ICONICS 10.96.2

What's New | ICONICS Suite™

November 2020

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Introduction to What's New

This edition of the "What's New" describes many notable new features and enhancements in version 10.96.2 since the previous release (10.96.1). For information on features and enhancements made in earlier versions, see the appropriate "What's New" document for those versions.

For information on fixes made in version 10.96.2, see the appropriate "Resolved Issues" document.

Note that if updates need to be made, the most up to date "What's New" and "Resolved Issues" documents can be found in our online documentation here:

Release Notes

Structure of the Document

This document is split into chapters for the different areas of the ICONICS Suite, then further into sections for major updates, representing significant enhancements or new functionality, followed by tables of additional enhancements and fixes.

Where appropriate, references to additional information, such as instructional application notes or help files, will be indicated.

"First Available In" Column

Some of these fixes were first made available in Critical Fixes Rollup Packs for 10.96.1. The "First Available In" column notes which rollup a fix first appeared in so that users who already have a rollup can determine what items are new for them.

Most Notable Features

Some of the most notable new features in 10.96.2 are listed below. Visit each link to learn more and see the "Major Enhancements" sections for each product for additional notable features.

- New highly customizable entry-level package: GENESIS64 Basic SCADA
- Dark theme (i.e. "dark mode") for GraphWorX64 and Workbench
- Begin designing GraphWorX64 displays with starter displays instead of a blank canvas
- Energy AnalytiX is back in 10.96.2 with an all new engine based on Hyper Historian and brand new out-of-the-box KPIWorX dashboards using an AnalytiX-BI data model
- Quality AnalytiX's SPC chart is now available in WebHMI (HTML5) and MobileHMI
- New SendGrid notification option for AlertWorX and CFSWorX
- Acknowledge alarms and faults via Twilio Voice and Vonage SMS
- Use CFSWorX AnalytiX Dashboards for analysis of alarms and faults, worker responses, and locations on a map
- Salesforce integration for importing worker information
- Use Geofences to alarm when workers have entered or exited areas and display Geofences in KPIWorX
- Record worker location history and replay in KPIWorX
- New connectivity options, including:
    - Takebishi DeviceXPlorer OPC Server now available on the ICONICS Suite disk with integrated ICONICS licensing
    - New connector for Ethernet/IP (also available on IoTWorX edge devices)
    - New connector for Mitsubishi Electric FA devices
- KPIWorX can now embed WebHMI (HTML5) pages and more natively integrate with WebHMI

General

General

Major Enhancements

New Suite Option: GENESIS64 Basic SCADA

(Reference ID: 76604)

GENESIS64 now comes in two "flavors", GENESIS64 Advanced and GENESIS64 Basic SCADA. Users can choose one of these two packages when installing GENESIS64. GENESIS64 Advanced is the same GENESIS64 users may be familiar with from version 10.96.1 and earlier. GENESIS64 Basic SCADA is a new entry-level package – the new standard for industrial automation.

Basic SCADA provides the same unparalleled performance as GENESIS64 Advanced, but in a smaller, entry-level package designed to bring only the core functionality needed for a single server system without unnecessary extras. Features such as additional connectivity methods can be added on to customize the package to each site's needs. Basic SCADA systems can be used standalone or as part of a larger architecture along with GENESIS64 Advanced servers.

Because GENESIS64 Basic SCADA is designed to work with single-server environments, distributed licensing is not available. A Basic SCADA system must connect to its own license server. (Cloud licensing is still available.) Redundant GENESIS64 servers are also not available. For these features, use GENESIS64 Advanced.

GENESIS64 Basic SCADA systems can be WebHMI or MobileHMI servers, same as GENESIS64 Advanced. (MobileHMI server requires an add-on.)

The core functionality of GENESIS64 Basic SCADA includes Workbench, GraphWorX64, AlarmWorX64 Server and Logger, basic AssetWorX Server, Hyper Historian Express, RecipeWorX, WebHMI Server, and ScriptWorX64. It can connect to OPC Classic, OPC UA, Mitsubishi Electric devices, and databases. Other features and connectivity are available as optional add-on packages, allowing users to customize their package to fit their site's specific needs.

Some features of AssetWorX are not included in Basic SCADA. Equipment classes (and the Bulk Asset Configurator) are not included, nor is time zone functionality, asset links (for distributed asset trees), and polling groups. Commanding and tree views are not available unless the AssetWorX Navigator add-on is purchased. Runtime parameters of asset properties are also limited. They cannot be used on the real-time tab of a property.

Note that while Basic SCADA systems cannot include linked assets from other servers, its assets can be linked from a GENESIS64 Advanced system.

See the table in the *GENESIS64 Basic SCADA – Quick Start* application note or help page for more details about what features come with GENESIS64 Basic SCADA versus GENESIS64 Advanced Application Server.

AssetWorX Tag Counting

A new tag counting method has been introduced with GENESIS64 Basic SCADA. With this new method, called "AssetWorX Tags", all IO tags must be configured as equipment properties in AssetWorX, ICONICS' centralized asset database. A configured asset property counts as a "tag" for the purposes of licensing. Only enabled properties with a real-time source type of Dynamic Tag or Expression counts as tags for licensing purposes. Properties configured to be static do not require license tags.

When AssetWorX tag counting is enabled, Workbench will show a helpful warning message at the bottom of the screen should users accidentally configure more equipment properties than allowed in their license. The count of licensed equipment properties can be seen in Workbench under **Assets** > **Product configuration** > **Other settings**. This count is available even when not in AssetWorX tag counting mode or when looking at a configuration database that is not active.

Workbench will also display the current tag counting mode (Advanced or Asset Tags) in the status bar.

If the number of AssetWorX equipment properties exceeds the licensed tag count, AssetWorX will stop providing values for all properties, reporting "License Counted Equipment Properties Exceeded" for all asset tags.

BACnet users should be aware that all object attributes that need to be read or written to must be mapped as AssetWorX equipment properties and will count as tags under the AssetWorX tag counting mode. This may mean projects that utilize BACnet require more tags when using GENESIS64 Basic SCADA than they would using GENESIS64 Advanced.

In AssetWorX tag counting mode, Hyper Historian tags must be created from within the AssetWorX provider. Add the real-time tag as an equipment property, then go to the property's **Historical Data** tab, set the **Source type** to **Hyper Historian Tag** (or one of the other Hyper Historian types), then configure the settings as desired.

When AssetWorX tag counting mode is enabled, the entire browse space will only be available when users are configuring AssetWorX. The tag browser in GraphWorX64 will only show AssetWorX and a few other providers that do not require equipment properties (such as Diagnostics). The lateral tag browser in Workbench (the one that is always visible and docked) will show the same limited list of providers, as will the pop-up tag browser when using any Workbench provider that is not AssetWorX. The pop-up tag browser from inside AssetWorX is the only place that the entire address space will be visible.

Changing Between Basic SCADA and Advanced

GENESIS64 Basic SCADA and GENESIS64 Advanced cannot coexist on the same system, as they are two different configurations of the same product. However, a system can be converted from one to the other.

Users have the option of installing GENESIS64 Advanced and then applying a GENESIS64 Basic SCADA license. Any Advanced functionality that is not available in Basic SCADA will be disabled. Note that in addition to applying a Basic SCADA license, users must also change the tag counting mode to fully convert a GENESIS64 Advanced system to a GENESIS64 Basic SCADA system. Follow these steps to change the tag counting mode:

1. Open **Platform Services Configuration** from either **Start** > **ICONICS Tools** > **Platform Services Configuration** or **Workbench** > **Tools** > **Platform Services Configuration**.
2. Go to the **License** tab.
3. Change **Tag Counting Mode** to **AssetWorX Tags**.
4. Apply the changes.
5. Reboot the system when prompted.

A system installed as GENESIS64 Basic SCADA can also be converted to a GENESIS64 Advanced system by applying the appropriate license, however any features that were not included in the original installation may not function until the installation is modified and those modules are installed. The tag counting mode must also be changed – follow the steps above but choose **Advanced** for **Tag Counting Mode.**

Simulating a Basic SCADA License

Users with a demo or SIP license can simulate a Basic SCADA license to ensure they are only using features compatible with Basic SCADA. See the new License Simulation feature.

GenDemo with GENESIS64 Basic SCADA

At this time, GenDemo has not been updated to work with GENESIS64 Basic SCADA. Many of the GenDemo examples will not work with a Basic SCADA installation. GENESIS64 Basic SCADA Users who wish to use GenDemo can do so using the http://gendemo.iconics.com/ example site. (Note, Internet Explorer is required.)

For Further Reference

- Application Notes:
  - *GENESIS64 Basic SCADA – Quick Start*
  - *GridWorX Server - Using Data Manipulators via Call Method*
- Help: GENESIS64 Basic SCADA

Azure SQL Server Connections Now Support Azure Active Directory

(Reference ID: 68197)

Previously, configuration databases stored in Azure SQL Server could only be used with SQL authentication. Now, most configuration and logging databases can now support Azure SQL Server with Azure Active Directory credentials when said credentials are specified in the connection string.

This support includes logging databases for AlarmWorX64 Logger and the legacy TrendWorX64 Logger. (Note, ICONICS still highly recommends Hyper Historian Express over the TrendWorX64 Logger for new projects.)

ScheduleWorX64 and the Fault Viewer currently do not support Azure Active Directory. We plan to add Azure Active Directory support for these in a future version.

We also plan to add support for Azure Active Directory integrated security in a future version.

AlarmWorX64 Multimedia and Workbench Classic do not support Azure SQL Server or Azure Active Directory authentication.

Installation

Major Enhancements

Consolidated DVDs (ISOs)

(Reference ID: 80840)

Previous versions released separate disks (or ISO files) for key ICONICS products, including GENESIS64, Hyper Historian, and CFSWorX. New in version 10.96.2, these disks have been combined into the ICONICS Suite disk.

