



# Canary User Conference

August 11- 14 State College, Pennsylvania



# What's New In Views?



**Ken Wyant**

Director of  
Business  
Solutions



# What are Canary Views?

Views also referred to as Virtual Views are a browsing structure that administrators can configure to make finding your data easier and more intuitive.

## Historian View

- **The Historian View** is the Base View on all Canary Historians that includes all tags and echoes the structure of the source's tag names.

## Virtual Views

- **Virtual Views** are configured by administrators to provide alternate browsing structures and/or tag names.
- Can be created to support various roles or use cases.
- Tag properties can be used to provide additional context

# Configuring a Virtual View

Views are defined through a series of regular expression (RegEx) rules that recast the historian tag names into virtual tags that provide structure and user friendly naming. Regex is extremely efficient and can iterate of large records set quickly.



## Assign Data Sources

- Select one or more datasets or another virtual view.



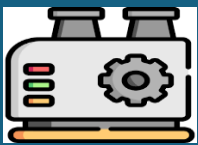
## Pass in Tag Property Names

- Define and import property names to be used to lookup tag property values to make them available in the configuration of views.



## Define Asset Hierarchy

- Asset Hierarchies are defined by a utilizing “.” in the virtual tag name. Each “.” indicates a new branch or node



## Define Asset Types

- Asset types can be defined for each level or type of equipment present in the Asset Hierarchy.

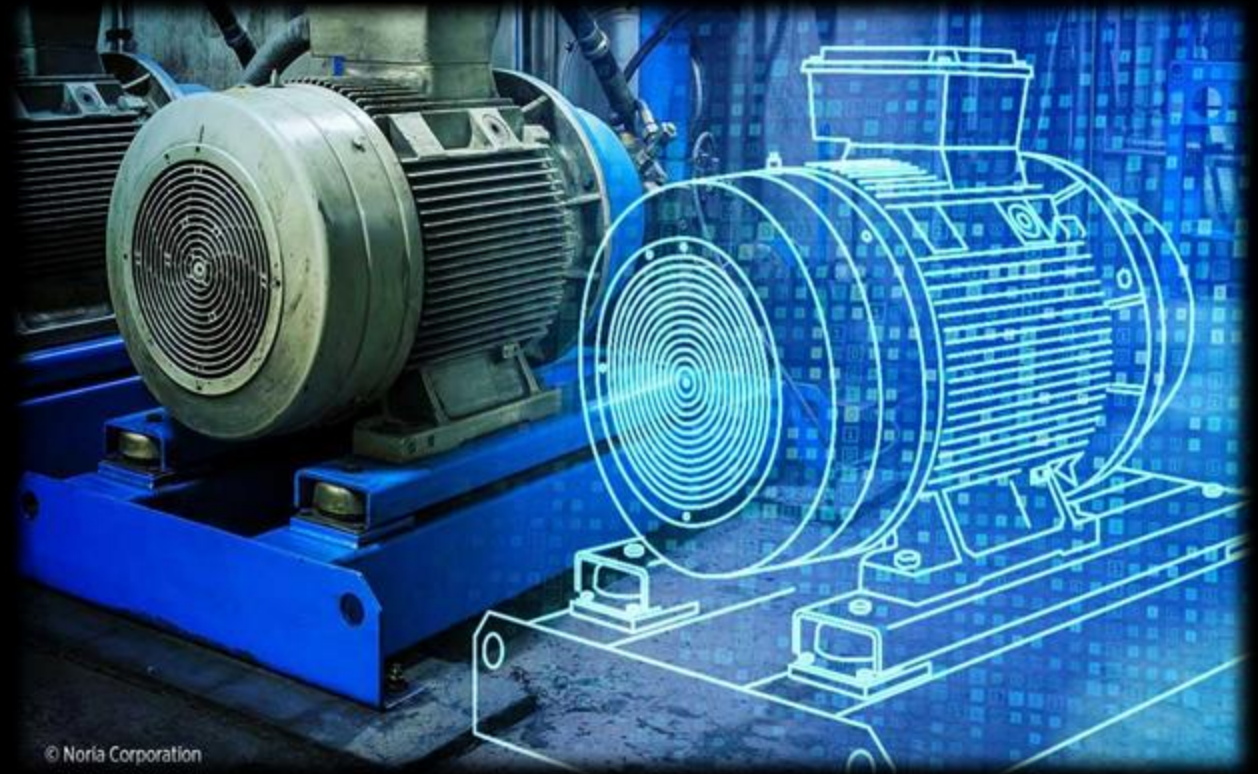


# Why Create Asset Types

All asset modeling is done in a virtual views, a single tag within the Historian can belong to multiple asset models allowing for tiered asset models.

