Tamko enables Unified Operations with AVEVA and Reekoh

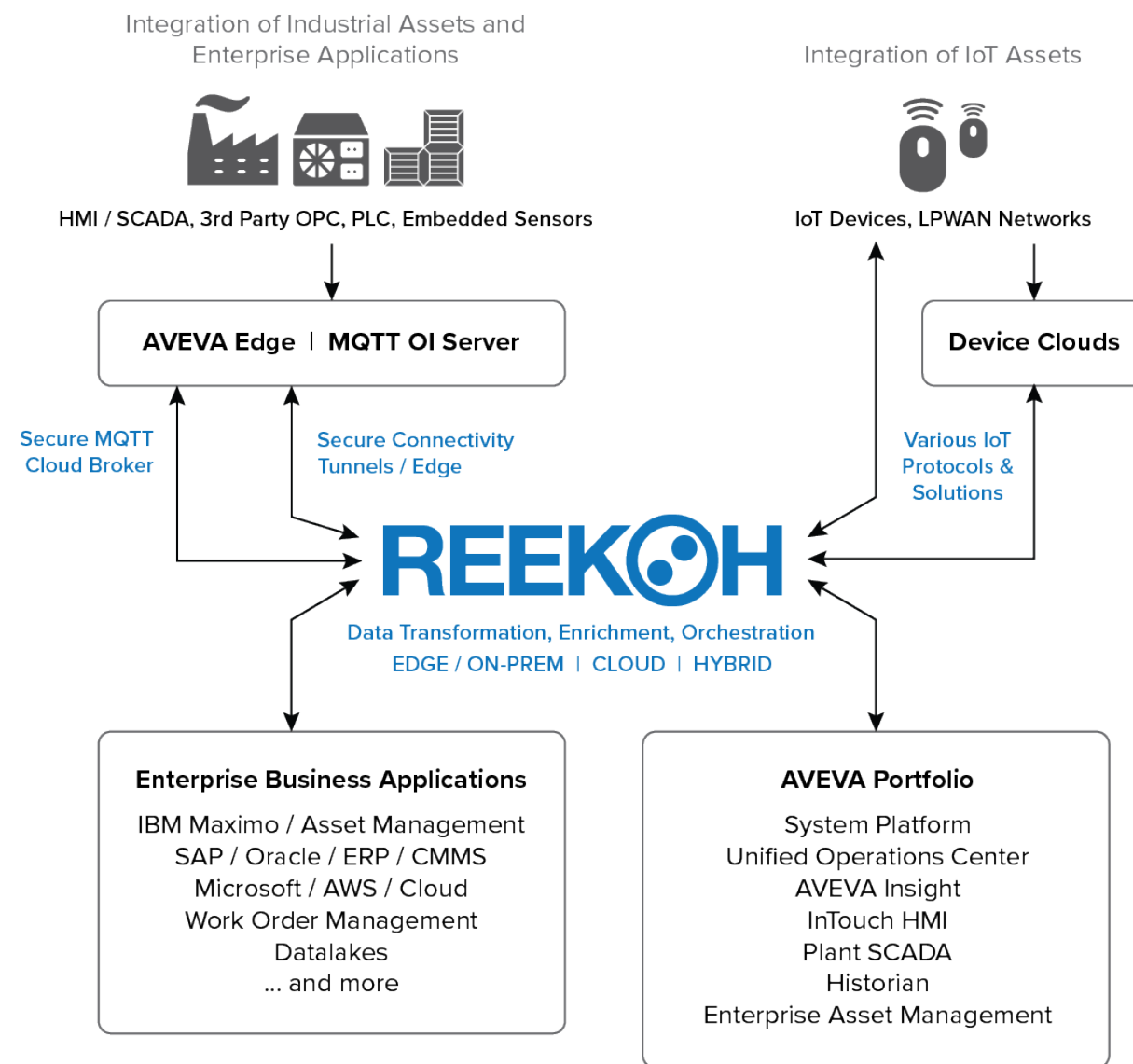Colin McElligott & Derek Milz

AVEVA

Tamko enables Unified Operations with AVEVA and Reekoh

The Power of Partnering: Project support by Reekoh & AVEVA Select Great Plains

Reekoh and AVEVA

- Supporting a highly flexible integration model and architecture for the various components of the AVEVA product suite

- Operate as secure cloud MQTT Broker, and integrate with MQTT OI Servers for data acquisition from factory floor

- Data transformation to common data formats and schemas for seamless downstream data integration

- Two-way data flow between asset and application

- Various deployment models for platform run-time (public/private cloud, on-prem)

- Templated integrations and pre-built plugins for rapid agile deployment

Integration of Industrial Assets and Enterprise Applications

HMI / SCADA, 3rd Party OPC, PLC, Embedded Sensors

Integration of IoT Assets

IoT Devices, LPWAN Networks

AVEVA Edge | MQTT OI Server

Device Clouds

Secure MQTT Cloud Broker

Secure Connectivity Tunnels / Edge

Various IoT Protocols & Solutions

REEKOH

Data Transformation, Enrichment, Orchestration
EDGE / ON-PREM | CLOUD | HYBRID

Enterprise Business Applications

IBM Maximo / Asset Management
SAP / Oracle / ERP / CMMS
Microsoft / AWS / Cloud
Work Order Management
Datalakes
… and more