Users no longer have to question which disk they need to install a particular product. There are now only two disks containing all of ICONICS' offerings for version 10.96.2: ICONICS Suite and IoTWorX. Installations for Windows operating systems can be found on the ICONICS Suite disk and installations for edge devices (Linux) can be found on the IoTWorX disk.

To install GENESIS64, Hyper Historian, or CFSWorX, run the ICONICS Suite installation and select the desired products when prompted.

The ICONICS Suite disk previously contained installations labeled "AssetWorX" and "ICONICS Client". These installations have been removed; however, the same products can be installed using the ICONICS Suite installation.

Shortcuts to install these products are planned to be added into the ICONICS Suite installation in future versions. In the meantime, to install these products, follow the instructions below. (These instructions can also be found in the ICONICS Suite readme file.)

AssetWorX:

1. Run the **ICONICS Suite** installation.
2. When prompted, choose **Custom Selection**.
3. When choosing custom options, use the **Deselect Options** button, then choose **Server** > **Platform Services** and **Web Applications** > **Workbench Server**.
4. Finish the rest of the installation.

ICONICS Client:

1. Run the **ICONICS Suite** installation.
2. When prompted, choose **Custom Selection**.
3. When choosing custom options, use the **Deselect Options** button, then choose **Client**.
4. Finish the rest of the installation.
5. Reboot if prompted.
6. When the installation has completed, run **FrameWorX Server Location** from the start menu and enter your desired primary FrameWorX server.

Takebishi DeviceXPlorer OPC Server

(Reference ID: 79766)

The Takebishi DeviceXPlorer OPC Server now comes on the ICONICS Suite disk and includes integrated licensing with ICONICS Suite products.

Takebishi DeviceXPlorer OPC Server is a leading OPC server software suite that provides connectivity with control devices in manufacturing, factory, and operations environments with equipment such as PLCs, machine tools, and robots. It provides communication functions with multiple devices via a variety of network technology and helps to bridge data to various applications. Takebishi DeviceXPlorer OPC Server supports OPC UA, DA, AE, and SuiteLink Interface, and can connect to over 200 device types.

To install DeviceXPlorer, launch the **RunMe.bat** file from the ICONICS Suite disk or ISO, then go to **Additional Tools** and choose one of the **DeviceXPlorer OPC Server 6** options. Alternatively, explore the disk or ISO, go to **OPC_Servers** > **dxpserver_v611** run **setup.exe**, then choose either **DeviceXPlorer OPC Server 6** or **DeviceXPlorer OPC Server 6 (x64 Edition)**. Follow the installation wizard, making sure to choose your desired PLC drivers.

Once installed, run the DeviceXPlorer configurator by launching **DeviceXPlorer OPC Server 6** from the **start menu**. For more information on how to configure the DeviceXPlorer OPC Server, see the Takebishi documentation at: https://www.faweb.net/en/product/opc

The DeviceXPlorer is licensed via the same License Utility as the rest of the ICONICS Suite. Talk to your local ICONICS sales representative or distributor for more information on how to purchase a license for the Takebishi DeviceXPlorer.

Additional Enhancements

Ref ID	Description	First Available In
77934	The name of the IcoSetup database can now be customized when doing a silent installation. Use the SetupCatalogName entry in CustomSetup.ini to change this database name.	New for 10.96.2

AnalytiX

AnalytiX-BI

AnalytiX-BI General

Ref ID	Description	First Available In
76323	Datetime columns expose a ".DayOfWeek" subcolumn. This new subcolumn will provide the localized name of the day of the week. Using this column in the ORDER BY clause will sort using the numeric value of the day, not alphabetically. Note, in version 10.96.2, the day that starts the week is configured in the AnalyitX-BI point manager. To change this, go to the AnalytiX-BI server machine, open Platform Services Configuration, go to the Point Managers tab, select "BI Server Point Manager", then change the FirstDayOfWeek parameter. This DayOfWeek subcolumn can be used by KPIWorX - see 78281.	New for 10.96.2
80761	When data is being loaded in a table, if the data type of the incoming data does not correspond to the data type of the column(s) where it is being inserted, one or more trace messages will be logged in TraceWorX. Previously, a warning-level message was traced for each row that had an issue. Now, only one message for the first invalid value will be logged at warning level. The other invalid values will also be logged, but at debug level instead of warning.	New for 10.96.2

AnalytiX-BI Workbench Provider

Ref ID	Description	First Available In
68871	Added a new Energy dimension for data flows to import Energy AnalytiX data.	New for 10.96.2

BridgeWorX64 & Workflow

Ref ID	Description	First Available In
77022	The Generate Report block now contains a configuration section for Input Parameters, where users can specify dynamic values for the report's parameters.	New for 10.96.2

CFSWorX

Major Enhancements

Worker Access

Geofence Alarms

(Reference ID: 77075)

Geofence alarms are stateful alarms that can be active while a worker is inside the perimeter of a geographical fence (“geofence”) area, which is defined by a contiguous set of GPS coordinates forming a single polygon. This shape can take many different forms, defined by the user to represent the perimeter of any area, for example: a site, campus, city, state, country, or any custom area.

A geofence exit alarm can also be activated while a worker is outside of a geofence.

To use the geofence alarming feature, first you need to configure your geofences in Workbench. See Configuration of Geofence Locations.

Geofence alarms require that worker MobileHMI devices be configured to send mobile health info, including position. See Setting Up Mobile Device Health for more information.

Once geofences are configured and mobile devices are successfully transmitting GPS updates, users can subscribe an alarm client (viewer, logger) to the Worker Access root (wa:). You will see alarms when workers enter or exit a geofence.

For Further Reference

- Help:
  - Geofencing Alarms
  - Geofence Configuration in MobileHMI

Worker Location Path Replay

(Reference IDs: 78136, 78135, 78348, 78335)

Worker positioning can now be recorded, and the location data can be viewed in KPIWorX maps as paths.

Warning: This feature must be used in strict accordance with all applicable laws. See the ICONICS licensing agreement for further details.

Worker path replay requires that worker MobileHMI devices be configured to send mobile health info, including position. See Setting Up Mobile Device Health for more information.

When configured, the Worker Access Point Manger will expose a new property called **GPSByteArray** for each worker, which represents the worker's location. This can be logged into Hyper Historian and later parsed by the AnalytiX-BI server for display in KPIWorX.

See Geofencing Support for Map Widget.

For Further Reference

- Help:
  - Setting up Worker Path Replay
  - CFSWorX AnalytiX Dashboard Deployment

Salesforce Support for Importing Worker Information

(Reference ID: 72323)

You are now able to synchronize CFSWorX with a Salesforce instance to import field workers and their contact information. CFSWorX is able to import additional information about the workers including group membership, territories, and worker experience (characteristics). These details allow workflow logic to make the decision to contact the appropriate worker for the job. Field worker schedules in Salesforce can be checked to find the right person who is currently working.

For Further Reference

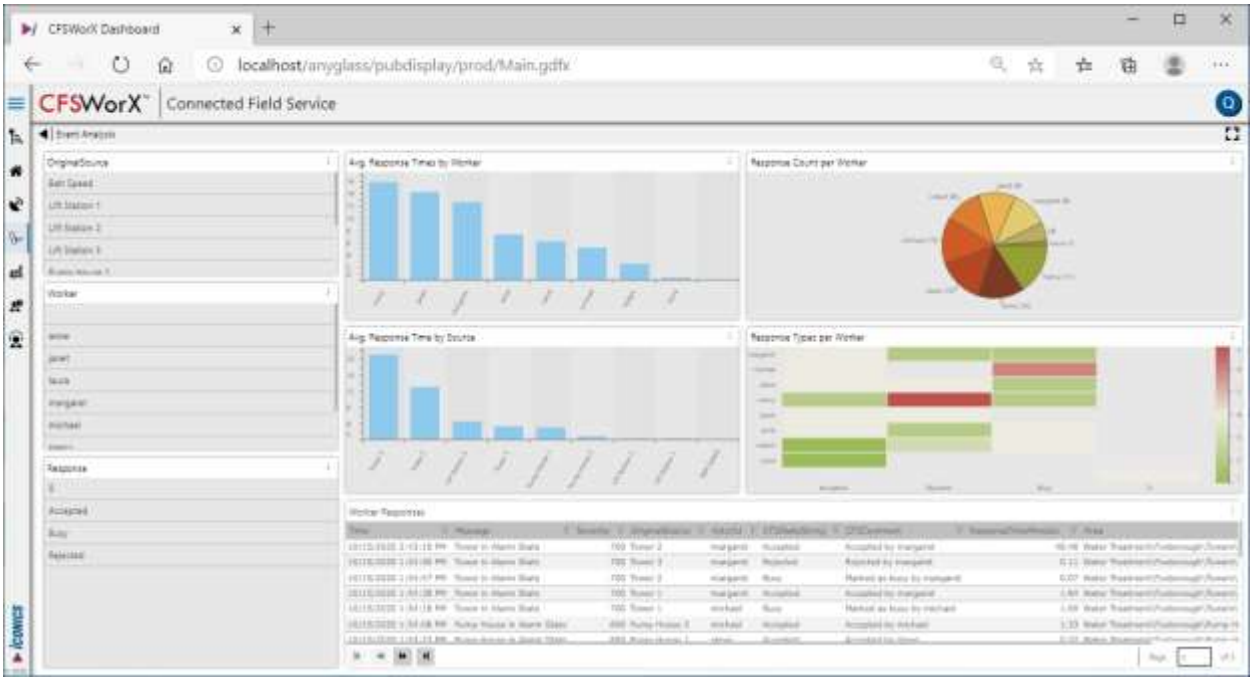
- Help: Configuring Salesforce

CFSWorX AnalytiX Dashboard

New Analysis Dashboard for CFSWorX

(Reference ID: 76432)

CFSWorX now come with a set of analytical dashboards for KPIWorX that helps to provide insight into worker responses to alarms and faults. This powerful tool helps with dispatching the proper field worker and ensuring that items are being responded to in a timely manner.



