

OCTOBER 26, 2023

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# What's coming in 2023 R2 for operations control – Edge

AVEVA™ Edge, AVEVA™ InTouch HMI

Scott A Kortier – Product Manager, Operations Control - AVEVA



AVEVA



# Scott A Kortier

Product Manager – operations control

AVEVA

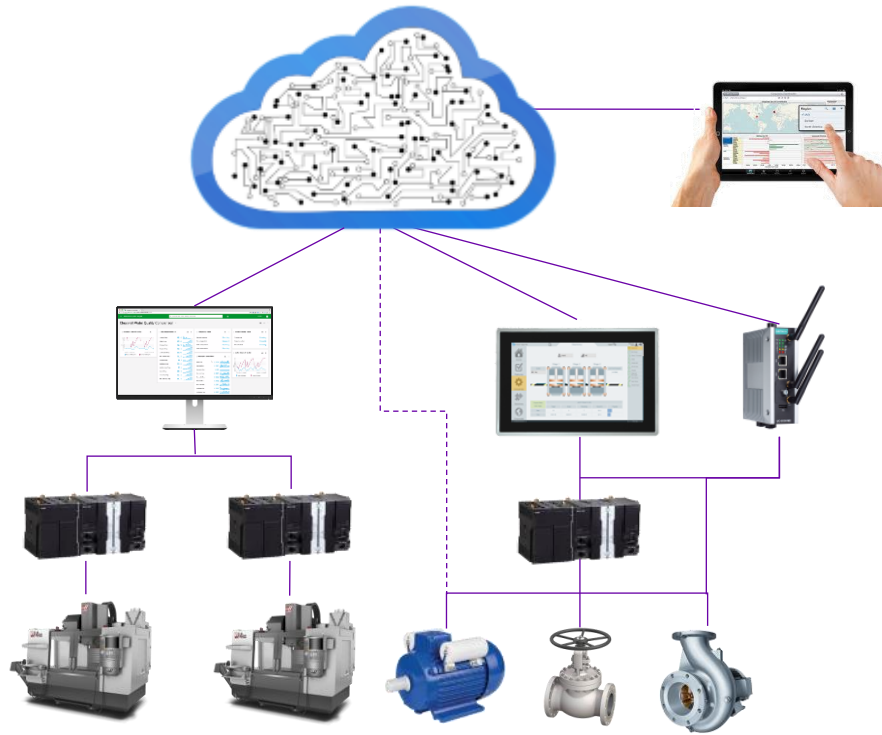
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# Industrial Internet of Things (IIoT) / Industry 4.0

## AVEVA Ops Control Edge (HMI or IIoT)

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### Cloud Analytics and Mobile Access



analytics, consolidation, artificial intelligence (AI), machine learning (ML), remote management/deployment, remote notifications and monitoring

### Edge devices



data acquisition, data manipulation (aggregations, filtering, contextualization, normalization), link with the cloud, local maintenance, local operation

### Instrumentation and Controllers



operational real-time control, raw data measurements

# Benefits

## Interoperable

- Communicate to any PLCs, Controllers, Temperature controls, motion, vision, and other devices.
- Combination of Drivers, and OPC UA (Client or Server) and Standards
- Standards: MQTT, OPC, Modbus, PackML, REST

## Portable

- Windows or Linux
- Flexibility to run on hardware that is right for the job
  - Screen size, resolution, headless, networking device, cost, performance
- May not need additional HW purchase, run on the devices you already have

## Mobility

- Remote “Thin Clients”
- Tablet, phone, browser
- Keep operations and maintenance staff efficient and connected.

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# What is New - AVEVA™ Edge 2023 R2



