

ICONICS v10.95.4

What's New – ICONICS Suite

September 2018



Gold
Microsoft Partner



Make the Invisible Visible™

Contents

Overview.....	4
How to Use this Document	4
Recommendations	4
General.....	5
Support for Microsoft SQL Server 2017	5
Support for Microsoft SQL Server Contained Databases.....	5
Extensibility ToolWorX	5
AnalytiX.....	6
New BridgeWorX64 Block: Web Service Manipulator.....	6
GENESIS64	7
GridWorX Viewer: Execute Command on Row Click.....	7
GridWorX Viewer: Execute Command on Chart Series Click	8
GridWorX Viewer: Dynamic Max and Min Range Values.....	9
GridWorX Viewer: Enhanced Cursor Format	9
Hyper Historian.....	10
Enhanced OPC HDA Point Names.....	10
New Functions: Nextevent, Resetevent and Isevent	10
IoTWorX.....	12
GenBroker and Health Monitor	12
MobileHMI.....	13
HTML5 Support for Integrated Authentication.....	13
Sounds in HTML5	14
Data Explorer Custom Styles.....	14
KPIWorX – Ease of Use Enhancements	14
TrendWorX64 Viewer – Write Cursor Values to Tags	15
TrendWorX64 Viewer – Time Zone Supports Dynamic Input	15
TrendWorX64 Viewer – Delete Pen from Runtime	15
Platform Services	16
New Expression Functions	16
BACnet – Alarm Acknowledgement Comments.....	16

BACnet – Improved Offline Device Icons.....16

OPC UA Clients May Specify Username and Password 17

Triggers – Ease of Use Enhancements 17

Overview

How to Use this Document

Arranged so that users can see the features of each module or provider, all of the new features listed are selected to give the best examples for what could be tested and used in this release. Each feature includes a brief description, a list of benefits the user or developer will receive, as well as use cases and examples.

Recommendations

ICONICS suggests that anyone viewing this document browse the Table of Contents before diving into the text, as some features may or may not be applicable to all projects. Once a feature that is of interest to the reader is found, read the description and benefits before attempting to use the feature. If an ICONICS representative has informed a user that a certain feature that should be available is not, please email ICONICS as soon as possible so that we can verify the feature and timing.

General

Support for Microsoft SQL Server 2017

Description

Project Reporting (and all of the ICONICS Suite, as of Update 4) is now compatible with Microsoft SQL Server 2017.

(Reference ID: 61340)

Support for Microsoft SQL Server Contained Databases

Description

Workbench and all providers now support Microsoft SQL Server "contained databases" as configuration and logging databases.

(Reference ID: 60838)

Extensibility ToolWorX

Description

Added various enhancements to support the new Extensibility ToolWorX™.

The Extensibility ToolWorX is a collection of documentation and sample code that describes and explains APIs that can be used to enhance the capabilities of ICONICS' suite of products with custom behaviors. For example, there are APIs for integrating third-party data sources into ICONICS' communications infrastructure. Others help users to configure custom plugins for the ICONICS Workbench application, while additional APIs can be used for auto-configuring an ICONICS system, and much more. The Extensibility Toolkit consists of explanatory documents, API Reference help files, Sample Code projects, and API XML files for Visual Studio Intellisense; all to help customers and partners with their own customization projects.

Talk to your sales representative or distributor for information on how to obtain Extensibility ToolWorX.

(Reference ID: 62047)

AnalytiX

New BridgeWorX64 Block: Web Service Manipulator

Description

Added a Web Service Manipulator block to BridgeWorX64. The block can execute Web Service Manipulators ("ws:" prefix).

Use

Edit your BridgeWorX64 template and add a Web Service Manipulator block. Usage is very similar to the pre-existing Data Manipulator block.

When executed successfully, this activity exposes an output dataset containing one row and three columns: OutputParameterName, Data, and StatusCode. The value in the OutputParameterName column is a constant string, "ReturnValue", and is provided to be consistent with the schema of the Data Manipulator block.

Web Service Manipulators can be configured in Workbench under Data Connectivity -> Web Services.