The CFSWorX AnalytiX Dashboard and the related configuration files can be easily deployed by using a Workbench package file. (See help files for more information on how to deploy these files.)

With the CFSWorX AnalytiX Dashboard, users can manage alarms and faults, analyze the fault response data, view the location history of workers, and dispatch workers. Some of the statistics available in the dashboards include:

- Events
  - Average response time by worker
  - Average response time by source
  - Response count per worker
  - Response types per worker
  - List of responses per worker
- Region
  - Geofence crossings per worker
  - Total minutes for completed events
- Workers
  - Active geofence events
  - Time workers have been in fences
  - Active workers in geofences

For Further Reference

- Help: CFSWorX AnalytiX Dashboard Deployment

CFS Workflows

Send SendGrid Message Block

CFSWorX workflow templates can now include the **Send SendGrid Message** alert block. See SendGrid Email Notifications and Acknowledgement for more details.

Additional Enhancements

CFS Workflows

Ref ID	Description	First Available In
71736	The existing Worker Lookup activity has been enhanced to support a User Data field. This allows you select a specific field worker who should be contacted for some logic in your workflow. This field will need to be filled in with the Worker Access tag for a specific worker (example: "wa:<Local-Default>/Andrew Fuller/").	New for 10.96.2
74534 75837	It now possible to use a CFSWorX workflow to trigger the generation of a Dynamics 365 or Salesforce work order. This activity requires that a connection to Dynamics 365 or Salesforce be established using a CFSWorX Field Worker source.	New for 10.96.2

Ref ID	Description	First Available In
75800 77055	The sample CFSWorX workflow templates have been augmented to include examples for supervisor escalation and automatic worker assignment. The Escalation Template provides an example where two workers will be notified, and then a manager will be notified if the alarm has not been acknowledged. The Assign Template automatically sends an email to a worker who has been assigned to an alarm or fault by the dispatcher. Both templates can be customized to meet your specific needs.	New for 10.96.2
76550 76552	CFSWorX workflows now have the ability to keep track of the current running state of a workflow in case the machine or service stops running unexpectedly (such as a crash or power loss). Alarms that have been previously processed will be squelched to avoid triggering the same workflow again. Note, however, that persistence is cleared if the server is stopped cleanly.	New for 10.96.2
77053	The Generate Report activity has been added to CFSWorX Workflows. Previously this activity was only available in BridgeWorX64.	New for 10.96.2
77741	The existing Send Email activity has been enhanced to support a fixed CC and BCC field. This can be used to send the email to additional recipient(s).	New for 10.96.2
77839	The existing CFSWorX Condition activity has been enhanced to support a counter variable called "cfscoreVariable:CondLoopCount". When configuring the condition, go to the Alarm Values tab and choose CfsWorkflow Values. This can be used in the condition to quit a loop after the counter exceeds a certain value, for example: {{cfscoreVariable:CondLoopCount}}>3 Typically, you would include a Delay block in that loop, and have the condition check for a change such as the alarm being acknowledged, and also check the CondLoopCount. The loop can be exited via the condition either if the alarm becomes acknowledged or the loop has executed a specified number of times.	New for 10.96.2
78055	It now possible to use a CFSWorX workflow to trigger a SendGrid email to be sent. This activity requires that a connection to SendGrid be established using an AlertWorX SendGrid configuration.	New for 10.96.2

Energy AnalytiX

Major Enhancements

New Energy AnalytiX Based on Hyper Historian

(Reference IDs: 67774, 67775)

Energy AnalytiX returns to the ICONICS Suite in version 10.96.2. This new and improved version utilizes the power of Hyper Historian to bring you even more efficient energy calculations to help you reduce and monitor your energy usage.

Energy assets and meters are configured in AssetWorX using an interface that will be familiar to legacy Energy AnalytiX users, then Hyper Historian calculates the appropriate energy data using a new Energy Analysis function library. The configured energy calculations will appear as special equipment properties under the energy assets and meters. These properties are automatically connected to Hyper Historian using AssetWorX-Hyper Historian integration, so all energy data is available through both AssetWorX and Hyper Historian tags.

Along with the new Hyper Historian calculation engine, Energy AnalytiX now comes with a series of premade KPIWorX dashboards to help visualize your energy consumption out of the box. These customizable dashboards leverage the power of AnalytiX-BI data models to provide a completely customizable yet immediately useful visualization experience. Energy data can be aggregated by time or asset and users can leverage drill-down functionality to narrow in on a specific abnormality or interesting segment.

A Hyper Historian Standard or Enterprise license is not required for Energy AnalytiX functionality. Energy AnalytiX can work with any edition of Hyper Historian, including Hyper Historian Express. (The standalone Energy AnalytiX installation comes with a Hyper Historian Express instance.)

Energy AnalytiX also comes with predefined ReportWorX64 templates to create standard Energy Start reports. See the help files for information on how to access these Energy Star templates.

The Energy AnalytiX base package includes GENESIS64 Advanced Application Server. It can also be purchased as an add-on for an existing GENESIS64 Advanced Application Server. Energy AnalytiX cannot be added to a GENESIS64 Basic SCADA system. Basic SCADA users must upgrade to GENESIS64 Advanced Application Server before adding Energy AnalytiX.

For Further Reference

- Application Notes:
    - *Energy AnalytiX – Quick Start*
    - *Energy AnalytiX – Sample Energy Dashboards*

  - *Energy AnalytiX – Energy Source Segmentation*
  - *Energy AnalytiX – Energy Source Allocation*
  - *Energy AnalytiX – Unit Conversions*
- Help:
  - How Energy AnalytiX Works
  - Energy Star

Facility AnalytiX & FDDWorX

Fault Viewer

Ref ID	Description	First Available In
75784	Added a "Last Sample Stretch" option to the configuration of microcharts. When enabled, the microchart line will connect to the edge of the viewer, otherwise the line will end at the last sample.	New for 10.96.2
75785	Added vertical axis properties to the configuration of microcharts. These properties allow the configuration of specific ranges and auto-scaled ranges in addition to the default range (obtained from the source data).	New for 10.96.2
75787	Added additional appearance properties to the configuration of microcharts. For series lines, the fill, stroke, stroke thickness and opacity can now be set. For sample markers, the visibility, type (shape), stroke, fill and size can now be set.	New for 10.96.2
75788	Event bar microcharts can now use @@timestamp (datetime) as a context variable for the brush rules.	New for 10.96.2
77942	If a fault incident is selected, the default option for the comment dialog is now "Selected" instead of "All". If no fault incidents are selected when the dialog is opened the default remains "All".	New for 10.96.2
78364	The Rows page now contains a Tooltips section, allowing the configuration of dynamic tooltips.	New for 10.96.2
79708	On the Columns page, the "Automatic Width" property has been replaced with the "Width Automation" property, which can be set to None (old Automatic Width unchecked), Auto (old Automatic Width checked), or Fill (new). The new Fill option will set this column to take up all remaining available space.	New for 10.96.2

ReportWorX64 & ReportWorX64 Express

ReportWorX64 Excel Add-In

Ref ID	Description	First Available In
77757	Expressions used in "Select from a fixed list of values" parameters are now more permissive in term of data types. If the expression results in a data type that does not match the parameter it will be automatically converted to the parameter's data type, when possible. If the expression result cannot be converted, a more helpful error message will aid the user in resolving the issue.	New for 10.96.2
78840	Previously, when adding historical data tags to a ReportWorX64 Excel sheet the number of tags in the data source determined the schema of the returned columns. A single tag resulted in columns of Value, PointName, Quality, Timestamp, Name, DisplayName, Description, LowRange, HighRange, and EngineeringUnits, whereas multiple tags resulted in columns of ValueTag1, ValueTag2, ... ValueTagN, Timestamp. This is still true; however, users can now optionally use the extended set of columns with more than one tag. To change the schema of a multi-tag historical data source, edit the data source then enable "Always keep extended headers" on the Configuration tab. The schema of a historical data source with the "Always keep extended headers" option will be Pointname, Value, Quality, Timestamp, Name, DisplayName, Description, LowRange, HighRange, and EngineeringUnits.	New for 10.96.2

Ref ID	Description	First Available In
80127	Added a new option to the properties of a historical data source called, "Show recent data on top". When enabled, the data will be sorted by timestamp in descending order. (When not enabled, the data will be sorted by timestamp in ascending order.) Note that the timestamp column must be present for this option to have an effect.	New for 10.96.2

ReportWorX64 Viewer

Ref ID	Description	First Available In
79528	After executing a report, if the report is configured to be unavailable in Excel format, another available format will be downloaded. (Previously, the Excel format would be downloaded, regardless.)	New for 10.96.2

Quality AnalytiX

Major Enhancements

SPC Chart (GridWorX Viewer)

HTML5 Support for Statistical Process Control (SPC) Chart

(Reference ID: 44623)

The GridWorX Viewer's SPC chart can now be used in HTML5 displays, including WebHMI and MobileHMI. Histogram and Line charts are supported.

Configuration of an SPC chart is unchanged. Users can add a **GridWorX Viewer** to a **GraphWorX64** display, edit the **GridWorX Viewer**, delete the preexisting gird object (if desired), then use the **Add SPC Chart Wizard** to add an SPC chart to the tab.

The implementation of SPC charts is a little different between the desktop (WPF) and HTML5 platforms. The HTML5 SPC chart currently does not support chart zoom mode or chart titles. The vertical scale may not look exactly the same between the WPF and HTML5 version of the same display.