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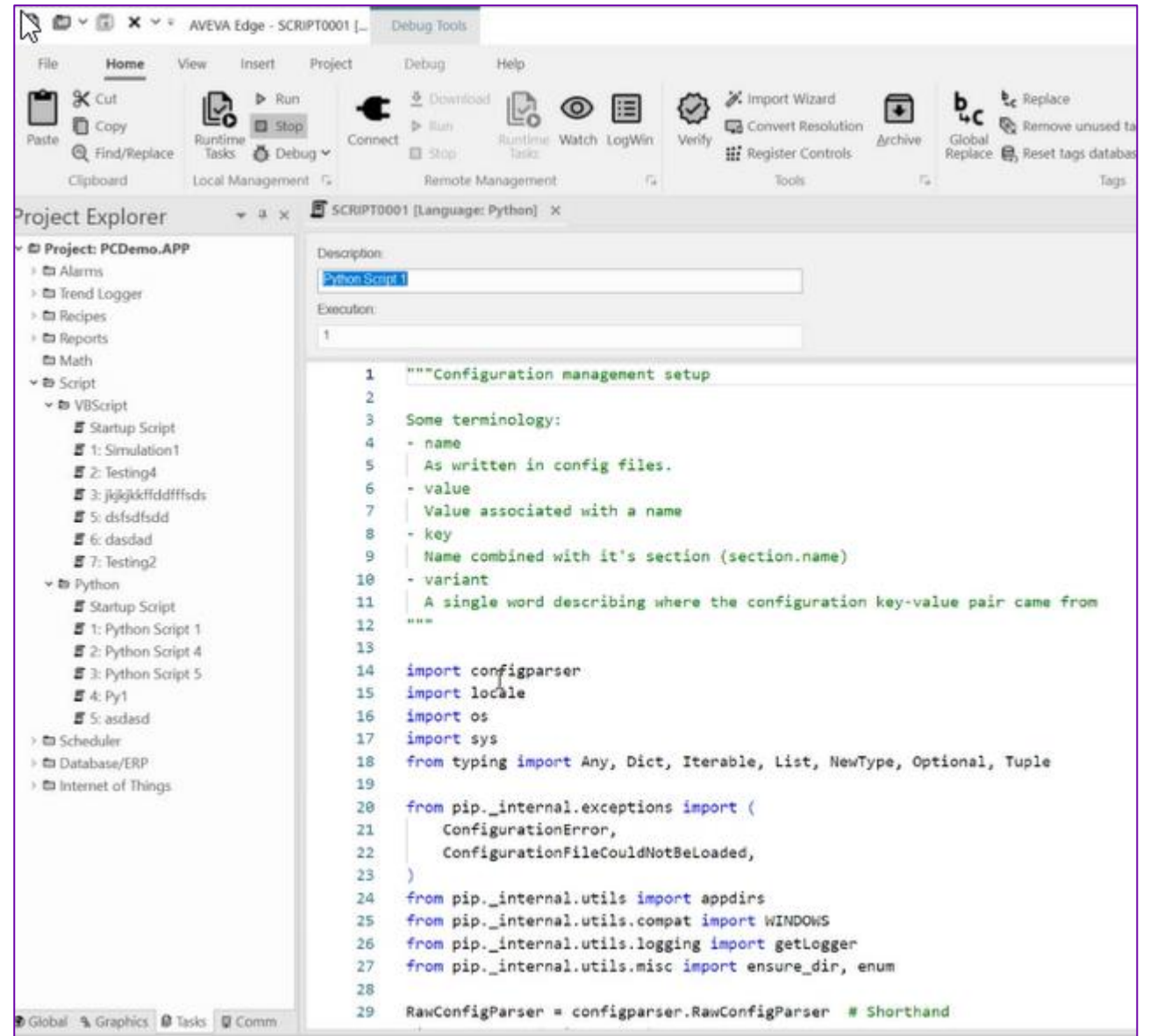
# AVEVA™ Edge 2023 R2

## Overall Features

- Cybersecurity Enhancements
- Customer Issues and Enhancements
- Python
  - Customers expect us to provide an open, popular, platform agnostic scripting language.
  - IoT View Runtime and Windows Runtime
- Grid Object (Pagination performance)
- Industrial Graphics (AIG) 2023 R2 (libraries)
  - SVG Import and documentation