AVEVA Portfolio

System Platform
Unified Operations Center
AVEVA Insight
InTouch HMI
Plant SCADA
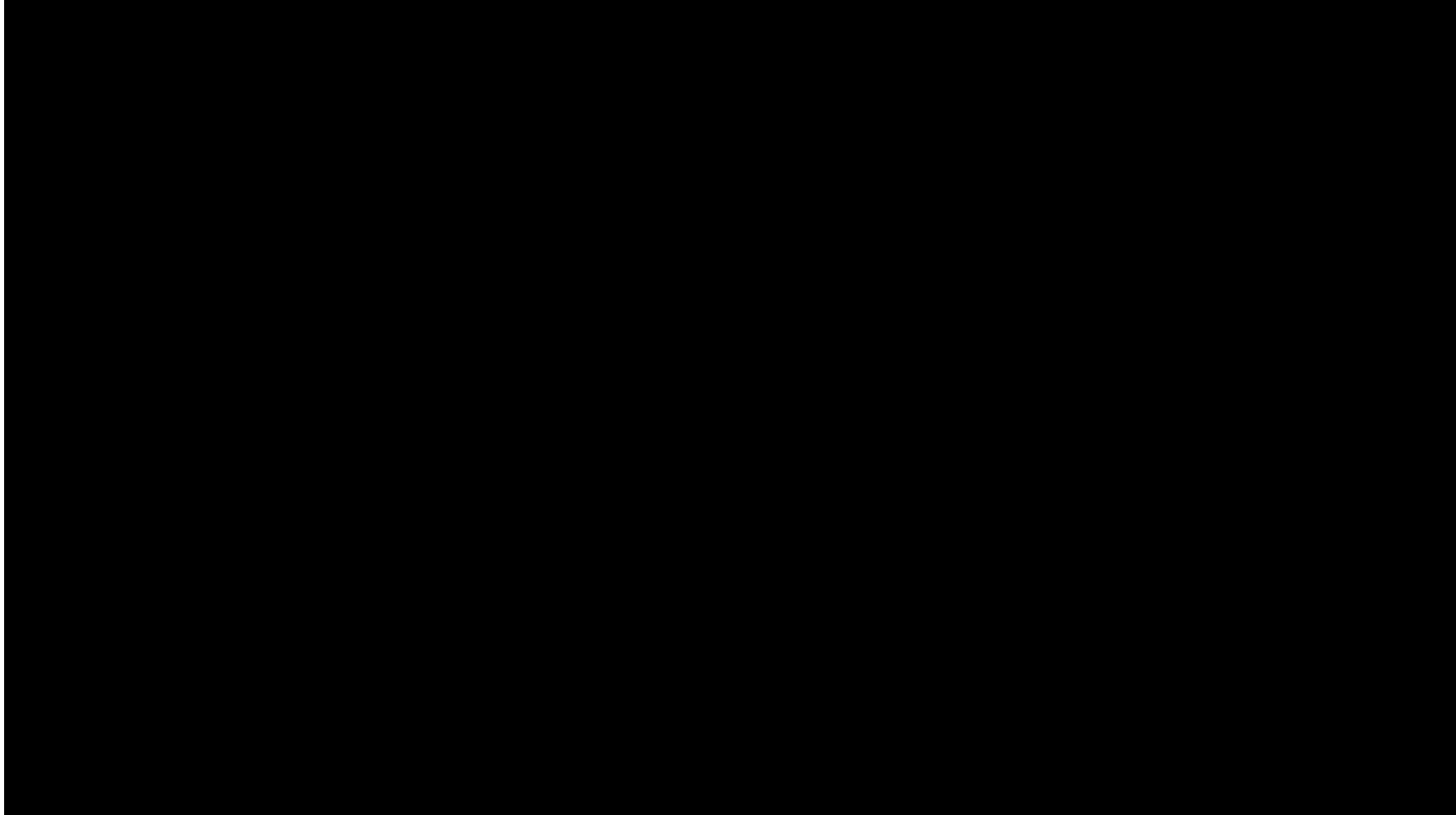Historian
Enterprise Asset Management

TAMKO, America's Shingle

Since 1944, the TAMKO story has been one of innovation, quality and long-standing customer relationships.

- Quality Products

- Continuous Improvement

- Vertical Integration

- Core Values: "Honesty, Integrity and Compliance."

Brad Burns – Tamko Building Products

AV∃VA

Industrial transformation (IX) leaders are benefiting from their IX programs …

72% more likely to increase revenue by 10%

57% more likely to reduce COGS by 10%
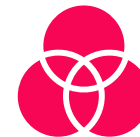
43% more likely to increase operating margin by 5%

…however, leaders face numerous challenges to realizing digital transformation

Skills shortage in digital and data proficiency

Costly manual processes that are difficult to transform

Lack of access to data from across whole of business

AVEVA

Challenge

- Teams needed to work together and have a unified approach to plan and operate as lean as possible. This required data to be structure and orchestrated across systems, networks, and teams.

- Original bespoke approach involved making manual changes to PLC's and AVEVA System Platform with each new device that was encountered, or when new parameters were required. This was very time consuming.