For best performance, the HTML5 SPC chart should display no more than 200-300 samples. Exact performance may vary based on your system and how many clients are in use at a time. Some systems may need smaller sample limits. Please reduce the samples in the display if you run into performance issues.

For Further Reference

- Help: HTML5 Support for SPC Control

Data Connectivity

BACnet Connector

Ref ID	Description	First Available In
78275	Certain actions previously only available to online devices are now allowed for offline devices as well. This allows the user to attempt to bring the device back online if it is reporting offline but still responsive. These actions are: AddToAlarmCache, RemoveFromAlarmCache, BackupDevice, RestoreDevice, DeviceCommunicationControl, ReinitializeDevice, and TimeSynchronization.	New for 10.96.2

EtherNet/IP Connector

New Connector for EtherNet/IP

(Reference ID: 73947)

ICONICS can now natively discover and connect to Class 3 devices that support the EtherNet/IP network protocol defined by ODVA.

EtherNet/IP networks and devices can be configured in Workbench under **Data Connectivity** > **EtherNet/IP**. It is available for both standard and IoTWorX projects.

Devices can be automatically discovered on the local network or added manually.

EtherNet/IP point manager tags will start with the **enip** prefix.

The initial release of the EtherNet/IP point manager supports MicroLogix devices (via the PCCC protocol) and other Class 3 devices. Support for Class 1 devices are planned for future releases.

Like many ICONICS point managers, the EtherNet/IP Point Manager provides performance counters for troubleshooting purposes. These can be found in the **ICONICS Ethernet IP Point Manager** category of the Windows Performance Monitor and in the Data Browser under **Diagnostics** > **Control and Diagnostics** > **System Performance Counters** > **ICONICS Ethernet IP Point Manager** or **Diagnostics** > **Health Monitor** > **Counters** > **IcoModuleEthernetIP***CounterName*.

For Further Reference

- Help: EtherNet/IP Manager

GridWorX

GridWorX Server

Ref ID	Description	First Available In
79561	Inline parameters now appear in the @@Execute points for data manipulators by default. These parameters are optional and can be ignored or removed if parameter tags are used instead. If desired, the appearance of inline parameters can be disabled again in Platform Services Configuration > Point Managers tab. Select the GridWorX Point Manager and set EnableInlineDataManipulatorParameters to False. (Note, even when this value is false the parameters can be used inline. This setting only affects whether they appear when the point is browsed.)	New for 10.96.2

Mitsubishi Electric Factory Automation (FA) Connector

New Connector for Mitsubishi Electric FA Devices

In 2019, ICONICS was acquired by Mitsubishi Electric Corporation and became a Mitsubishi Electric Group Company. In the spirit of being better together, ICONICS introduces the new Mitsubishi Electric FA Connector, allowing for a deeper level of integration between ICONICS software and Mitsubishi Electric hardware.

The Mitsubishi Electric FA Connector can be used to connect to Mitsubishi Electric FA devices. It supports MELSEC iQ-R/iQ-F series PLCs and can auto-discover devices on the network.

The Mitsubishi Electric FA Connector can be configured in **Workbench** under **Data Connectivity** > **Mitsubishi Electric**.

For Further Reference

- Help: Mitsubishi Electric FA Connector

GENESIS64

AlarmWorX64

AlarmWorX64 Logger

Ref ID	Description	First Available In
79038	When CFSWorX is installed, the sample AlarmWorX64 Logger configuration is customized for CFSWorX projects (including the logging of geofence alarms). This applies both to the initial database created by installation and when creating new configurations in Workbench and choosing to include sample data.	New for 10.96.2

AlarmWorX64 Viewer

Ref ID	Description	First Available In
61857	The ServerNode can now be displayed in the historical alarm viewer.	New for 10.96.2
79664	Previously, setting a time zone on one event point in an AlarmWorX64 Viewer subscription would apply the same time zone to all event points. Now each event point may have a unique time zone. Note that applying multiple different time zones to the same alarm (such as if two event points with different time zones return the same alarm) is not supported and will have unpredictable results.	New for 10.96.2
78923	When a filter is used for both historical and realtime alarms, the "area" field is ignored for historical alarms. "Area" is not supported for historical alarms, so this allows the filter to be used by both realtime and historical at the same time. Filters configured this way should use the "Field" property and the appropriate attribute (Attribute 4 in the default logger configuration) to filter by area.	10.96.1 Critical Fix Rollup 1

AlertWorX

Major Enhancements

SendGrid Email Notifications and Acknowledgement

(Reference IDs: 76616, 76617, 77431, 77432)

Users can now send alerts via email using the SendGrid service. If the alert represents an alarm or fault, the user can acknowledge it as well.

Similar to other services, these alerts require a SendGrid account. Go to https://signup.sendgrid.com/ and sign up for a SendGrid account. You can choose different packages based on your requirements.

SendGrid credentials are configured under **Alarms and Notifications** > **AlertWorX** > **SendGrid Configurations**.

For Further Reference

- Help: Setting Up SendGrid

Twilio Voice Acknowledgement

(Reference ID: 76618)

In version 10.96.1 it was possible to send outgoing Twilio Voice calls. In version 10.96.2 it now possible to also acknowledge alarms or faults during this call.

Once the default Twilio Configuration with callback Url is set and you have the ICONICS WebAPI Service (IcoWebAPIService) running, you can initiate calls from CFSWorX on an alarm or fault with acknowledge options.

The call will ask you if you want to acknowledge the call, unsubscribe, or end call. You can trigger acknowledgement from the call with the ACK code that is set in the CFSWorX provider in Workbench. It is important that the AckCode that is set in CFSWorX for a worker is numeric for voice calls, since we provide only DTMF input.

For Further Reference

- Help: Setting Up Twilio

Vonage SMS Acknowledgement

(Reference ID: 77255)

In version 10.96.1 it was possible to send outgoing Vonage SMS messages. In version 10.96.2 it now possible to also acknowledge alarms or faults via Vonage SMS messages.

For Further Reference

- Help:
  - Setting Up Vonage
  - Setting Up Vonage Plugin in WebAPI

Support for Single ICONICS User Account for Services

(Reference IDs: 79253, 79087)

You can now use the environment variables **Ico_Cfs_Username** and **Ico_Cfs_Password** to set the ICONICS security account for Twilio, Vonage, and SendGrid in one place.

Previously, you needed to set separate environment variables for each communication type. This also ensures that only one write client license is used by AlertWorX. See the help links below for full details on setting up communications.

For Further Reference

- Help:
  - Setting up Twilio

- Setting up Vonage
- Setting up SendGrid

AssetWorX

AssetWorX Navigator

Ref ID	Description	First Available In
75784	Added a "Last Sample Stretch" option to the configuration of microcharts. When enabled, the microchart line will connect to the edge of the viewer, otherwise the line will end at the last sample.	New for 10.96.2
75785	Added vertical axis properties to the configuration of microcharts. These properties allow the configuration of specific ranges and auto-scaled ranges in addition to the default range (obtained from the source data).	New for 10.96.2
75787	Added additional appearance properties to the configuration of microcharts. For series lines, the fill, stroke, stroke thickness and opacity can now be set. For sample markers, the visibility, type (shape), stroke, fill and size can now be set.	New for 10.96.2
75788	Event bar microcharts can now use @@timestamp (datetime) as a context variable for the brush rules.	New for 10.96.2

Controls

Data Diagram

Ref ID	Description	First Available In
77168	Added a new "Labels Angle" property to the data diagram's vertical axis (Rows page). This controls the angle of the vertical axis labels. This property can be used in both GraphWorX64 pages (WPF/HTML5) and KPIWorX dashboards.	New for 10.96.2

Table Control

Ref ID	Description	First Available In
75784	Added a "Last Sample Stretch" option to the configuration of microcharts. When enabled, the microchart line will connect to the edge of the viewer, otherwise the line will end at the last sample.	New for 10.96.2
75785	Added vertical axis properties to the configuration of microcharts. These properties allow the configuration of specific ranges and auto-scaled ranges in addition to the default range (obtained from the source data).	New for 10.96.2
75787	Added additional appearance properties to the configuration of microcharts. For series lines, the fill, stroke, stroke thickness and opacity can now be set. For sample markers, the visibility, type (shape), stroke, fill and size can now be set.	New for 10.96.2
75788	Event bar microcharts can now use @@timestamp (datetime) as a context variable for the brush rules.	New for 10.96.2
78364	The Rows page now contains a Tooltips section, allowing the configuration of dynamic tooltips.	New for 10.96.2
79708	On the Columns page, the "Automatic Width" property has been replaced with the "Width Automation" property, which can be set to None (old Automatic Width unchecked), Auto (old Automatic Width checked), or Fill (new). The new Fill option will set this column to take up all remaining available space.	New for 10.96.2
78363	Added new properties for columns: Text Wrapping, Header Text Wrapping, Text Trimming, Header Text Trimming. "Wrapping" defines when text that doesn't fit into a cell will continue on the next line. "Trimming" defines how text overflowing a cell would be truncated or finished with an ellipsis (...). They apply to text in the cells or the header. These properties can have these values: Wrapping	10.96.1 Critical Fix Rollup 1

Ref ID	Description	First Available In
	* None - No wrapping. * Wrap - Text will wrap to the next line. * Wrap with Overflow - Text will wrap to the next line at a natural breakpoint in the text. If a natural breakpoint cannot be found, text will overflow. Trimming * None - Overflowing text is simply truncated. * Character Ellipsis - Overflowing text will end with an ellipsis, which is placed behind the last letter. This may result in incomplete words. * Word Ellipsis - Overflowing text will end with an ellipsis, which is placed behind whole words.	