# Python Editor

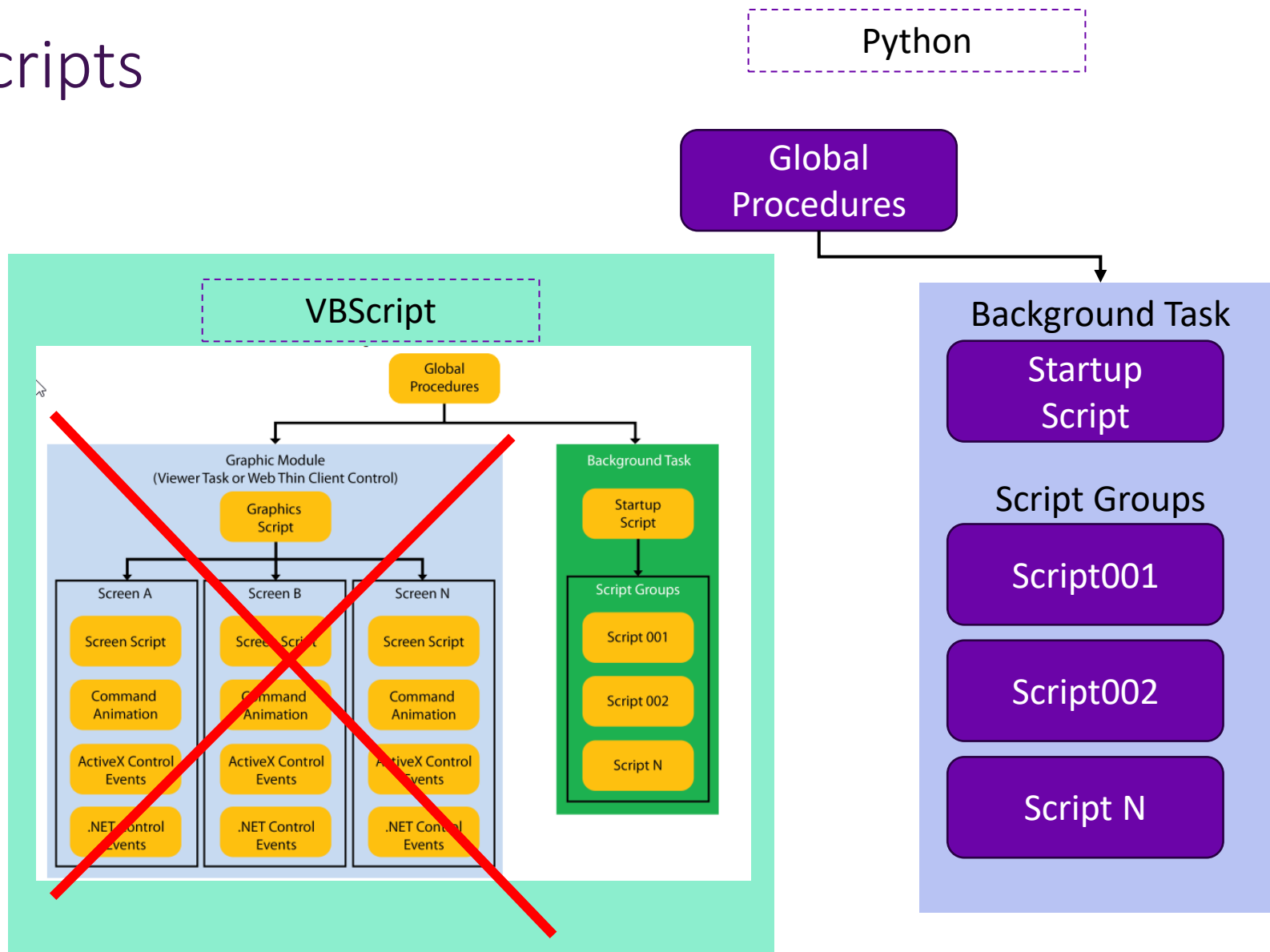
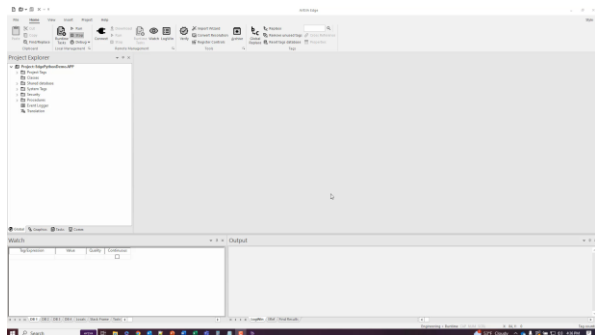
- Done in a common way
- Unified Name Space
- Supports External Modules
- Background script groups, Startup and Global Procedures



```
1 """Configuration management setup
2
3 Some terminology:
4 - name
5 | As written in config files.
6 - value
7 | Value associated with a name
8 - key
9 | Name combined with it's section (section.name)
10 - variant
11 | A single word describing where the configuration key-value pair came from
12 """
13
14 import configparser
15 import locale
16 import os
17 import sys
18 from typing import Any, Dict, Iterable, List, NewType, Optional, Tuple
19
20 from pip._internal.exceptions import (
21     ConfigurationError,
22     ConfigurationFileCouldNotBeLoaded,
23 )
24 from pip._internal.utils import appdirs
25 from pip._internal.utils.compat import WINDOWS
26 from pip._internal.utils.logging import getLogger
27 from pip._internal.utils.misc import ensure_dir, enum
28
29 RawConfigParser = configparser.RawConfigParser # Shorthand
```

# Python Runtime Scripts

- Python Runtime (non-graphic scripts, i.e. background)
- Done in a common way
  - Editor
  - Python Runtime Libraries
  - Name Space

