calculating whether to show the control during the screen conversion.
- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Image control have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Linear Gauges

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Linear Gauges have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Map

- The **Map** is now supported in the TWC web view to give geographical context to your CygNet facility data. The TWC map providers are **Azure Maps** and **OpenStreetMap**. The map supports multiple layers, and each layer can be used to display facility location data via an **Image**, which represents what will be displayed for the facility at the specified coordinate, for example, a default image or an image representing the point state of the associated point. Location data (latitude and longitude coordinates) is stored in facility attributes in the Facility service. Each map layer can be configured as a facility receiver, sourcing its facility from other another control or the screen, or each layer's facility can be explicitly set (and filtered). In Canvas, non-supported properties are hidden when the target configuration environment is Web client.
- The **Map Settings** in the Canvas **Backstage** view have been modified to allow configuration of different map providers for the Canvas native view and the TWC web view. Canvas native view supports Bing Maps and OpenStreetMap; TWC web view supports Azure Maps and OpenStreetMap.
- In the TWC web view, the map supports **hyperlinking** from the image to another screen via a single click sending any configured facility to the receiving screen. The following hyperlink modes are supported: Open, Modal open (a subordinate popup window), and Replace.
- In Canvas only, the Map supports **hyperlinking** from an **Image** or a **Shape** to another screen via a single click sending any configured facility to the receiving screen. Hyperlinking from an Object is not supported in the Canvas native view. The following hyperlink modes are supported: Open, Modal open (a subordinate popup window), and Replace.
- The map layer configuration UI in Canvas has been updated with an icon and tooltip to indicate which properties are supported by the TWC. Shape and Object visuals items are not supported on map layers in the TWC web view.
- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Map have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Navigation Button

- The Navigation Button will now **display as expected** in the TWC web view. Previously the control was not displaying on the screen because the **Suppress data retrieval** property was not used when calculating whether to show the control during the screen conversion.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Navigation Button have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Nested View

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Nested View control have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Note Grid

- A read-only **Note Grid** is now available in the Canvas native view and the TWC web view to **display notes stored in the CygNet NOTE service**. The grid supports two column types: Facility and Note. The grid is a facility receiver so it can be driven by another control on the screen such as a tag chooser. The grid displays notes by note attribute, between a range of dates, and filtered by note type. If a note has one or more associated facility or point, the Note Grid will add a row for each association and show a single association per row. When the Note Grid receives its facilities from another control, the grid will only show notes for received associated facilities. The date and time of notes displayed in the grid can be changed in run mode and grid data can be exported to a .csv file. In Canvas, non-supported properties are hidden when the target configuration environment is Web client. The .Net CygNet.API.Notes (32- and 64-bit) libraries are included with Canvas and TWC to support the Note Grid.

- Numeric Note Grid columns in the TWC web view are **sorted and filtered** in the following way: If a cell in a numeric column contains a non-numeric value, a placeholder ({non-numeric}) will be shown in its place. The filter options allow numeric filtering (such as <, <=, >, and >=) on values.

SetPoint Button

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the SetPoint Button have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Shape

- The **Shape** control is now supported for inclusion on screens viewed in the TWC web view. This single-value control can be used to add geometric shapes, lines, and other custom paths to your screens. Any shape can be a facility receiver, displaying data for any associated facility or point attribute. Self and point state color is supported for shape fill, line and overlayed text. In Canvas, non-supported properties are hidden when the target configuration environment is Web client.

- The Shape control supports **hyperlinking** from a control to another screen via a single click sending any configured facility to the receiving screen in both the Canvas native view and the TWC web view. The following hyperlink modes are supported: Open, Modal open (a subordinate popup window), and Replace.

Sparkline

- The **Background color** source property is now exposed in Canvas web mode when creating screens to be published and viewed in the TWC web view. This fixes an issue where a Sparkline's background color was not getting displayed properly in the TWC web view if the **Background color** source property was set to *Auto*.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Sparkline control have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Tag Chooser

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Tag Chooser have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Text Tool

- The Text Tool now supports **hyperlinking** to another screen, passing an associated facility to the specified screen or script. The following hyperlink modes are supported: Open, Modal open (a subordinate popup window), and Replace. No click, single click, and double click actions are supported. Script events are supported in the Canvas native mode; scripting is not supported in the TWC web view.

- The Text Tool will now **display as expected** in the TWC web view. Previously the control was not displaying on the screen because the **Suppress data retrieval** property was not used when calculating whether to show the control during the screen conversion.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Text Tool have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

UIS Command Button

- Fixed an issue with the UIS Command Button where the **Send button** in the prompt popup where you enter a parameter value and execute the command was disabled in the TWC web view, **preventing users from sending a UIS command**.

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the UIS Command Button have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.

Value Indicator

- In Canvas, the **Horizontal resize mode** and **Vertical resize mode** properties for the Value Indicator have been exposed in the web client mode and are now available when creating screens to be published and viewed in the TWC web view.