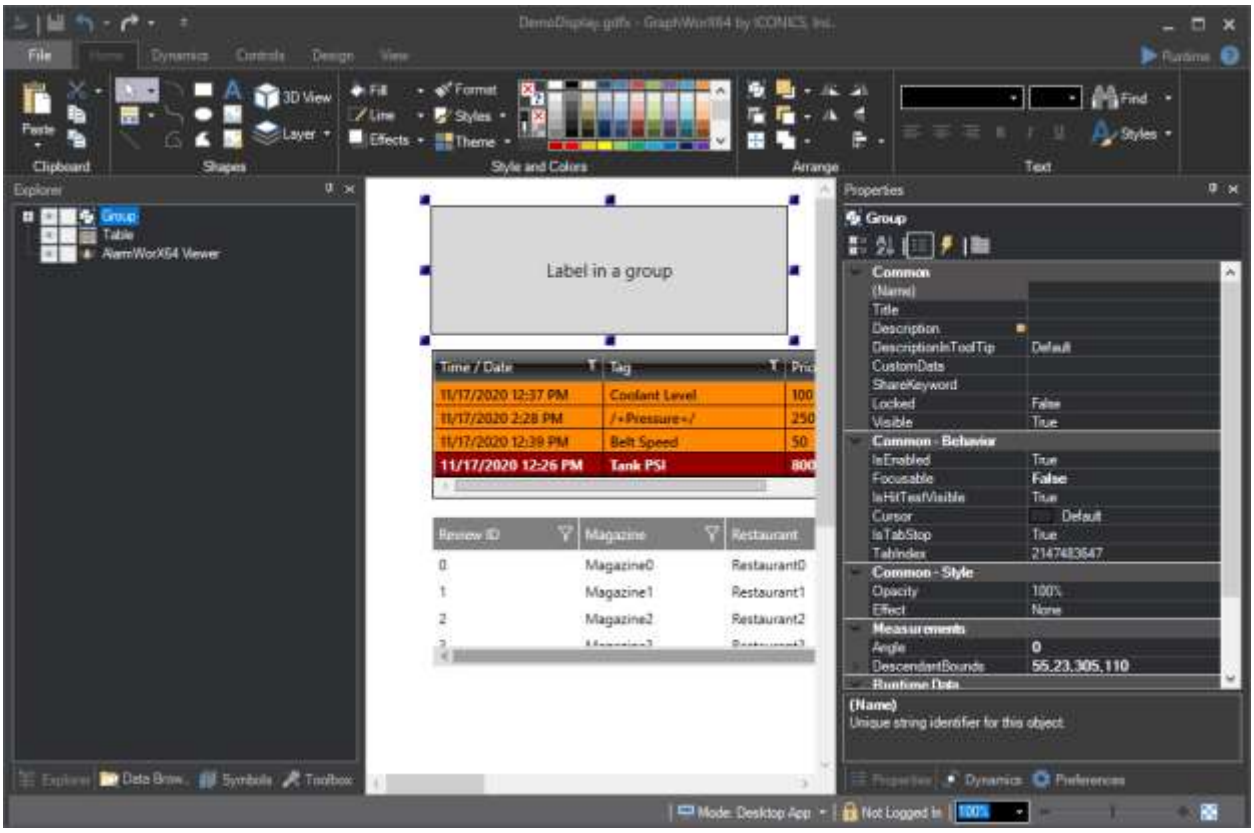
GraphWorX64

Major Enhancements

Dark Theme

(Reference ID: 78384)

GraphWorX64 and Workbench now offer a dark mode using new application themes.



In GraphWorX64, the theme can be chosen from **View** > **Application Theme**. The user can choose from light theme (same as the default theme in previous versions) and the new dark theme. This preference is stored per Windows user, so different developers can use their preferred style.

Note that the application theme is different from the global color themes. Global color themes (set in GraphWorX64 under Home > Theme) apply to the global color aliases used in a GraphWorX64 display. The application theme applies to the user interface of GraphWorX64 itself, including elements like the ribbon, explorer window, properties panel, and status bar. The application theme and global color themes are completely independent. Changing one will not affect the other.

Systems installed as a GENESIS64 Advanced system will default to light theme (same look as previous versions) and those installed as GENESIS64 Basic SCADA will default to dark mode, however both systems can be changed to use either theme at any time.

For Further Reference

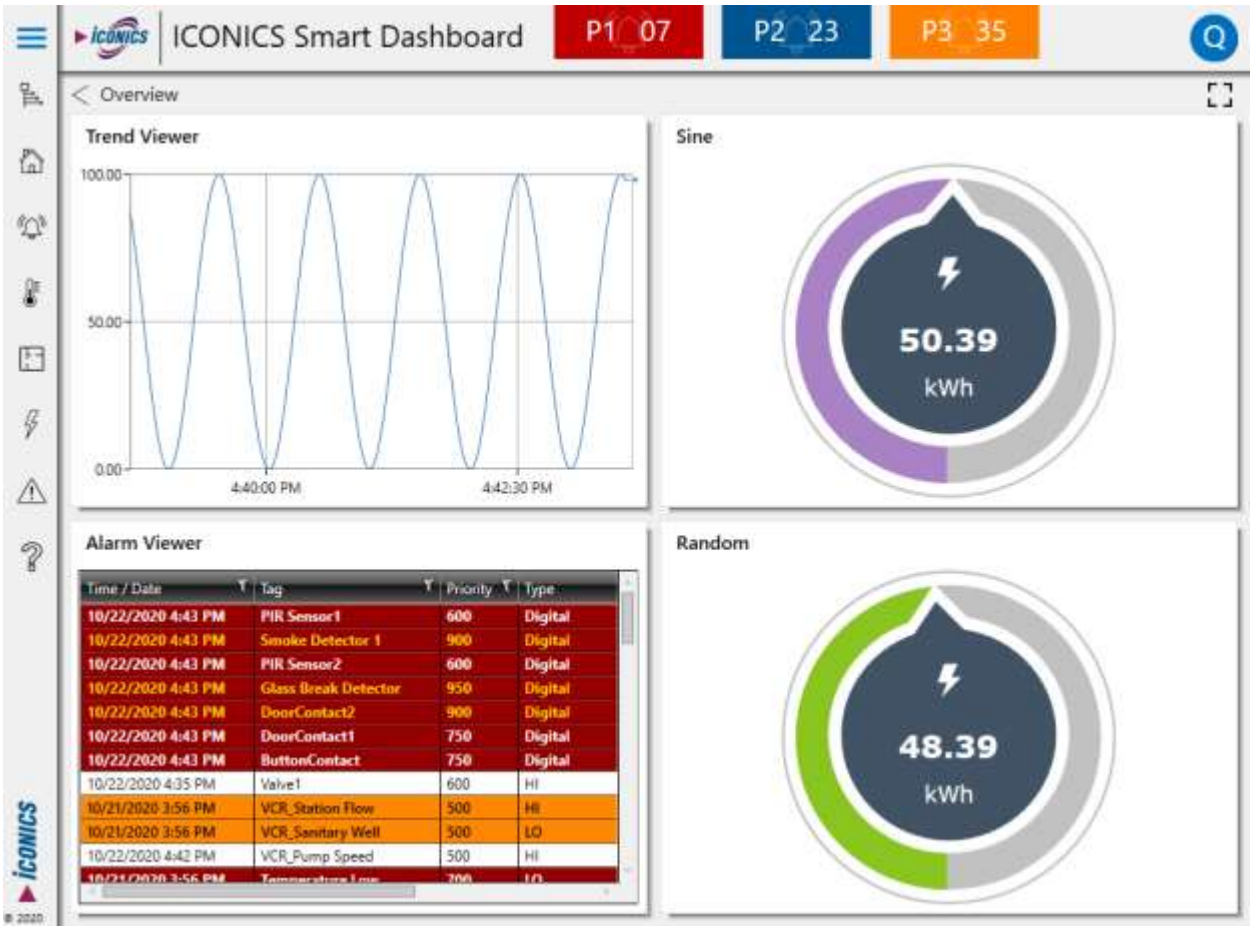
- Help: Dark Mode

Starter Displays

(Reference ID: 78394)

Instead of starting with a blank canvas, users can now begin designing from a number of starter displays. These displays have been designed to have a uniform look-and-feel and can make it easier for new users to get up and running.

The built-in starter displays include a powerful smart dashboard frame and several content displays that load within the frame. This display architecture provides a single place for shared content like important KPIs and navigation, making it easy to modify these elements without having to apply changes across multiple files. It has always been possible to design displays in this way, but the new starter displays make it even easier to understand and use this powerful design philosophy from the start.



Users can also add their own starter displays, allowing systems integrators to create a uniform model for all of their projects and give their engineers a consistent starting point.

To create a new display using a starter display, open GraphWorX64, go to the Design ribbon, and select one of the displays in the Templates gallery.

For Further Reference

- Application Note: *GraphWorX64 - Starter Displays*
- Help: Starter Displays

Hiding Unlicensed Features and Controls

(Reference ID: 78385)

To help display developers focus on the features that are available to them, a number of features are now hidden from the GraphWorX64 ribbons when those features are not available in the current license.