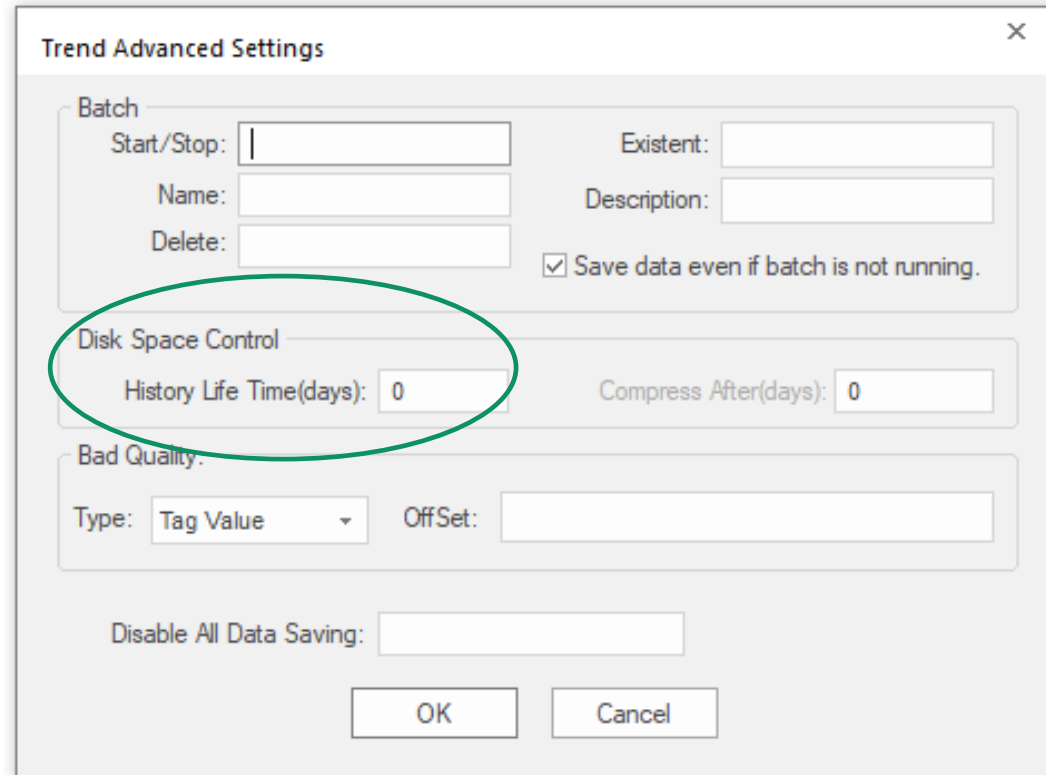




# AVEVA™ Edge 2023 R2

## IoT View

- History Life Time in Days (Trend House-keeping)
  - Both HST files and SQL
  - 0 = No House-keeping
  - N = Number of days to keep (FIFO)
- Don't fill up HD or other storage media
  - Tip: Optional functions to redirect Trend (HST), Alarms and Events to other location



The screenshot shows the 'Trend Advanced Settings' dialog box. The 'Batch' section includes fields for Start/Stop, Name, Delete, Existent, and Description, along with a checked checkbox for 'Save data even if batch is not running.'. The 'Disk Space Control' section is highlighted with a green oval and contains 'History Life Time(days): 0' and 'Compress After(days): 0'. The 'Bad Quality' section has a 'Type' dropdown set to 'Tag Value' and an 'OffSet' field. At the bottom, there is a 'Disable All Data Saving' field and 'OK' and 'Cancel' buttons.

# AVEVA™ Edge 2023 R2

## IoT View

- Standard Driver Sheets
- Flexible, powerful, more control

Description:

Disable:

Read Completed:  Read Status:

Write Completed:  Write Status:

Min:  Max:

Description:  
  Increase priority

Read Trigger:  Enable Read when Idle:  Read Completed:  Read Status:

Write Trigger:  Enable Write on Tag Change:  Write Completed:  Write Status:

Station:  Header:

Min:  Max:

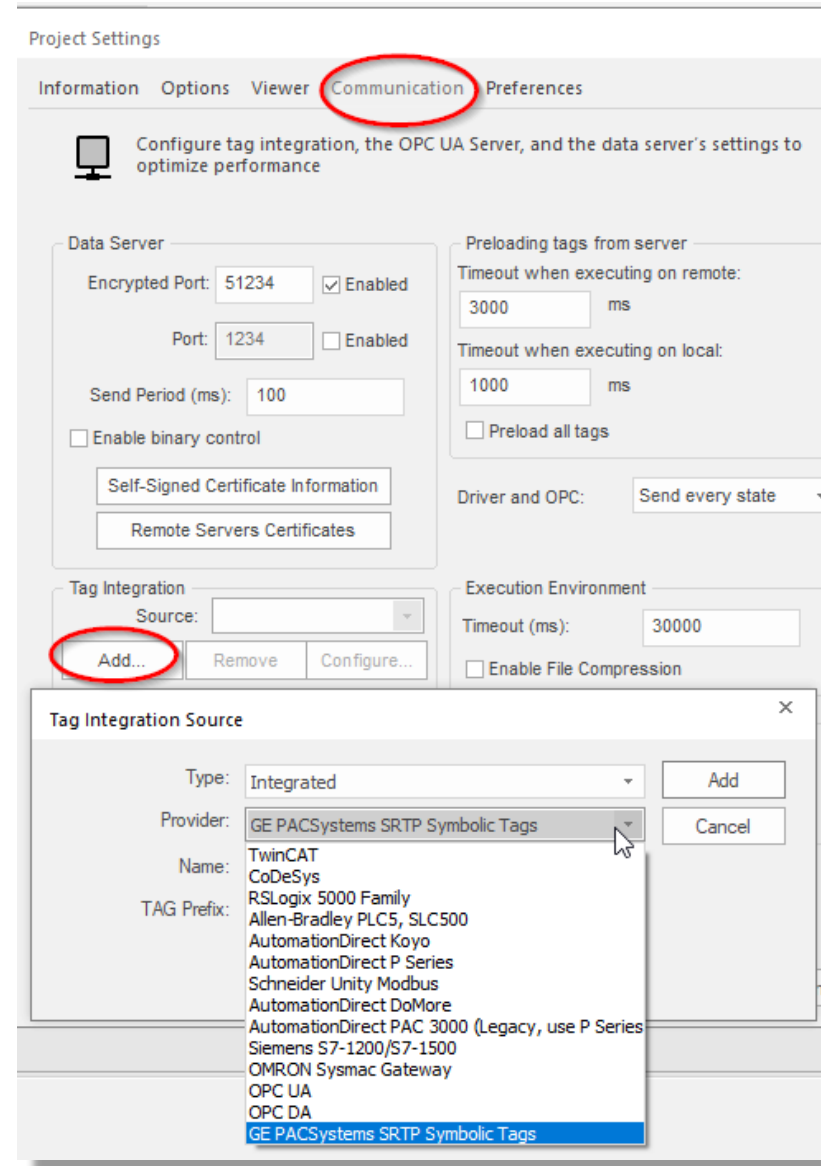
Feature	Main Driver Sheet	Standard Driver Sheet
Number allowed	1	1-999
Required to use	No	No
Maximum Size	32767 rows	Determined by the driver (max 4096 rows)
Enabling	Can be enabled or disabled	Can be enabled to read when idle
Triggering	If enabled, always triggered based on internal tag BlinkSlow (600ms)	Separate triggers for read & write
Status	Read Status, Read Complete, Write Status, Write Complete	Read Status, Read Complete, Write Status, Write Complete
Header (file types)	Any supported by the device	Only one per Standard Driver Sheet
Action	Read, Write or R/W	Read, Write or R/W
Station	Can be fixed or a string tag	Can be fixed or a string tag
Scan	Always or Screen	Always
Scaling	Min/Max or Div/Add	Min/Max or Div/Add