(Reference ID: 61966)

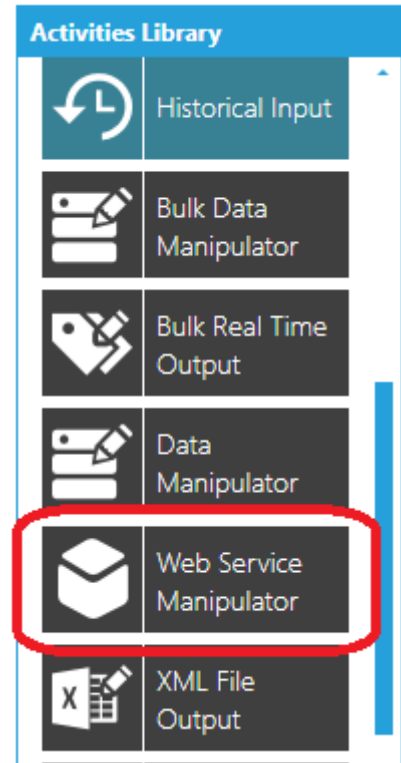


Figure 1 - Web Service Manipulator

GENESIS64

GridWorX Viewer: Execute Command on Row Click

Description

You can now execute commands from the GraphWorX Viewer by clicking anywhere on a row instead of in a particular cell.

Use

Edit your GridWorX Viewer, select the Grid, and then go to the Advanced tab. Look in the "Grid" section, and set these two properties:

- **SelectEntireRow** – Setting this property to True allows the user to select whole rows at a time instead of single cells.
- **SelectionCommandColumnKey** – This sets the command to be executed when the row is clicked. This property takes the name of a column. The column must have "Contains a clickable link" checked on the Columns tab. The column does not need to be visible.

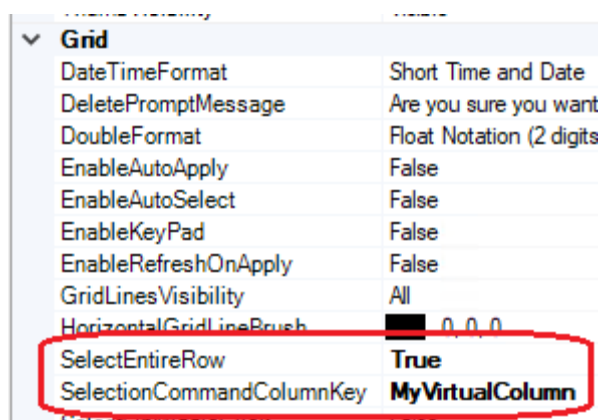


Figure 2 - Advanced properties

In version 10.95.4, these properties are only available via the Advanced tab, but we plan to better integrate them into the GUI in 10.96.

(Reference ID: 59012)

GridWorX Viewer: Execute Command on Chart Series Click

Description

Users can now execute a command by clicking on a chart series.

Use

The command to be executed is defined on the Series tab of a Chart.