Additional Enhancements

Ref ID	Description	First Available In
48756	The asterisk indicating unsaved changes has now been moved to the beginning of the title. This makes it easier to see which windows have unsaved changes when previewing from the Windows taskbar where the name is sometimes abbreviated.	New for 10.96.2
66348	The InitialValue property of process points and timedate dynamics can now accept dynamic values. Previously only static initial values were allowed. This new feature can be especially helpful when specifying default dataentry values for timedate dynamics that are relative to the current time. For example, use {{x=now()}} to set it to the current date and time or {{x=bday(today()+fromdays(1))}} for tomorrow (start of the day).	New for 10.96.2
66880	The Kerning property is now available to objects that contain text. This new property is visible in Advanced mode.	New for 10.96.2
78612	In configure mode, the file name is now always shown. Previously the file name would be hidden if there was a Title defined. Now, both the Title and file name are shown.	New for 10.96.2
79436	The ReleaseDataWhenHidden property on panels is now accessible via the localsim:property: *panelName*.ReleaseDataWhenHidden variable.	New for 10.96.2

RecipeWorX

Recipe Navigator

Ref ID	Description	First Available In
79856	The Initial Selection field in the Recipe Navigator now supports global aliases. Users should remember that this is to set the initial selection in the navigator, meaning changing this alias in runtime after the navigator has loaded is not expected to change the selection. The Initial Selection field also now supports browsing. Note that only recipe tags and global aliases are supported. Choosing non-recipe tags will result in nothing being initially selected.	New for 10.96.2

Hyper Historian

Hyper Historian Workbench Provider

Ref ID	Description	First Available In
78733	When the sample Hyper Historian database is in use, new tags now use the 1 second collector group as the default group. Previously the 50 ms collector group was the default.	New for 10.96.2

IoTWorX & Internet of Things

IoT Data Sources

Major Enhancements

New EtherNet/IP Connector

(Reference ID: 73947)

The new Ethernet/IP Connector is also available for Edge devices. See New Connector for EtherNet/IP for more details on this new connector.

Internet of Things Workbench Provider

BACnet

Ref ID	Description	First Available In
78742	When creating a new network entity, the network number is now set to 0 by default.	10.96.1 Critical Fix Rollup 1
78776	The object discovery dialog no longer launches automatically after defining the device. (This behavior was not useful in an IoT project because the device has to be deployed before object discovery can occur.)	10.96.1 Critical Fix Rollup 1

KPIWorX

Major Enhancements

General

Collapsible Navigation Bar

(Reference ID: 77534)

The KPIWorX navigation bar can now be collapsed into icons. When collapsed like this, the bar can be accessed in both edit and presentation mode. Users can select an icon to load the appropriate saved dashboard. The dashboard names are available as tooltips, or the user can expand the navigation bar to see the names.

To collapse the navigation bar:

1. Select the **KPIWorX** name in the header to open the navigation bar.
2. Select the **pin** icon to pin the bar.
3. Select the **KPIWorX** name in the header again.

The navigation bar also now more clearly highlights which dashboard is currently open.

For Further Reference

- Help: Collapsible Navigation Bar

Incorporate WebHMI and Other Pages into Dashboards

(Reference ID: 77376, 78689)

Users can now add any URL to the navigation bar, not just KPIWorX dashboards. The most common use is to add WebHMI (HTML5) pages for more seamless navigation between KPIWorX dashboards and GraphWorX64 WebHMI pages; however, any URL that allows embedding can be added. Users can add links to documentation or other useful pages, allowing KPIWorX to become your users' primary interface to every page they need.

To add a page into the navigation bar:

1. Put **KPIWorX** into **edit mode**.
2. Expand the **navigation bar**.

3. Select the **edit** icon.
4. Select the **add** icon.
5. In the **Create Dashboard/Display Link** window, enter your URL in the **Link URL** field.
6. Enter a **name** and fill in the other fields as desired.
7. Select **Ok**.

In presentation mode, selecting this display link will load the desired URL inside the main dashboard area of the dashboard. URLs can also be loaded in edit mode, but a "Link Mode (Limited Customization)" label will be displayed, indicating that the page cannot be edited like standard KPIWorX widgets.

When WebHMI pages are loaded in this way, if the WebHMI page executes a **Load KPI Dashboard** pick action, the new dashboard will be loaded in the same KPIWorX dashboard frame, allowing seamless navigation back and forth between dashboards and WebHMI displays.

Furthermore, the Load KPI Dashboard command has a new parameter called **Parameters**. The Parameters parameter can be used to specify filters for the dashboard being loaded, further deepening the integration between KPIWorX and WebHMI. For example, users can create a floor plan WebHMI display with pick actions for the different regions of the floor, and each pick action can load the same dashboard, filtered for that particular region.

To create a Load KPI Dashboard pick action that leverages this functionality, configure it with these values:

DashboardName	The name of the dashboard, including visibility. (Example: **Public\MyDashboard**.) This name, including visibility and the proper formatting, can easily be copied by going to the dashboard header and selecting **more** > **Share** > **Dashboard Name** > **Clipboard**.
Parameters	A string representing the filter to be applied. As an example, Northwind.Categories.CategoryName=Confections could be used to filter on the "Confections" category in the sample Northwind data model.
Target	Set to AssetPage to target the KPIWorX content area.

For Further Reference

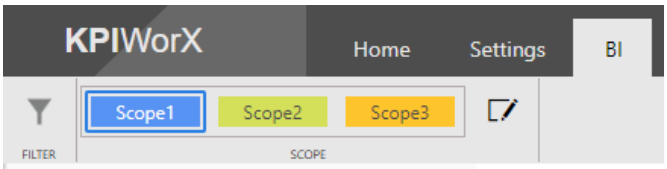
- Help: Incorporating WebHMI and Other Pages Into Dashboards

Filtering

Scopes

(Reference ID: 74323)

Previously in KPIWorX, applying a filter (such as when choosing an item in a filter widget) would apply that filter across all widgets on the dashboard. Now, in version 10.96.2, the user can define different filtering scopes, allowing the creation of filters that only affect certain widgets. This opens up greater dashboard possibilities, such as comparing two time periods or two assets in the same dataset.



To configure widgets with different scopes, make sure you are in **edit mode**, then go to the new **BI** tab in KPIWorX. There you will find the **Scope** section where you can add, delete, rename, and choose the color for different scopes. Select a widget, then select a new scope in the BI tab to move the widget to that scope. You will notice that the widget has a colored outline in edit mode, providing a visual indicator of its scope.

The filter menu in the header will display the filters in the different scopes. They can be cleared independently, if desired.

Scopes are saved on a per-dashboard level. Each dashboard can have a different set of scopes.

For Further Reference

- Help: Scopes

Relative Datetime Filters

(Reference ID: 75504)

Filters on a datetime column can now use dates and times relative to the current time.

Select a widget that includes a datetime column, then go to the **Widget Settings** panel. Add a filter for your datetime column, set its filter type to **Advanced**, select the **calendar** icon for one of the condition fields, then select **Presets**. You can choose from presets such as "Today" or "Last Week" and can apply an offset such as "2 days". This allows for the creation of dashboards that always load showing relevant data, instead of having to be hard coded for a specific date range that may quickly become the past.

The relative datetime functionality is also available on dashboard-level filters. The icon to access dashboard-level filters has been moved to the BI tab. Select the **BI** tab, then select the **filter** icon. Add a filter for a datetime column and observe the same preset dates in the advanced filter settings.

For Further Reference

- Help: Relative Datetime Filters

Widgets

New Tree Widget

(Reference ID: 68434)

A new widget available in the Component Library is the tree widget. The tree widget can be connected to a column that contains a hierarchy. The two hierarchies currently supported are datetime columns and asset columns.

A datetime column visualized in the tree widget will show a tree with the year as the top level, followed by month, day of month, hour, etc.

The tree widget can control the drill-down of other charts. For example, a user can expand the year 2020 in a datetime widget, select the month of November, and other chart widgets on the dashboard will automatically drill down into November of 2020.

When the tree widget is configured to be one row high it becomes a bread crumb bar.

For Further Reference

- Help: Tree

Geofencing Support for Map Widget

(Reference ID: 78352, 78842)

The map widget supports geofencing. The map can display the geofences and worker paths.

To show geofences, edit the map widget settings and enable **Show geofences**.

To configure worker paths, set the **Symbol** of the map widget to **path**. Map the **Latitude**, **Longitude**, and **TimestampPathBinding** properties to appropriate columns of your worker dataset and map the **Measure** column to the name or ID of your worker dataset.

See Configuration of Geofence Locations for how to create geofences.

For Further Reference

- Help: Geofencing Support for Map Widget

Additional Enhancements

General

Ref ID	Description	First Available In
76325	Chart vertical axes now include a Display Units property. This property can be used to shorten the displayed values in cases of very large numbers. Choosing "Thousands", "Millions", or "Billions" will shorten the value to the chosen units with an appropriate label (for instance, 50000 with a Display Units of "Thousands" will show as 50k). Choosing "Auto" will allow the chart to choose the unit based on the value. Choosing "None" will not perform any shortening.	New for 10.96.2
76545	Enhanced the goal tracker widget to make better use of the available space.	New for 10.96.2
76884	The horizontal axis of a categorical chart now accepts a formatting string.	New for 10.96.2
78281	Datetime columns now have a new subcolumn named "DayOfWeek". This new subcolumn can be added anywhere a normal column can be used and will provide the localized name of the day of the week. (Existing subcolumns for datetime columns included Year, Month, Day, etc.) The values will also be ordered by date order (not alphabetically). Note, in version 10.96.2, the day that starts the week is determined by the AnalytiX-BI server that is providing the data. To change this, go to the AnalytiX-BI server machine, open Platform Services Configuration, go to the Point Managers tab, select "BI Server Point Manager", then change the FirstDayOfWeek parameter.	New for 10.96.2
79207	Added a new "Mode" to the calendar widget: Single. When choosing the "Single" mode, only a single day will be selected. The applied filter will go from the beginning of the day to the end of the day.	New for 10.96.2

Widgets

Ref ID	Description	First Available In
77168	Added a new "Labels Angle" property to the data diagram's vertical axis (Rows page). This controls the angle of the vertical axis labels. This property can be used in both GraphWorX64 pages (WPF/HTML5) and KPIWorX dashboards.	New for 10.96.2

MobileHMI & HTML5 WebHMI

HTML5, iOS, Android Platform

Major Enhancements

Feature Parity Improvements

HTML5 browsers and the MobileHMI apps for iOS and Android can now use the following features and functionality that were previously only available in the desktop GraphWorX64 app (WPF) or the Universal Windows Platform (WPF) MobileHMI app.