# AVEVA™ Edge 2023 R2

## IoT View

- Tag Integration

- Drivers
- OPC UA



# AVEVA™ Edge 2023 R2 Drivers

## Drivers and communications

Driver	Description
All	Release standalone driver included in 2023 release (independent of any release)
MQTT	<ul style="list-style-type: none"><li>• Enhance MDS to allow easier address of topics</li><li>• Support multi-leveled topics (e.g., level1/level2/level3/...)</li></ul>
ABKE	Add to released drivers in 2023 R2
DNP3	Add to released drivers in 2023 R2
XVGU	Add to released drivers in 2023 R2
BACSL	Add to released drivers in 2023 R2

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# What is New - AVEVA™ InTouch HMI 2023 R2

Planned for Early CY2024

**AVEVA**

# UDT InTouch HMI 2023 R2

## User Defined data Types (UDT) Structure support

### 1. Define new Data Type

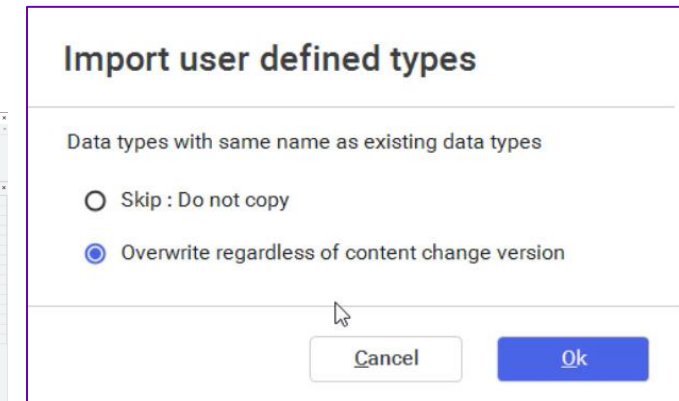
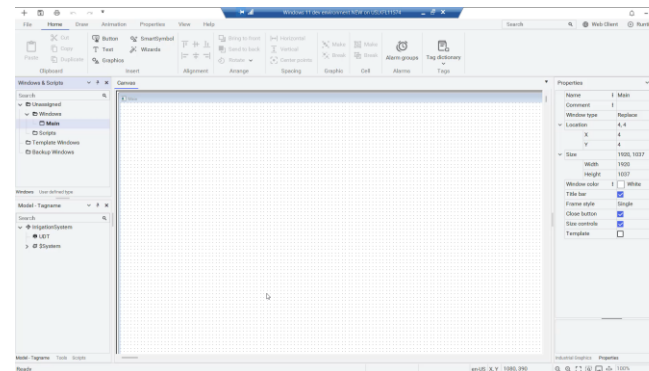
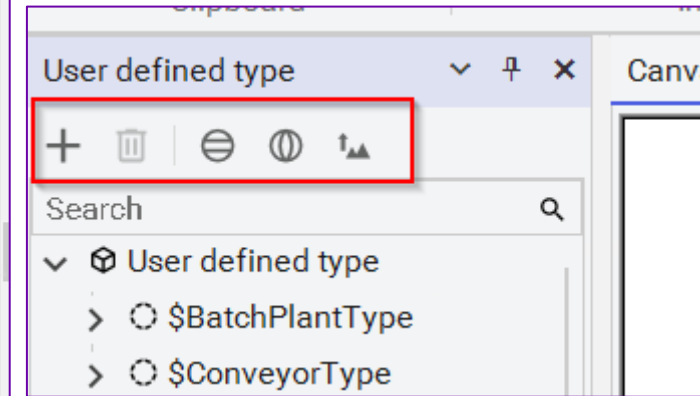
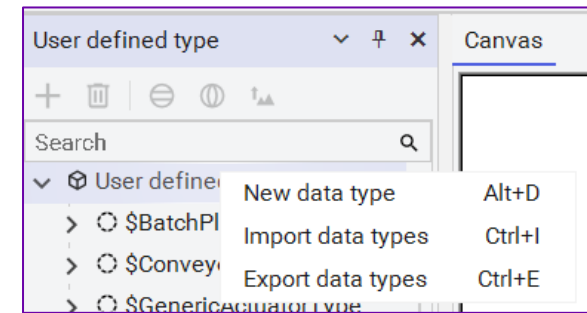
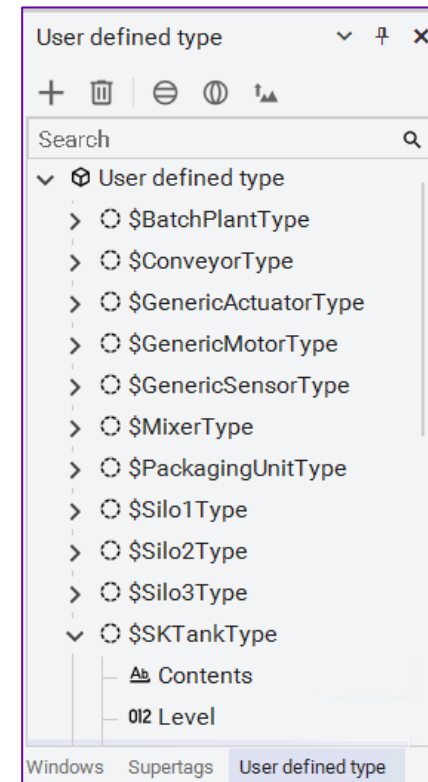
- UDT, Instance and default values are saved outside of Tagname Dictionary