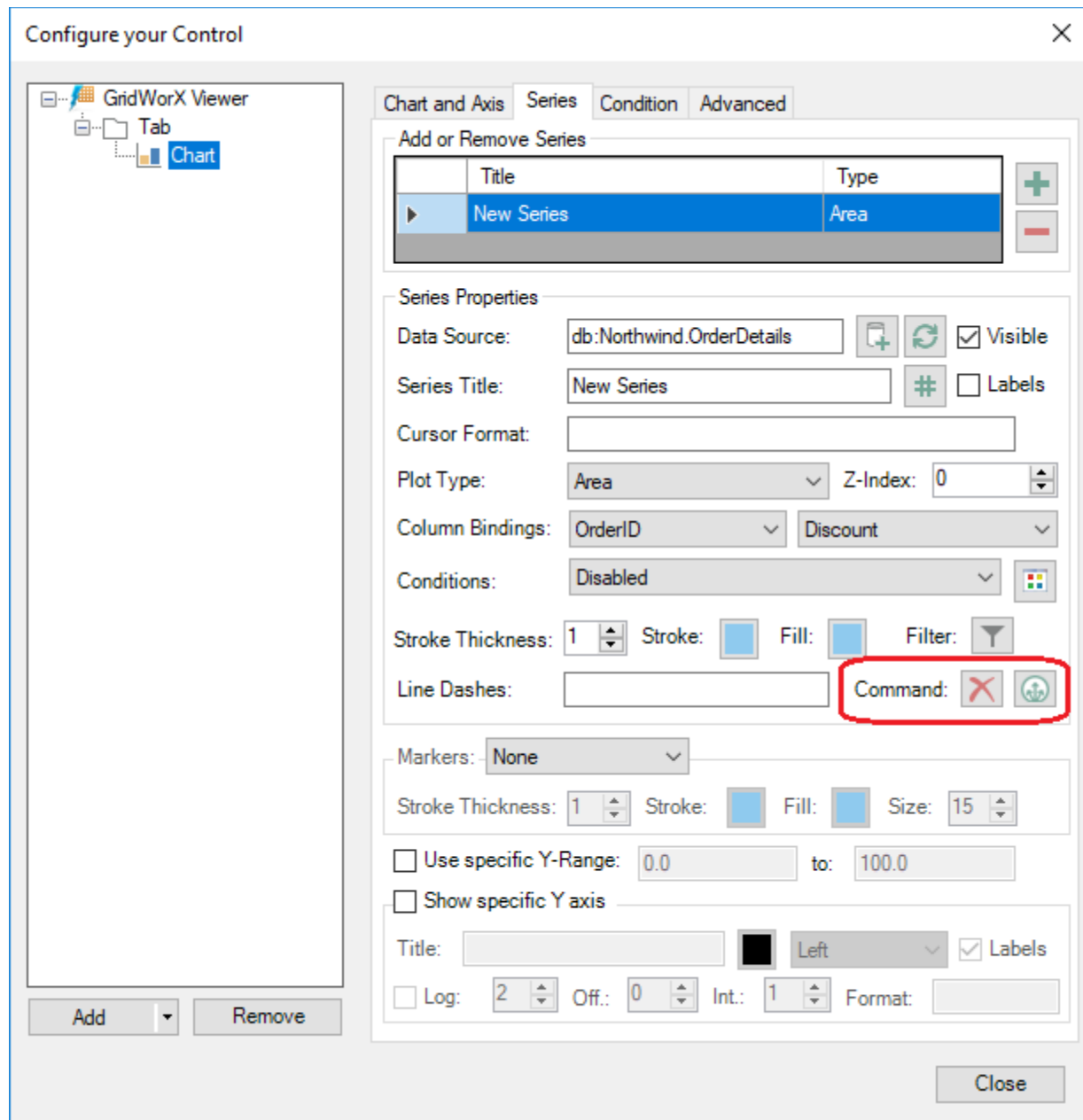


Figure 3 - Command buttons

(Reference ID: 63753)

GridWorX Viewer: Dynamic Max and Min Range Values

Description

Dynamic values (such as tags and aliases) can now be used in the max and min values of a GridWorX Viewer's chart's "Use specific X-Range" and "Use specific Y-Range" settings.

Use

In version 10.95.4, you must type or paste the tag names manually, but starting in 10.96, you will be allowed to browse for them.

(Reference ID: 61520)

GridWorX Viewer: Enhanced Cursor Format

Description

The Cursor Format property has been enhanced to allow expressions.

Note, the old syntax will still be accepted. No changes should be required to existing displays.

Benefits

Using expressions allows more options on what can be shown in the cursor. For instance, expressions can be used to allow the cursor text to use a format separate from the configured axis format.

Use

In version 10.95.4, the expression must be set manually. However, starting in version 10.96, the Expression Editor will be available.

An example allowed expression is:

```
x={{Title}} + {{Key}} + toString({{Value}})
```

(Reference ID: 61708)

Hyper Historian

Enhanced OPC HDA Point Names

Description

HDA point names may now contain additional specifications for Percent Good/Bad and other aggregate configuration properties. This allows greater control over the data returned by Hyper Historian to OPC HDA clients.

Note, the behavior of these settings are as defined by the OPC UA specifications (Part 13: Aggregates).

Use

This is an example tag that includes aggregate parameters:

```
@ICONICS.HyperHistorian.1\hh:\Configuration\Signals:RandomFast(PctGood=20;PctBad=100;).History
```

These keywords are all optional. (For instance, you can specify PctGood without PctBad.) All available keywords are:

PctGood - Percent Good (integer, 0-100, default 100)

PctBad - Percent Bad (integer, 0-100, default 0)

UncAsBad - Treat Uncertain as Bad (Boolean, true or false, default false)

SlopedExt - Sloped Extrapolation (Boolean, true or false, default false)

(Reference ID: 62446)

New Functions: Nextevent, Resetevent and Isevent

Description

Added new expression functions: nextevent, resetevent and isevent.

These expressions will not appear in the function menus in 10.95.4, but will evaluate as valid functions in the Expression Editor. They will be visible in the functions menu starting with 10.96.

Benefits

These new functions are designed to allow periodic processing based on some other event (a value change, etc.). Previously, the user would have to create very fast time-based functions and use logic in the calculation itself to see if the process needed to be completed.

Use

Here is an example use case scenario. We have a Boolean value named Start, which determines whether a product line is making product. When it is in production, we need to make periodic calculations to monitor the production line. We also need to know when the line started and stopped production.