- Similarly, when the SAP work order was completed and counters needed to be reset to zero, connections to the PLC would be required to make the change. This approach carried operational risk with each of these changes, and significant manual effort with each new device or reset process.

- There was also a challenge of scaling a success integration project from flagship site throughout the enterprise.

AVEVA

Operational Technology

The Need: Closed loop integration across multiple sites, applications, and teams

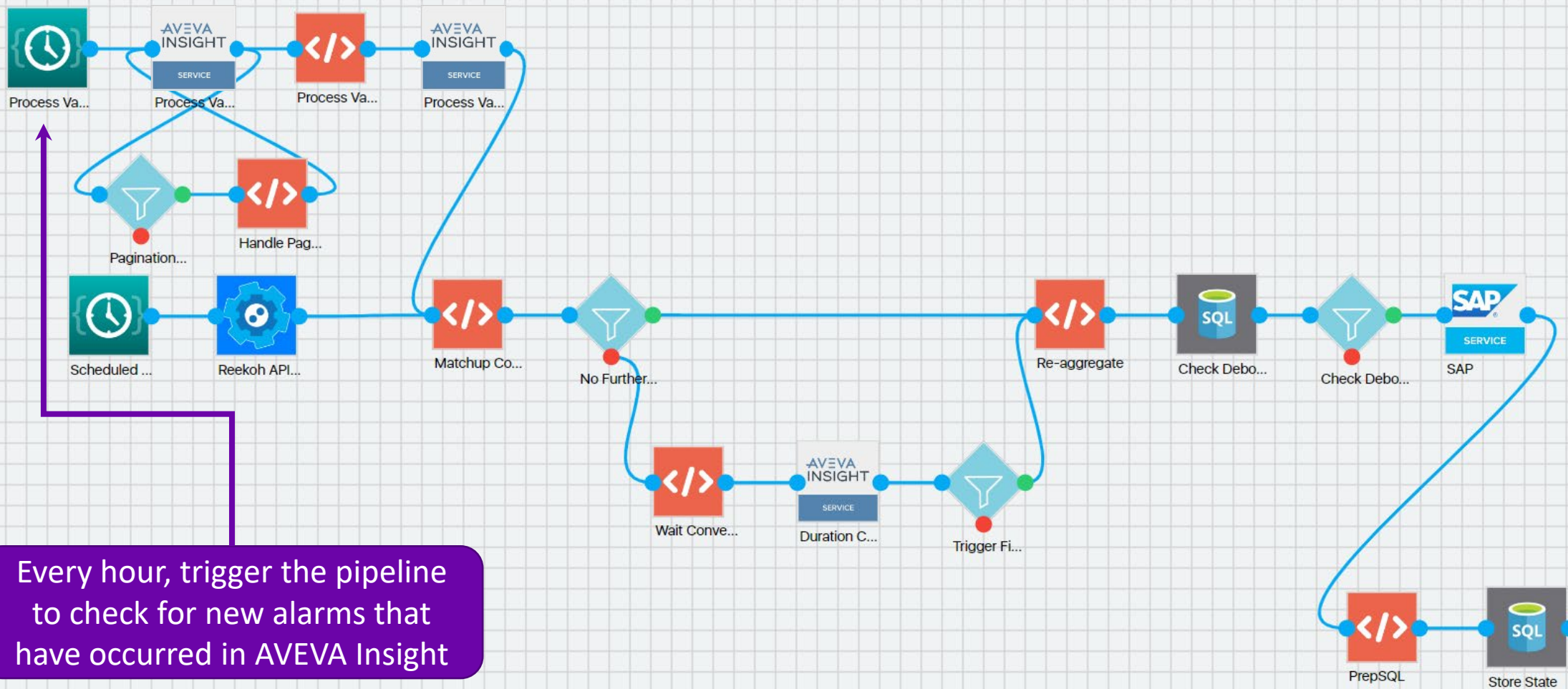AVEVA System Platform

AVEVA Insight

SAP PM

AVEVA

Integration Platform

- REEKOH Accelerate:
  - Agile Integrations
  - Modular Orchestration
  - Data Management
  - Conditional Paths
  - Extensive data storage, IT/business application and API integrations
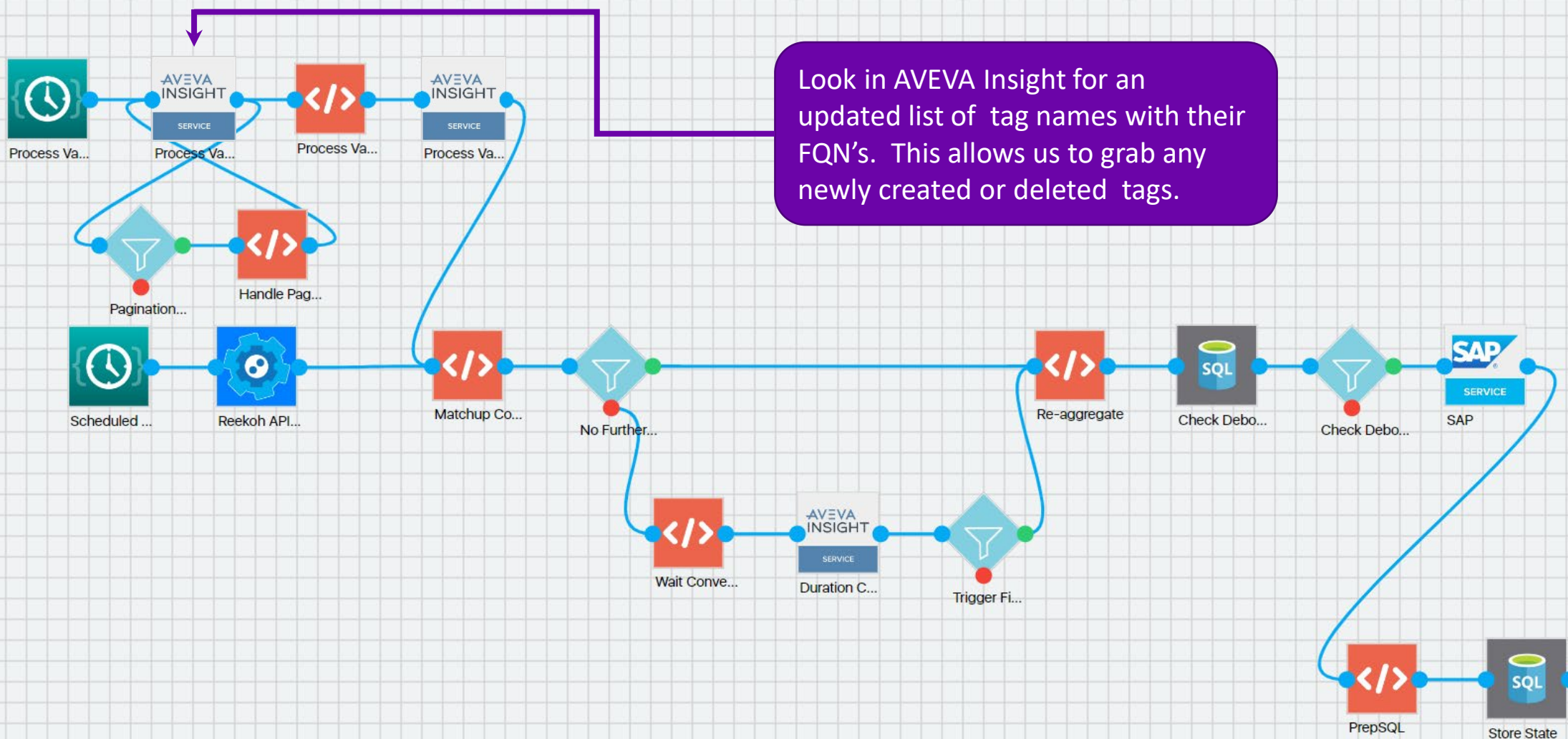
AVEVA

Value is realized
when you deliver
the right data,
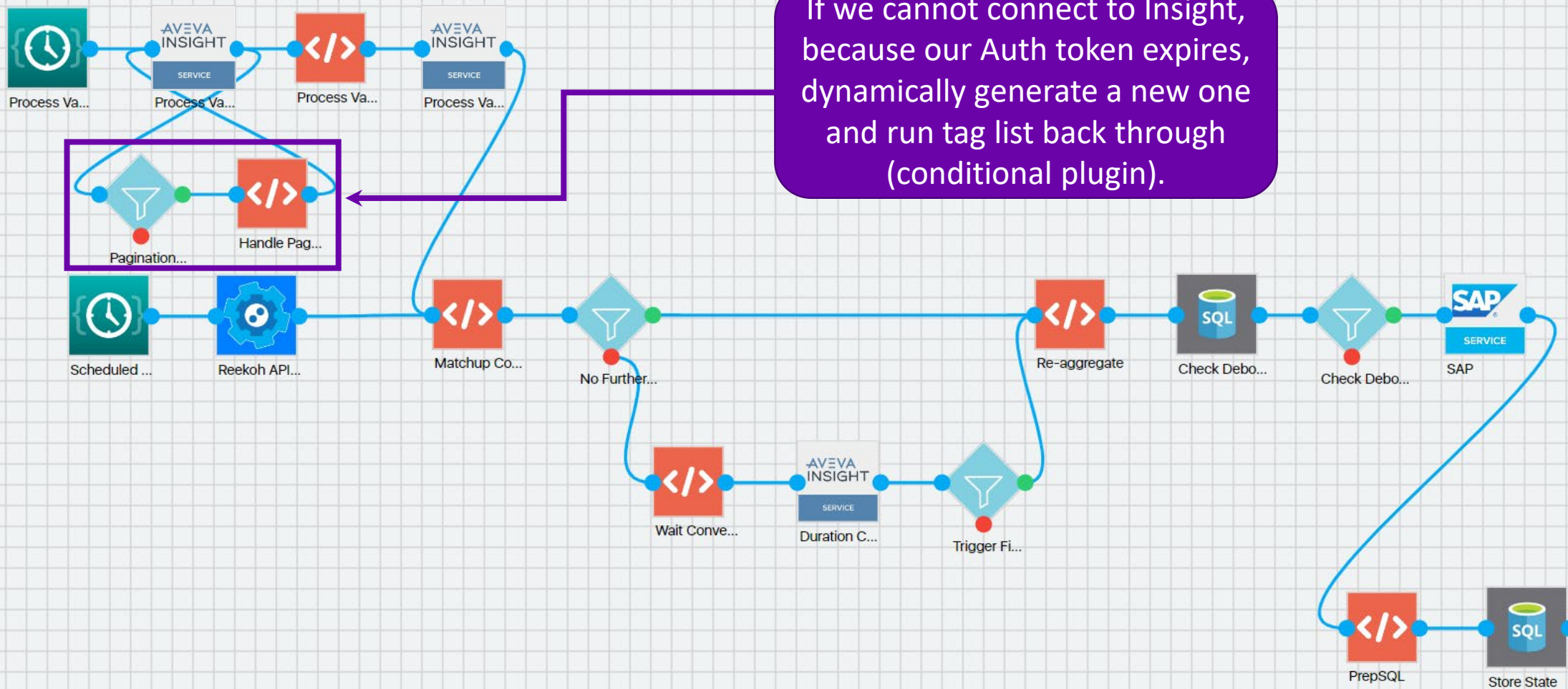to the right people,
in the right format,
at the right time.