### 2. Rename, Delete (can't delete if used), Duplicate

- Supports propagation

### 3. Export/Import (JSON Format), to/from another application

- Can externally “bulk edit”
- Notepad++ with “JSON Viewer” plugin example



# UDT Continued

- All properties will be modifiable except name and type
- Alarm in Properties
- Alarms in EAC
- Drag-and-Drop to create graphic element
- Owning Object, “Me.” support

User1	State	Node	Group	Name	AlarmComment
0	UNACK	YanLF1	\$System	Datatype_001_001 Member001	

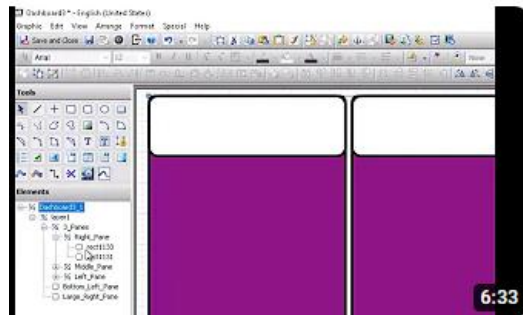
Displaying 1 to 1 of 1 alarms | Query: Default | Filter: 100% Complete | Pacific Time (US Canada)

ON

# AVEVA™ InTouch HMI 2023 R2

## Import SVG

- SVG import and convert to AIG (Patch 01 but promoting in 2023 R2)
  - Improved Documentation
- Retain object names, grouping and layers
- Use 3<sup>rd</sup> parties to create layouts, UI and graphics
- Quick YouTube Demonstration
  - [https://www.youtube.com/watch?v=jTx2tV\\_BRUI](https://www.youtube.com/watch?v=jTx2tV_BRUI)



SVG image Import and conversion into AVEVA Industrial Graphics

2.1K views · 3 months ago



Demo of importing and converting of SVG (Scalable Vector Graphics) to AVEVA Industrial Graphics (AIG) into InTouch HMI.

### SVG Limitations

The Industrial Graphic Editor (IGE) includes support for SVG graphics for those HMI products that can display them. However, this support has some limitations