First, create a calculation trigger as a data trigger. Select "Trigger On" as "Expression". Then, use the following expression:

```
IF {{data:Calc.Start}} THEN nextevent(5000, (IF !isevent() THEN 1 ELSE 2)) ELSE  
resetevent(3)
```

Second, create a performance calculation and add the created trigger to the list of triggers in the "Triggers" section. This performance calculation will run based on created trigger events and the trigger value will contain one of the following values:

- 1 - Production line started
- 2 - Periodic check when production line is in production
- 3 - Production line stopped

The trigger value can then be used in your performance calculation tag's logic.

(Reference IDs: 62293, 62291)

IoTWorX

GenBroker and Health Monitor

Description

GenBroker and Health Monitor have now been added to the IoT Gateway.

Use

GenBroker and Health Monitor will now appear in IoT projects in Workbench.

(Reference ID: 61769)

MobileHMI

HTML5 Support for Integrated Authentication

Description

AnyGlass now supports Integrated Authentication with ICONICS security, where possible. Note, not all browsers support this functionality, and the system must be configured to meet these specifications:

Use

1. Both the server and the clients must be joined to the same domain (or trusted domains).
2. The IIS Application Pool of AnyGlass (IcoAnyGlass) must run under the LocalSystem account. (This is the default when installing.)
3. The Authentication settings of the AnyGlass application in IIS must allow "Windows Authentication" and must disallow "Anonymous Authentication".
4. In the FrameWorX Server Location dialog, on the Servers tab, the Client Authentication must be set to "Integrated Windows Authentication".
5. In Workbench, Security must be connected to Active Directory, and the Automatic log in option must be Enabled (this is the default).

Known Supported Browsers

- **Internet Explorer** – Works out of the box.
- **Edge** – Works from a remote machine, but not from the same machine as the IIS server. This is a known Edge issue, see <https://developer.microsoft.com/en-us/microsoft-edge/platform/issues/4776775/>.
- **Firefox** – Additional configuration is necessary (it is required to add the server url into network.negotiate-auth.trusted-uris).

Known Unsupported Browsers

- **Chromium browsers (Chrome, Opera, etc.)** – There is a known issue in Chromium which causes the NT-based login to fail for WebSockets. As WebSockets are necessary for HTML5 deployment, this means that these browsers cannot support Integrated Authentication until the issue is fixed. As of the publishing of this document, the issue has not yet been fixed, but it seems likely that it will be in the near future. For more information about this Chromium issue, see <https://bugs.chromium.org/p/chromium/issues/detail?id=423609>.

(Reference ID: 61116)

Sounds in HTML5

Description

Added support for playing sounds to HTML5 AnyGlass.

Use

Configured sounds (such as alerts in the AlarmWorX64 Viewer) should now play in HTML5 without any additional configuration.

(Reference ID: 53749)

Data Explorer Custom Styles

Description

The HTML5 Data Explorer control now supports custom styles for its GridWorX, TrendWorX64, AlarmWorX64, and Schedule Viewers. This feature previously existed for WPF clients, but not HTML5 clients.

Use

The Data Explorer control contains properties for GridViewStyle, TrendViewStyle, AlarmViewStyle, and ScheduleViewStyle. Choose an appropriate configuration file for that style of viewer.

(Reference ID: 61831)

KPIWorX – Ease of Use Enhancements

Description

Added a number of “ease of use” enhancements to KPIWorX, including:

- Widgets now support the ctrl-c and ctrl-v keyboard shortcuts to copy and paste. These functions are not currently available in the ribbon, but are planned to be added in 10.96.
- Favorites now allow folders instead of just points.
- There are now public and private favorites, similar to Asset Navigator favorites. Public favorites are available to everyone (including users who are not logged in), and private favorites are only available for logged-in users.

(Reference IDs: 57270, 60369, 60370)

TrendWorX64 Viewer – Write Cursor Values to Tags

Description

In Update 3, a new feature was added to allow the writing of pen cursor values to predefined data tags. This is now supported in HTML5.

Use

In the TrendWorX64 Viewer configuration, select a pen, then go to the Values tab. There is a new section for "Cursors", with checkboxes for "Write first cursor value" and "Write second cursor value", and browsable fields to choose the data sources for each.

(Reference ID: 61095)

TrendWorX64 Viewer – Time Zone Supports Dynamic Input

Description

In Update 3, the Time Zone field of a pen was enhanced to support dynamic input. This is now supported HTML5.

(Reference ID: 61096)

TrendWorX64 Viewer – Delete Pen from Runtime

Description

The HTML5 TrendWorX64 Viewer's context menu now allows you to delete the selected pen. The Delete key can also be used to delete a pen (note that the legend must have focus for this to work).