Every hour, trigger the pipeline to check for new alarms that have occurred in AVEVA Insight

Workplan Pipeline

Pipeline Selector

Look in AVEVA Insight for an updated list of tag names with their FQN's. This allows us to grab any newly created or deleted tags.

Process Va...
Process Va...
Process Va...
Process Va...
Pagination...
Handle Pag...
Scheduled ...
Reekoh API...
Matchup Co...
No Further...
Re-aggregate
Check Debo...
Check Debo...
SAP
Wait Conve...
Duration C...
Trigger Fi...
PrepSQL
Store State

If we cannot connect to Insight, because our Auth token expires, dynamically generate a new one and run tag list back through (conditional plugin).

Format the list of tag names that we can pass to our REST API endpoint. This builds out our REST API Query.

Configure Component

HTTP

HTTP SERVICE

deployed

| 🔧 Configure Plugin | ⬆ Output Scheme | 📄 Logging | 📄 Logs | 📄 Exceptions | ⓘ Help |

Plugin Version

1.3.2

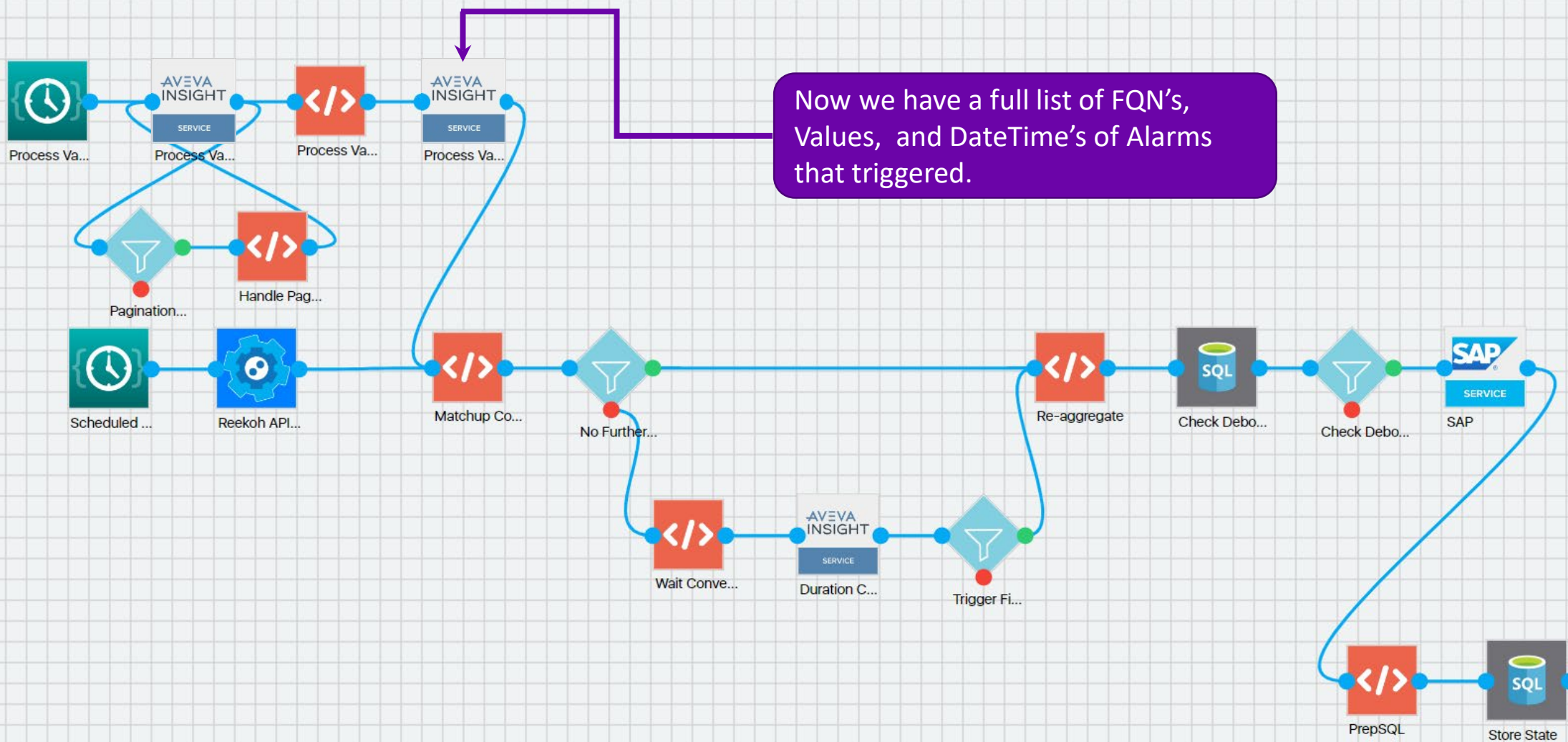**Name**

Process Values – Query API

Method

GET

Method to use on the API.