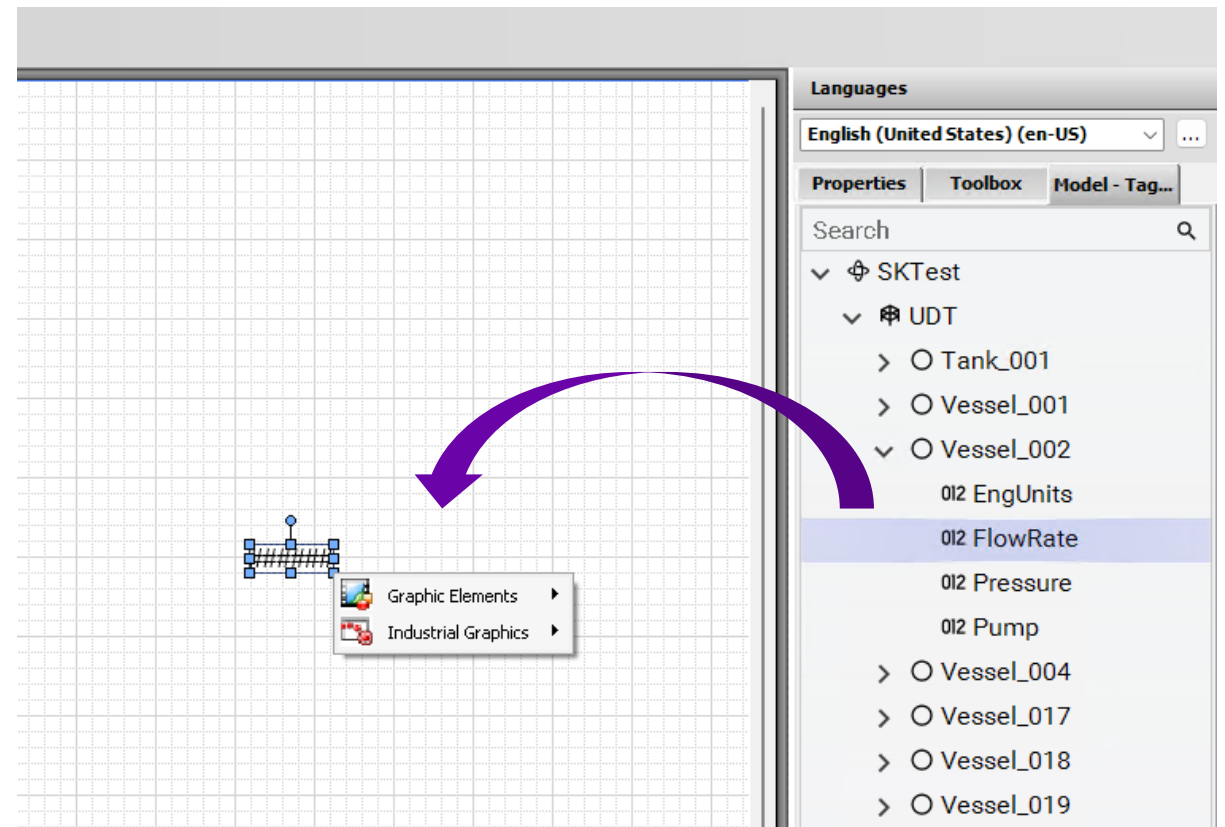
Element Type	Element	2023 Patch01 through 2023 Patch03	Element Type	Element	2023 Patch01 through 2023 Patch03
Animation elements	animate	NO	Graphics elements	circle	YES
Animation elements	animatecolor	NO	Graphics elements	ellipse	YES
Animation elements	animatemotion	NO	Graphics elements	image	YES
Animation elements	animatetransform	NO	Graphics elements	line	YES
Animation elements	set	NO	Graphics elements	path	YES
Basic shapes	circle	YES	Graphics elements	polygon	YES
Basic shapes	ellipse	YES	Graphics elements	polyline	YES
Basic shapes	line	YES	Graphics elements	rect	YES
Basic shapes	polygon	YES	Graphics elements	text	YES
Basic shapes	polyline	YES	Graphics elements	use	YES
Basic shapes	rect	YES	Shape elements	circle	YES
Container elements	a	YES	Shape elements	ellipse	YES
Container elements	defs	YES	Shape elements	line	YES
Container elements	g	YES	Shape elements	path	YES
Container elements	glyph	YES	Shape elements	polygon	YES
Container elements	marker	NO	Shape elements	polyline	YES
Container elements	mask	NO	Shape elements	rect	YES
Container elements	missing-glyph	YES	Structural elements	defs	YES
Container elements	pattern	NO	Structural elements	g	YES
			Structural		



# AVEVA™ InTouch HMI 2023 R2

## Overall Features

- Create graphic and animation from UDT member or Tag



# AVEVA™ InTouch HMI 2023 R2

- Ops Control: User based licensing (AVEVA ID)