AlarmWorX64 Viewer

Ref ID	Description	First Available In
77100	The context menu now includes an option to show or hide the grouping header.	New for 10.96.2

GraphWorX64

Ref ID	Description	First Available In
76372	The "SuppressErrorMessages" GridWorX Viewer property is now supported.	New for 10.96.2
78735	Dynamic content in the Text property of RuntimeWindowProperties.	New for 10.96.2

GridWorX Viewer

Ref ID	Description	First Available In
44623	SPC charts (Quality AnalytiX). (See HTML5 Support for Statistical Process Control (SPC) Chart.)	New for 10.96.2
77636	The ClusterPadding property of GridWorX Viewer charts.	New for 10.96.2
79084	The context menu now includes an option to show or hide the grouping header.	New for 10.96.2
77693	HTML5 GridWorX Viewer charts now respect the "VerticalGridInterval" property.	10.96.1 Critical Fix Rollup 1
77740	HTML5 GridWorX Viewer charts now respect the "EnableSmartLabels" property.	10.96.1 Critical Fix Rollup 1

Additional Enhancements

GraphWorX64

Ref ID	Description	First Available In
66348	The InitialValue property of process points and timedate dynamics can now accept dynamic values. Previously only static initial values were allowed. This new feature can be especially helpful when specifying default dataentry values for timedate dynamics that are relative to the current time. For example, use {{x=now()}} to set it to the current date and time or {{x=bday(today()+fromdays(1))}} for tomorrow (start of the day).	New for 10.96.2

GridWorX Viewer

Ref ID	Description	First Available In
78271	When exporting a CSV file from the HTML5 GridWorX Viewer, the semicolon (;) is now used as the delimiter instead of a comma (,). This is now consistent with the desktop (WPF) GridWorX Viewer and avoids problems with regional settings where the comma is used as the decimal separator.	10.96.1 Critical Fix Rollup 1

MobileHMI Workbench Provider

Major Enhancements

Configuration of Geofence Locations

(Reference ID: 77768)

It is now possible to create geofence polygons in the MobileHMI Augmented Reality configuration.

Configure your geofences in **Workbench** under **MobileHMI** > **Configuration** > **Augmented Reality**.

Geofences can be displayed in a KPIWorX map widget as described in Geofencing Support for Map Widget.

Geofences can also be used to create alarms when workers cross in or out of the boundaries. See Geofence Alarms.

For Further Reference

- Help: MobileHMI Augmented Reality Geofences

Platform Services

Commanding

Ref ID	Description	First Available In
79289	Enhanced the tracing of commands to help identify which client is calling commands using invalid parameters.	New for 10.96.2
80242	The Acknowledge command can now specify the shelve duration when performing a ShelveOn operation. Set the "Unshelve After" property with the desired number of seconds.	New for 10.96.2

FrameWorX Server

Ref ID	Description	First Available In
76939	Process affinity can now be set for FrameWorX and point managers. Process affinity is a bitmask representing which logical processor cores a process can use (example: a process affinity of 5 can only run on the first and third cores). A value of zero indicates the process will use the process's default affinity (usually all cores). To set the affinity for FrameWorX, edit FwxServer.Network.config and change the <ProcessAffinity> value. To set the affinity for an out-of-process point manager, edit FwxServer.PointManagers.config, find the appropriate PointManagerConfiguration item, and add a <ProcessAffinity> value in that section. (The ProcessAffinity value will be ignored if the point manager is running in-process.) (Note that certain legacy applications such as AlarmWorX64 Server must have their affinity set in the IcoSetup64.ini file. Find the appropriate header and add or modify the ProcessAffinityMask entry. This is not new functionality and has not changed for this version.)	New for 10.96.2
78955	It is now possible to specify the namespace index instead of the namespace URI in an OPC UA point name. The namespace index must be typed manually (it cannot be browsed). Example point with namespace URI (original syntax): ua:DASample\\[http://opcfoundation.org/Quickstarts/DataAccess]TestData/Static/CC1001.Input1 Example point using namespace index (new optional syntax): ua:DASample\\[2]TestData/Static/CC1001.Input1 Note that the namespace indices are not guaranteed to remain the same. Some servers will change the indices every session. If this happens, the points specifying the old index will stop working. For this reason, it is recommended to continue to use the original namespace URI syntax whenever possible, and only use the namespace index syntax when the index is guaranteed by the server to not change. This feature was added to facilitate rare systems that have two servers with the same namespace URI or other unusual circumstances that make the namespace URI difficult to use.	New for 10.96.2

Health Monitoring

Ref ID	Description	First Available In
79580	System Health Monitor pages were enhanced with a number of additional counters for a more complete picture of your system.	New for 10.96.2

Licensing

Major Enhancements

Easier Demo or Trial Reset

(Reference IDs: 79704)

Previously, when the built-in 12-hour demo expires it was necessary to restart the ICONICS License Service or the machine to start a new 12-hour period.

Now, Workbench will display a helpful message notifying you that your trial has expired. Furthermore, the user can simply select this message and the demo period will reset. It is no longer necessary to find and restart the appropriate service.

This works for both the built-in 12-hour demo and the new ICO360-TRIAL-SIP licenses for registered system integrators.

For Further Reference

- Help: Licensing Options

New ICO360-TRIAL-SIP License

(Reference ID: 79312)

A new license is available for Systems Integrators who join at our new Registered level. The ICO360-TRIAL-SIP license offers a new level of system integrator license between the built-in 12-hour demo and a full ICO360-SIP license (available to systems integrators at Enrolled level and above).

The new ICO360-TRIAL-SIP license offers unlimited development time, but its runtime will time out after two hours. The runtime can be easily restarted using the new demo or trial reset functionality in Workbench, mentioned above. It contains more tags, advanced clients, and other options than the built-in demo.

The status bar of Workbench will show the remaining runtime duration of an ICO360-TRIAL-SIP license.

Like ICO360-SIP licenses, the ICO360-TRIAL-SIP licenses include must be renewed every year.

The new ICO360-TRIAL-SIP licenses cannot be run as a cloud license. It must be activated as a software or hardware license.

The table below helps describe the differences between the demo that comes with every ICONICS Suite installation, the new ICO360-TRIAL-SIP license, and the ICO360-SIP license.

	Built-In Demo	**ICO360-TRIAL-SIP (New)**	**ICO360-SIP**
Activation Method	None – in effect whenever system has no license	Activate via Web Licensing Utility	Activate via Web Licensing Utility
Required SI Program Level	None	Registered	Enrolled and above
Development Duration	12 hours	Unlimited (until expiration)	Unlimited (until expiration)
Runtime Duration	12 hours	2 hours	Unlimited (until expiration)
Duration Displayed in Workbench	No	Yes	NA
License Expiration	None	1 year	1 year
GENESIS64 Tags	64	50,000	100,000
Hyper Historian Tags	64	50,000	100,000
Advanced Clients	1	5	25
ReportWorX64 Reports	5	25	1000
BridgeWorX64 Transactions	5	25	1000
Energy AnalytiX Meter Assets	24	25	100
FDDWorX Assets	24	25	100
Available as Cloud License	NA	No	Yes

Contact your local ICONICS sales representative or distributor for more information on how to obtain an ICO360-TRIAL-SIP license.

For Further Reference

- Help: ICO360-TRIAL-SIP License

License Simulation

(Reference IDs: 78730)

Users with a demo or SIP license can now simulate having fewer elements in their license.

This license simulation feature can help a systems integrator to develop for an end user that will be using a GENESIS64 Basic SCADA license or another license with a reduced feature set. The SIP license can be reduced to the features of Basic SCADA or to otherwise match the end user license. This can help ensure that the integrator does not unintentionally use features in the project that will not be usable on the end user's system without requiring the integrator to obtain a compatible license and apply it to the development system. The development system can continue using the integrator's SIP license, and the integrator can even switch back and forth between projects with different license requirements.

To use the license simulation feature:

1. Open the **License Viewer** from either **Start** > **ICONICS .NET Licensing** > **MonitorWorX Viewer** or from **Workbench** > **Tools** > **Licensing**.
2. Go to the **Simulator** tab.
3. Select **Enable Simulator**.
4. Modify the **License Count** values as needed. To quickly switch to a Basic SCADA license, select the **Basic SCADA Mode** button. This will change the values below to simulate a GENESIS64 Basic SCADA license without any add-ons.

Note that to fully emulate GENESIS64 Basic SCADA functionality the user also needs to change the tag counting mode:

1. Open **Platform Services Configuration** from either **Start** > **ICONICS Tools** > **Platform Services Configuration** or **Workbench** > **Tools** > **Platform Services Configuration**.
2. Go to the **License** tab.
3. Change **Tag Counting Mode** to **AssetWorX Tags**.
4. Apply the changes.
5. Reboot the system when prompted.

When license simulation is enabled, an orange bar warning will be shown at the bottom of the license viewer.

License simulation is supported for software or hardware keys, but not cloud licenses.

For Further Reference

- Help: License Simulation

Partial Compatibility with 10.96 and 10.96.1 Licenses

(Reference IDs: 80018)

The licensing has significantly changed between version 10.96.1 and 10.96.2. Normally a change of this level would require users upgrading a system to also upgrade their licenses using the Web Licensing Utility, but version 10.96.2 was specifically enhanced to support using an existing 10.96 or 10.96.1 license.

This compatibility with existing 10.96 or 10.96.1 licenses works best with systems that do not share a license between multiple FrameWorX servers. An easy way to determine if you need to upgrade your license after upgrading your software is to open **Platform Services Configuration**, go to the **License** tab, and view the **License Location**.