URL

https://online.wonderware.com/apis/historian/v2/ProcessValues?$filter=({data.FQN})+and+DateTime+ge+{data.lastRunTime}&$select=FQN,Value,DateTime
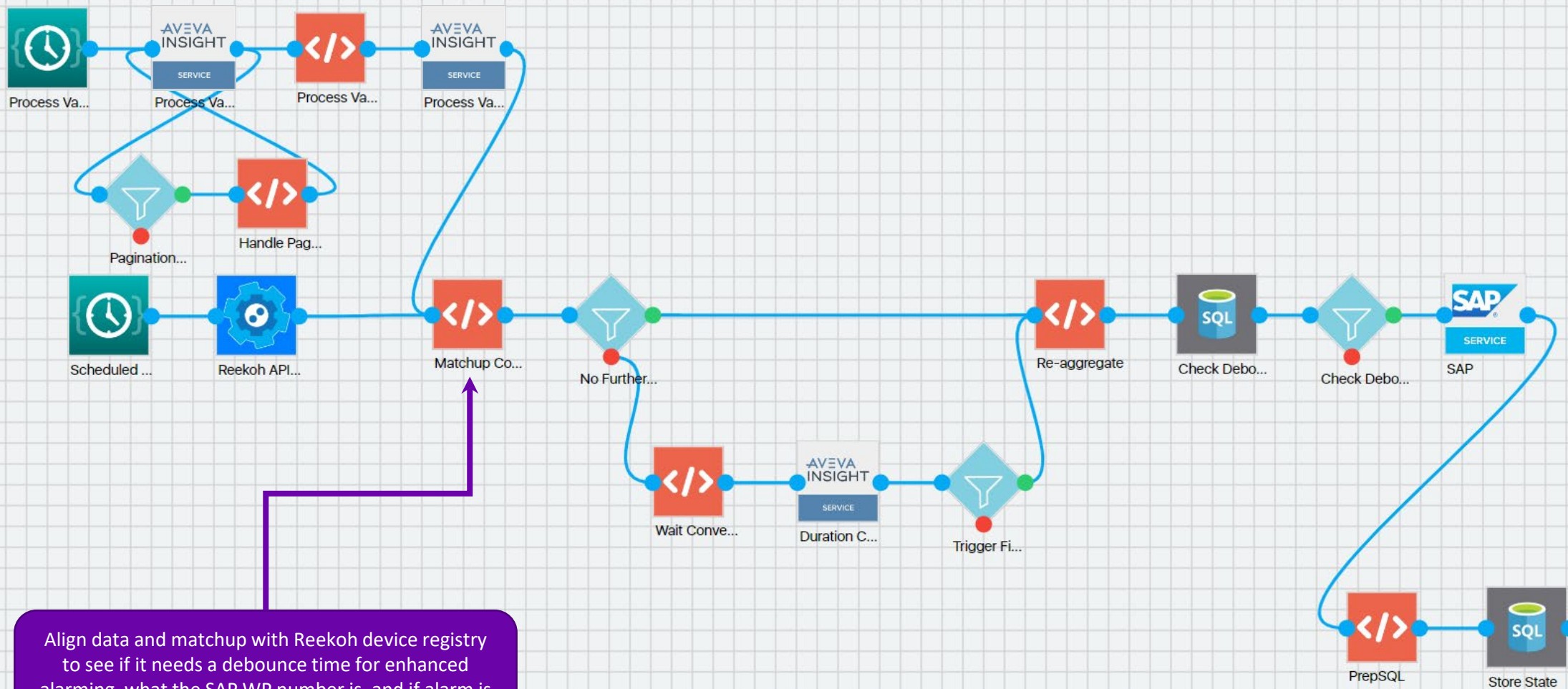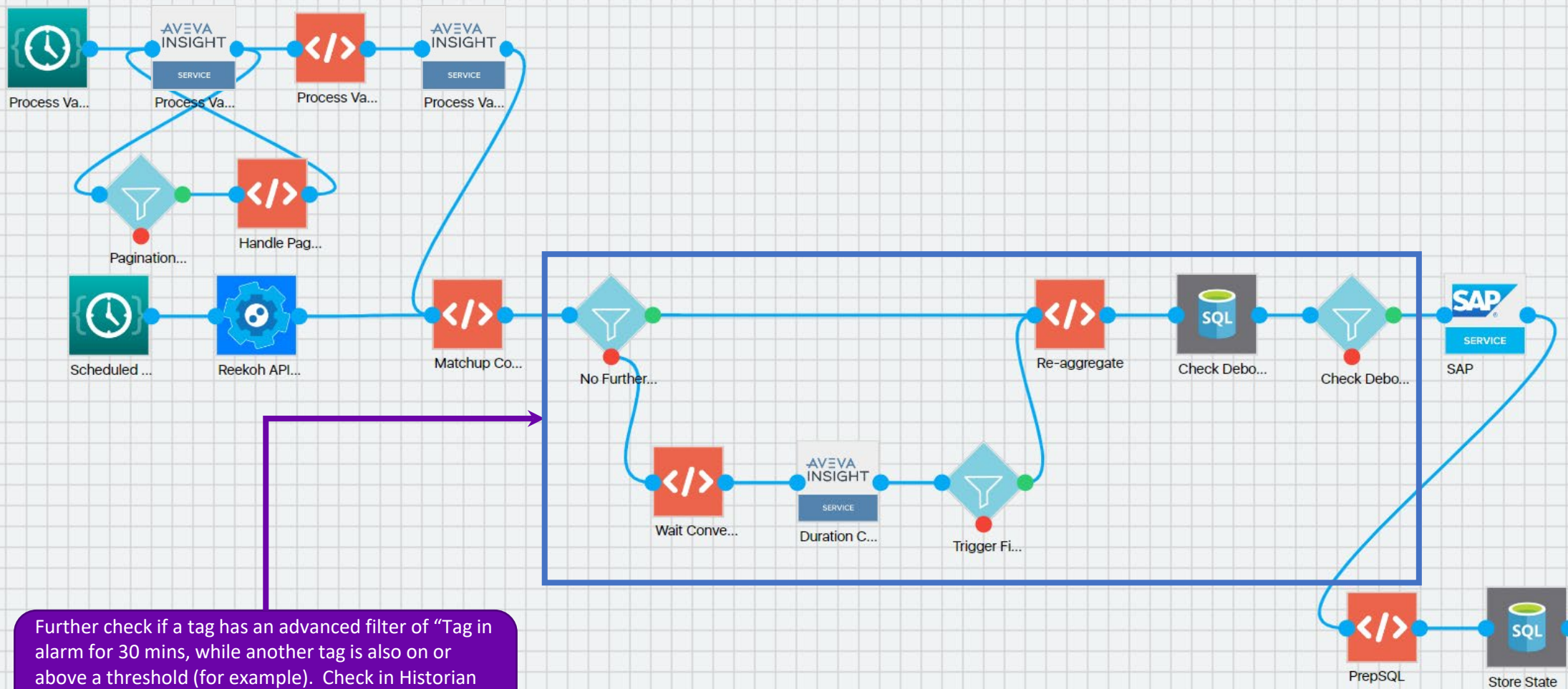
API endpoint template to access.