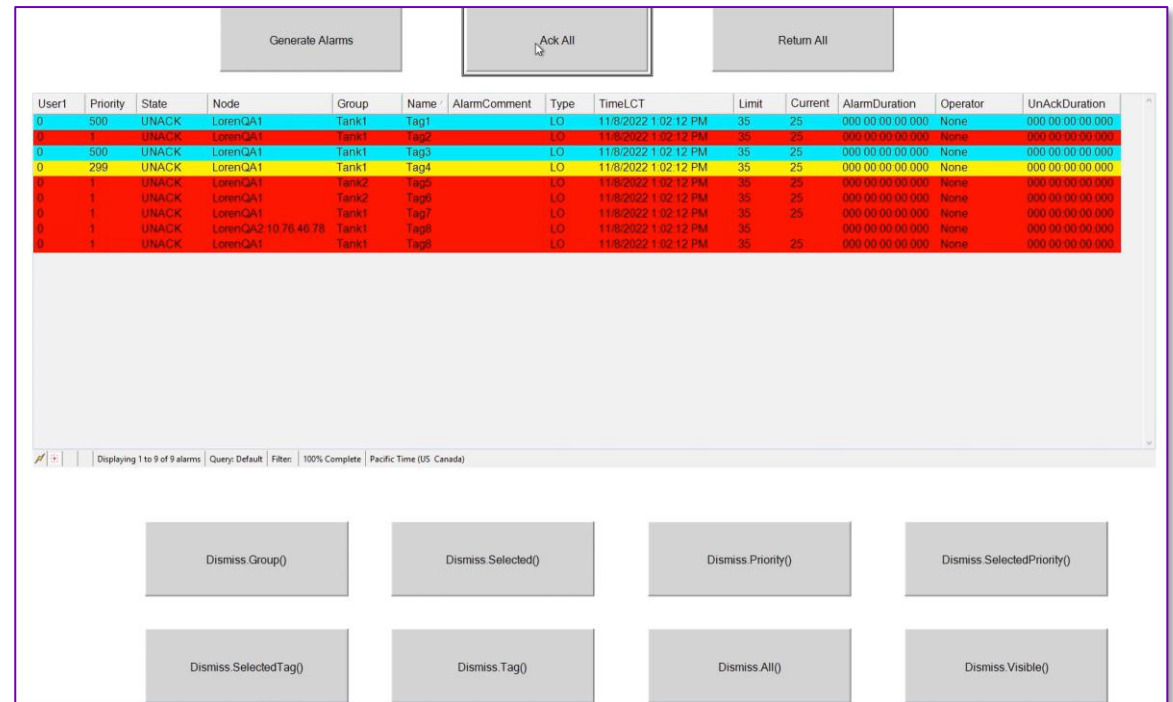
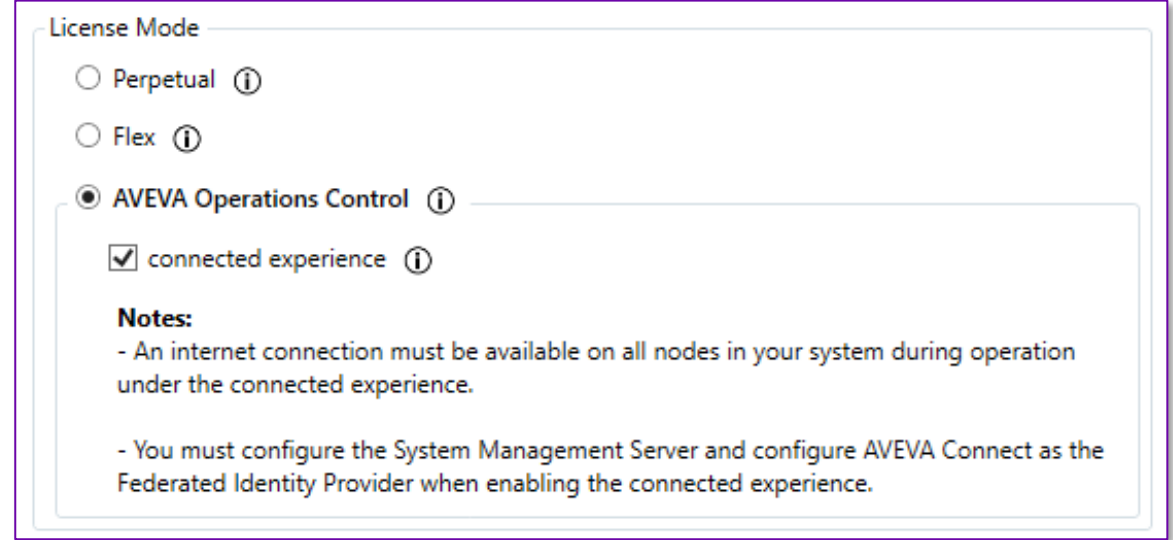
- Connected Experience

- Alarm Dismiss/UnDismiss (new functions for EAC)

- Dismiss.All() Dismiss.SelectedPriority()
- Dismiss.Group() Dismiss.SelectedTag()
- Dismiss.Priority() Dismiss.Tag()
- Dismiss.Selected() Dismiss.Visible()

- Next Steps in Alarm Client:

- Filter alarms based on LATCHED alarm state
- Localization of UI changes for design time configurations
- [AlarmMgr-EAC] Integration with Appserver alarms
- Display the new state in EAC historical mode
- Localization of UI changes for Runtime context menus



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# AVEVA™ InTouch HMI 2023 R2

## Overall Features

- Cybersecurity enhancements
- Customer commitments and requests
- All HF roll up into patches, patches into 2023 R2

# Questions?

Please wait for the microphone.  
State your name and company.



# Please remember to...

Navigate to this session in the mobile app to complete the survey.



# Thank you!

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