## Asset Type Uses

- Organizing and Structuring Virtual Tags
- Support Asset Data Models
- Streamlining Calculations & Events
- Tailored Data Access by Asset
- Automated Asset Discovery
- Asset Data condition filtering
- Used with Axiom Controls
- Used by ODBC Connector
- Use with Canary API's



# Steps for Creating Virtual Views

## Tag Exclusion

Narrow the scope of what tags will be exposed on this view.

## Virtual Tag Transformations

Write RegEx rules to transform, alias and rename tags.

## Apply Asset Types

Define Asset Types to complete the desired Asset Model.

# New Exclusion Functions

We understand that RegEx is not a language that most OT administrators are familiar with. We have listened and learned from numerous implementations. After seeing repeated patterns emerge, we created some new custom (non-RegEx) functions!

# Tag and Property Exclusion Functions

- Tag Name based
  - TagNameContains
  - TagNameNotContains
- Property value based
  - Property Equals
  - PropertyNotEquals
  - PropertyContains
  - PropertyNotContains



# New Trim Functions

Trim functions support the selection of a subset of a tag name.

## Transformation Functions

- TrimStart
- TrimEnd

## Use Cases

- Building a model utilizing tag properties to exclude a subset of a tag but the property is not going to be used as part of the browsing structure.
- Building a model utilizing tag properties and the tag properties are the sole source of structure for the model and the user isn't going to utilize any of the historian tag name.

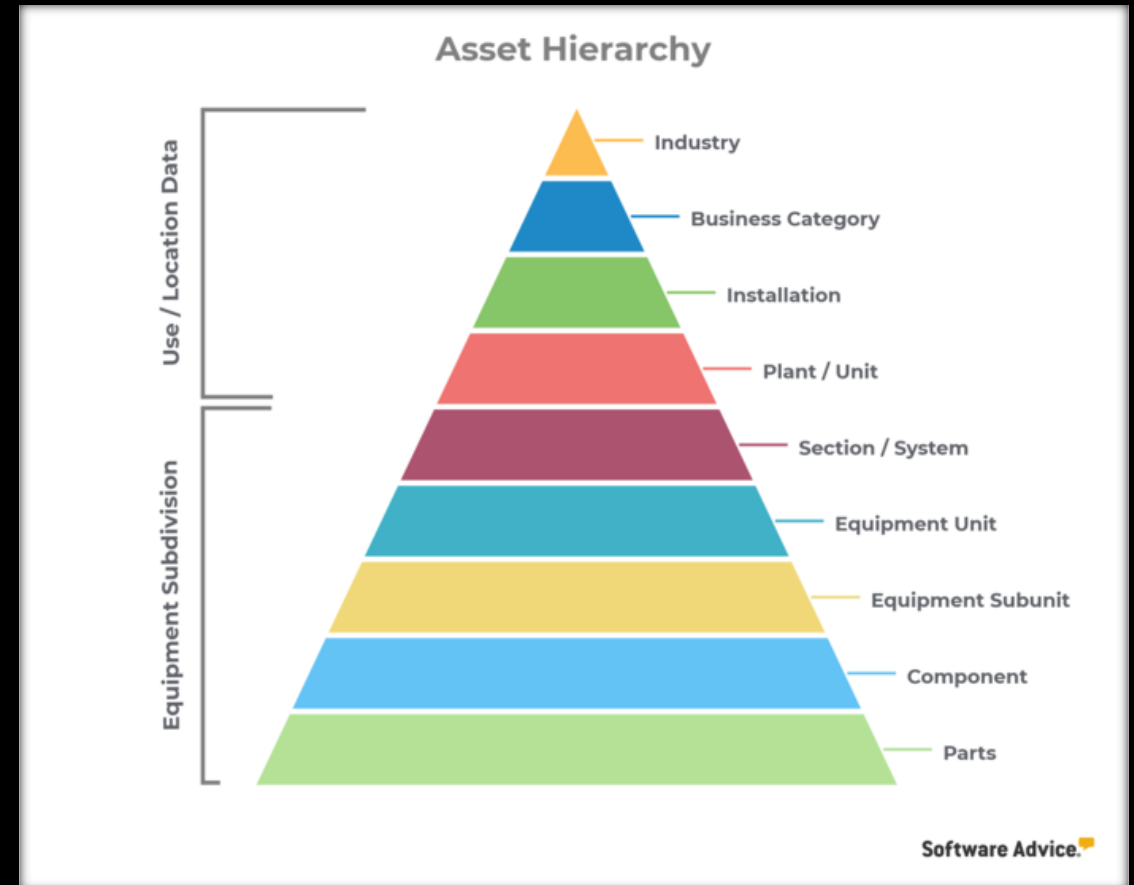


# New Asset Branch Functions

If a branch contains only a single asset type (ex Site, Division, Company) then use Branch a number indicating the position in the hierarchy starting at 1