AVEVA

Now we have a full list of FQN's, Values, and DateTime's of Alarms that triggered.

Workplan Pipeline

Pipeline Selector ▽

Process Va... → **Process Va...** (AVEVA INSIGHT SERVICE) → **Process Va...** → **Process Va...** (AVEVA INSIGHT SERVICE)

Pagination... → **Handle Pag...**

Scheduled ... → **Reekoh API...** → **Matchup Co...** → **No Further...** → **Re-aggregate** → **Check Debo...** (SQL) → **Check Debo...** → **SAP** (SERVICE)

Wait Conve... → **Duration C...** (AVEVA INSIGHT SERVICE) → **Trigger Fi...**
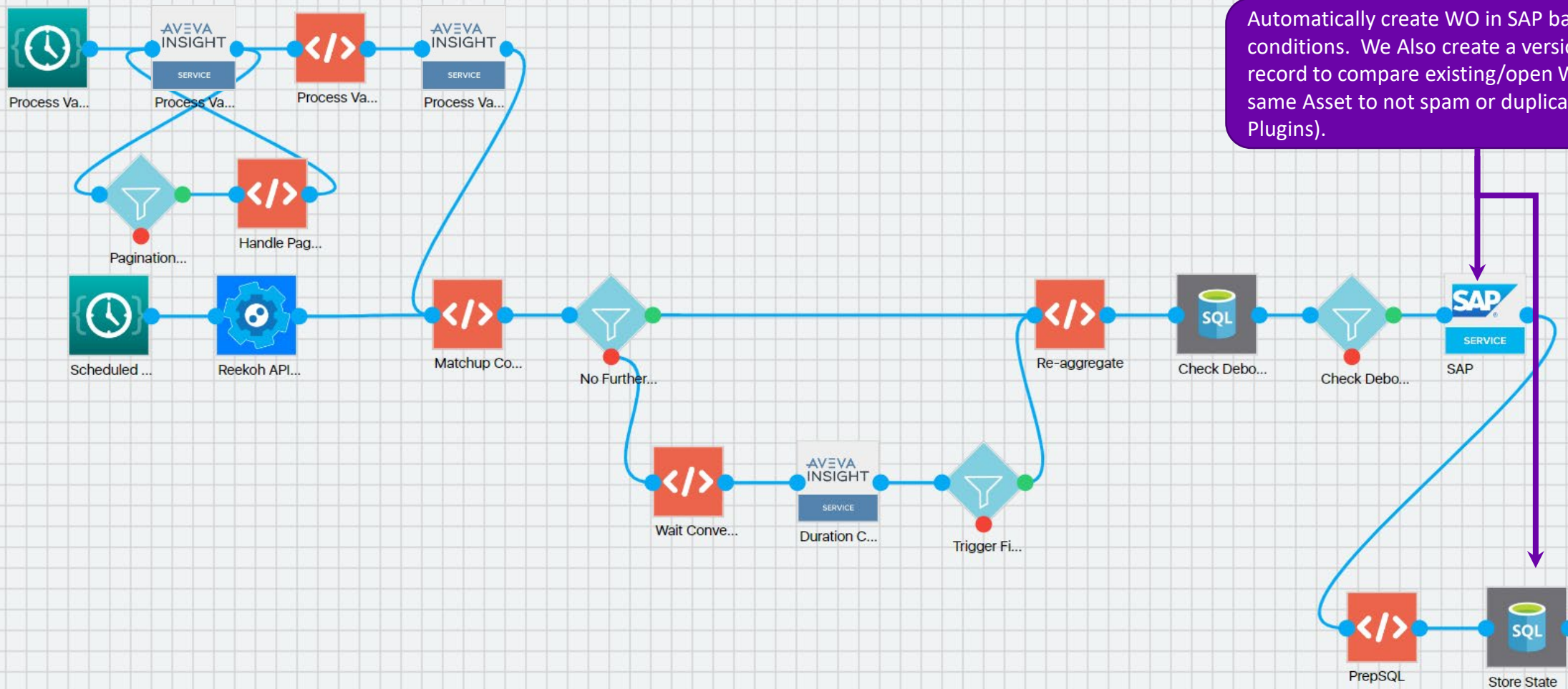
PrepSQL → **Store State** (SQL)