If your License Location is set to **Local License Key**, then you should not need to upgrade your license in the Web Licensing Utility after upgrading your software.

If your License Location is set to **Remote License**, especially if you have multiple servers looking at the same remote license server, then it is best to upgrade your license in the Web Licensing Utility after upgrading your software to ensure you have a proper license for everything you have purchased.

For Further Reference

- Help: Using the ICONICS Web Licensing Utility to Upgrade Your License

Security

Ref ID	Description	First Available In
77919	A new optional setting has been added for HTML5 displays that will redirect the user to a specific page when they log out (more specifically, when the user has changed and the new security context no longer has access to the current page). By default, when a user logs out the same page is re-requested and the "access denied" page is shown if the user does not have access to the page. When this setting is configured, instead the user will be redirected to the specified URL. To configure this setting, edit the AfterLogoutUrl value in the ico.anyglass.parsing.config file. A blank value will use the default behavior (no redirect after logout). This setting can be used to prevent the user from automatically logging back in if they are using SAML security and the SAML token still exists.	New for 10.96.2

WebAPI

Major Enhancements

Support for WebHooks

(Reference ID: 75195)

WebAPI now includes support for WebHooks.

Users can use WebHooks to get data from third party applications. This data is made available as alarms in the **svrsim:message** alarm source. The message of the alarm is the JSON or XML payload of the WebHook call.

Users can subscribe to these alarms with the **AlarmWorX64 Viewer** for simple display or use **BridgeWorX64** and its **JSON Content Reader** activity to parse the payload and take action on it, such as writing it to a database, copying it to tags to be displayed in GraphWorX64, and more.

WebAPI's implementation uses OAuth 2.0 and supports both JSON, XML, and plaintext payloads. Supported HTTP methods are GET and POST.

For Further Reference

- Help: Generic Webhook Support

Unified Data Manager

Ref ID	Description	First Available In
77151	Process affinity can now be set for the Unified Data Manager. Process affinity is a bitmask representing which logical processor cores a process can use (example: a process affinity of 5 can only run on the first and third cores). The Unified Data Manager's affinity is set in the IcoSetup64.ini file. Find or modify this entry: [DATAMANAGER\Configuration] ProcessAffinityMask=0 If the ProcessAffinityMask entry is not present (default), the process will use all available cores.	New for 10.96.2

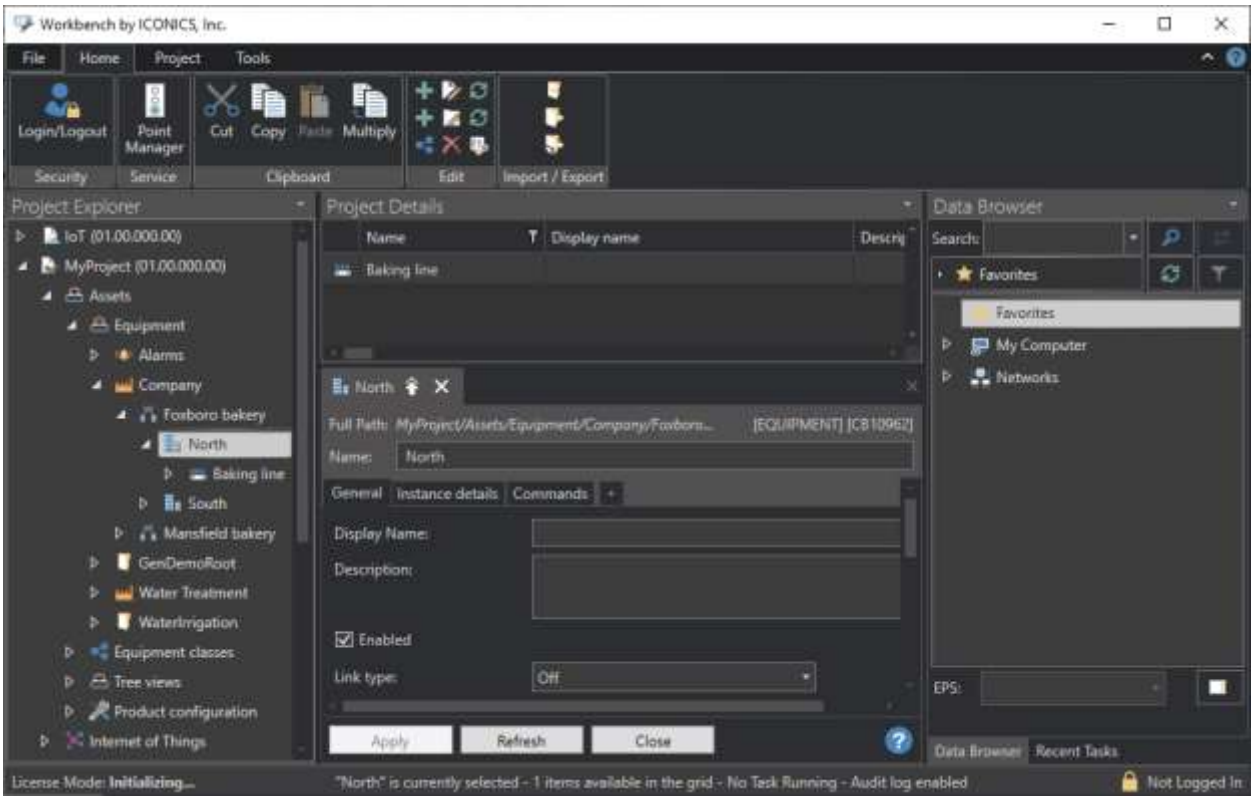
Workbench

Major Enhancements

Dark Theme

(Reference ID: 78722)

GraphWorX64 and Workbench now offer a dark mode using new application themes.



In Workbench, the theme can be chosen from **Tools** > **Themes**. The user can choose from light theme (same as the default theme in previous versions) and the new dark theme. This preference is stored per Windows user, so different developers can use their preferred style.

Systems installed as a GENESIS64 Advanced system will default to light theme (same look as previous versions) and those installed as GENESIS64 Basic SCADA will default to dark mode, however both systems can be changed to use either theme at any time.

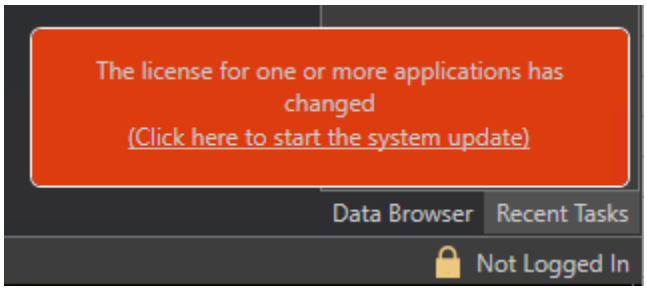
For Further Reference

- Help: Dark Mode

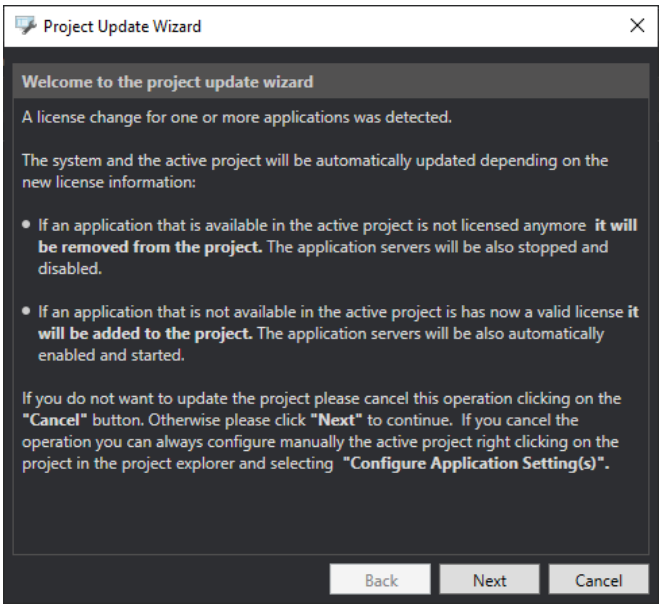
Automatically Update Project when License Changes

(Reference ID: 78728)

To make sure that users are able to use applications they purchased and are not bothered by those they haven't, Workbench now listens for changes to the installed license, and if it detects an appropriate change it will guide the user through enabling or disabling Workbench providers and applications to match the new license. This makes the process of applying a new license more intuitive. The process is optional – users are free to not add or not remove providers.



When Workbench detects a change (this may take a few seconds), it pops up a special notification that prompts the user to start the system update process. When the user selects the message, a Project Update Wizard appears and guides the user through the process of updating the project to match the license. The process can be canceled at any time. If canceled, no changes will be made, and the user will not be prompted for any further changes unless the license changes again. Changes can still be made manually in the "Configure Application Setting(s)" dialog.



If the Project Update Wizard needs to remove an application, it will hide the provider in the Workbench tree and disable the associated services or in-process point managers. No configuration databases will be removed, so no work will be lost if an application is mistakenly removed. (Configuration tables or databases must be removed manually if the user desires.)

If the Project Update Wizard needs to add an application, it will prompt the user for SQL Server credentials used for the configuration database. The user will have the option to overwrite existing configuration data or keep the configuration already present. The providers will be added to the Workbench tree and any associated services or in-process point managers will be enabled.

Changes will be made once the user selects Update on the last page of the wizard. They may take a few minutes. Depending on the changes, the wizard may notify the user that a restart of FrameWorX is be required.

If the user canceled a project update prompt and later decides they would like to finish the process they can use the **Update Applications** button on the **Project** ribbon to launch the Project Update Wizard.

For Further Reference

- Help: Automatically Update Project When License Changes

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