(Reference ID: 62469)

Platform Services

New Expression Functions

Description

To complement the pre-existing `indexof()` function, the functions `lastindexof()`, `indexofany()`, and `lastindexofany()` have been added to expressions.

- **Lastindexof** – Returns the zero-based index of the last occurrence of a substring within a string or returns the zero-based index of the last occurrence of an item in an array.
- **Indexofany** – Returns the zero-based index of the first occurrence within a string of any character from a specific set of characters.
- **Lastindexofany** – Returns the zero-based index of the last occurrence within a string of any character from a specific set of characters.

In addition, the `indexof()` function was modified to make the "startIndex" parameter (the third parameter) optional, and to add a fourth optional parameter for "count". This keeps `indexof()` consistent with the new functions, but will not affect pre-existing projects.

(Reference ID: 31362)

BACnet – Alarm Acknowledgement Comments

Description

BACnet alarms now support acknowledgement comments.

(Reference ID: 57922)

BACnet – Improved Offline Device Icons

Description

Updated the offline BACnet devices icon to be more distinguishable, especially for colorblind users. The icons of offline devices now have a red circle in the corner.

(Reference ID: 63952)

OPC UA Clients May Specify Username and Password

Description

OPC UA clients may now specify a username and password when connecting. The username and password is verified against ICONICS security when determining if the client can access the requested points.

Previously, OPC UA clients could only connect anonymously, at which point the credentials of the user specified in Platform Services Configuration -> Passwords tab -> "OPC UA -> FWX" would be used. (Clients may still connect anonymously and use the "OPC UA -> FWX" credentials.)

(Reference ID: 61738)

Triggers – Ease of Use Enhancements

Description

Added a number of "ease of use" enhancements to Triggers, including:

- Data Triggers can now support multiple tags.
- Related values can be reordered.
- Related values can have descriptions.

(Reference IDs: 58846, 61242, 61243)



Founded in 1986, ICONICS is an award-winning independent software provider offering real-time visualization, HMI/SCADA, energy management, fault detection, manufacturing intelligence, MES, and a suite of analytics solutions for operational excellence. ICONICS solutions are installed in 70 percent of the Global 500 companies around the world, helping customers to be more profitable, agile and efficient, to improve quality, and to be more sustainable.

ICONICS is leading the way in cloud-based solutions with its HMI/SCADA, analytics, mobile and data historian to help its customers embrace the Internet of Things (IoT). ICONICS products are used in manufacturing, building automation, oil and gas, renewable energy, utilities, water and wastewater, pharmaceuticals, automotive, and many other industries. ICONICS' advanced visualization, productivity, and sustainability solutions are built on its flagship products: GENESIS64™ HMI/SCADA, Hyper Historian™ plant historian, AnalytiX® solution suite, and MobileHMI™ mobile apps. Delivering information anytime, anywhere, ICONICS' solutions scale from the smallest standalone embedded projects to the largest enterprise applications.

ICONICS promotes an international culture of innovation, creativity, and excellence in product design, development, technical support, training, sales, and consulting services for end users, systems integrators, OEMs, and channel partners. ICONICS has over 350,000 applications installed in multiple industries worldwide.



World Headquarters

100 Foxborough Blvd.
Foxborough, MA, USA, 02035

☎ +1 508 543 8600
✉ us@iconics.com



European Headquarters

Netherlands

☎ +31 252 228 588
✉ holland@iconics.com

Australia

☎ +61 2 9605 1333
✉ australia@iconics.com

Canada

☎ +1 647 544 1150
✉ canada@iconics.com

China

☎ +86 10 8494 2570
✉ china@iconics.com

Czech Republic

☎ +420 377 183 420
✉ czech@iconics.com

France

☎ +33 4 50 19 11 80
✉ france@iconics.com

Germany

☎ +49 2241 16 508 0
✉ germany@iconics.com

India

☎ +91 265 6700821
✉ india@iconics.com

Italy

☎ +39 010 46 0626
✉ italy@iconics.com

Middle East

☎ +966 540 881 264
✉ middleeast@iconics.com

Singapore

☎ +65 6667 8295
✉ singapore@iconics.com

UK

☎ +44 1384 246 700
✉ uk@iconics.com

For more, visit www.iconics.com

© 2018 ICONICS, Inc. All rights reserved. Specifications are subject to change without notice. AnalytiX and its respective modules are registered trademarks of ICONICS, Inc. GENESIS64, GENESIS32, Hyper Historian, BizViz, PortalWorX, MobileHMI and their respective modules, OPC-to-the-Core, and Visualize Your Enterprise are trademarks of ICONICS, Inc. Other product and company names mentioned herein may be trademarks of their respective owners.