Align data and matchup with Reekoh device registry to see if it needs a debounce time for enhanced alarming, what the SAP WP number is, and if alarm is Reset capable once the WO is closed.

Workplan Pipeline

Pipeline Selector

Process Va...

Process Va...

Process Va...

Process Va...

Pagination...

Handle Pag...

Scheduled ...

Reekoh API...

Matchup Co...

No Further...

Wait Conve...

Duration C...

Trigger Fi...

Re-aggregate

Check Debo...

Check Debo...

SAP

PrepSQL

Store State

Further check if a tag has an advanced filter of "Tag in alarm for 30 mins, while another tag is also on or above a threshold (for example). Check in Historian to verify those statuses if required are then true or false.

Workplan Pipeline

Pipeline Selector

Process Va...
Process Va...
Process Va...
Process Va...

Pagination...
Handle Pag...

Scheduled ...
Reekoh API...
Matchup Co...
No Further...
Re-aggregate
Check Debo...
Check Debo...
SAP

Wait Conve...
Duration C...
Trigger Fi...

PrepSQL
Store State

Automatically create WO in SAP based on alarm conditions. We Also create a version of that record to compare existing/open WO's for the same Asset to not spam or duplicate (SQL Plugins).
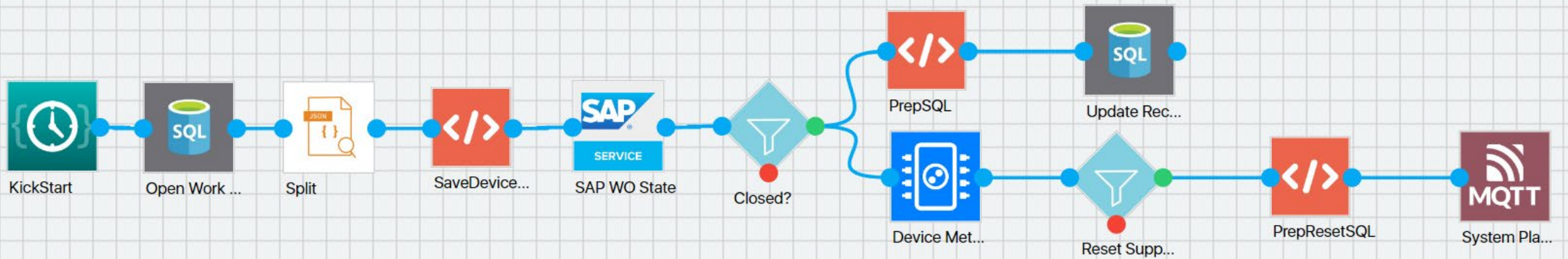
Closing the loop

AVEVA

Pipeline Selector

KickStart — Open Work ... — Split — SaveDevice... — SAP WO State — Closed?

PrepSQL — Update Rec...

Device Met... — Reset Supp... — PrepResetSQL — System Pla...

1. This pipeline periodically checks our records to look for open work orders – avoids duplication.

2. We compare our open WO's to what SAP says.

3. SAP is the master of "truth" so if SAP says it's closed – we close ours.

4. If the piece of equipment is resettable, we reset the alarm, counter, or ack bit in the plc once the WO is completed.

After implementing Reekoh, one construction materials manufacturer saw:

Reduction in time spent on operator intervention by 3000% per asset

Removed risk from manual PLC & SCADA programming for work orders

Future-proofed seamless addition of new assets into business processes

No increase in capital investment to existing systems or assets to achieve outcomes

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!

AVEVA

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@avevagroup

ABOUT AVEVA

AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

Learn more at www.aveva.com

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