## Asset Typing Functions

- Branch
- BranchEquals
- BranchStarts
- BranchContains



# Branch Functions Demo

VIEWS

Current Connections: 0

Total Connections: 163

Request Count: 629

Request/Sec: 0.0

TVQ Count: 11,000

TVQ/Sec: 0.0

Canary Assets Virtual View	Canary Historian Local Historian	Check Virtual View	Large Well Model Virtual View	New Functions Virtual View
Oil and Gas Virtual View	Oil and Gas Alt Virtual View	Solar Virtual View	Solar and Battery Virtual View	

VIEW		
NAME	VALUE	



# Let's Compare

	MATCH	REPLACE	ASSET TYPE	MATCHED	DUPLICATES	INSTANCES	EXCLUDE
1	^((?!Battery Storage).)*\$			3262	0	0	<input checked="" type="checkbox"/>
2	^.+?\.		Site	40080	0	2	<input type="checkbox"/>
3	^(.+?\.){2}		Process	40080	0	2	<input type="checkbox"/>
4	BESS \d+\.		BESS	40080	0	12	<input type="checkbox"/>
5	BESS \d\.(.+?) \d+\.		\$1	39732	0	48	<input type="checkbox"/>
6	Rack \d+\.		Rack	37080	0	360	<input type="checkbox"/>

	MATCH	REPLACE	ASSET TYPE	MATCHED	DUPLICATES	INSTANCES	EXCLUDE
1	TagNameNotContains(Battery Storage)			3262	0	0	<input checked="" type="checkbox"/>
2	Branch(1)		Site	40080	0	2	<input type="checkbox"/>
3	Branch(2)		Process	40080	0	2	<input type="checkbox"/>
4	BranchStarts(3, BESS)		BESS	40080	0	12	<input type="checkbox"/>
5	BranchStarts(4, Battery)		Battery	37080	0	12	<input type="checkbox"/>
6	BranchStarts(4, BMS)		BMS	1176	0	12	<input type="checkbox"/>
7	BranchStarts(4, Inverter)		Inverter	1428	0	12	<input type="checkbox"/>
8	BranchStarts(4, DC)		Combiner	48	0	12	<input type="checkbox"/>
9	BranchStarts(5, Rack)		Rack	37080	0	360	<input type="checkbox"/>

# Property, Trim & Bratch Functions Demo

VIEWS

Current Connections: 0

Total Connections: 194

Request Count: 800

Request/Sec: 0.0

TVQ Count: 11,000

TVQ/Sec: 0.0

VIEW

NAME

VALUE

Canary Assets Virtual View	Canary Battery Virtual View	Canary Historian Local Historian	Check Virtual View	Large Well Model Virtual View
New Functions Virtual View	Oil and Gas Virtual View	Oil and Gas Alt Virtual View	Solar Virtual View	Solar and Battery Virtual View



# Validate Asset Instances based on RegEx Rules

VIEWSDOWN

Current Connections: 0  
Total Connections: 200  
Request Count: 831  
Request/Sec: 0.0  
TVQ Count: 11,000  
TVQ/Sec: 0.0

VIEWDOWN

NAME	VALUE
Last Update	8/10/2025 2:13:32 PM
Source Views	localhost.Canary Oil; localhost.Canary Oil Elev8
Properties	Field: Route; WellPad; WellName; DeviceType; TagDescription; Obsolete
Tag Count	1,432
Field Count	3
Fuel Gas Meter Count	1
Gas Meter Count	86
Oil Meter Count	86
Route Count	6
Well Count	86
Well Pad Count	8

Canary Assets  
Virtual View

Canary Battery  
Virtual View

Canary Historian  
Local Historian

Canary Oil and Gas  
Virtual View

Check  
Virtual View

Large Well Model  
Virtual View

New Functions  
Virtual View

Oil and Gas  
Virtual View

Oil and Gas Alt  
Virtual View

Solar  
Virtual View

Solar and Battery  
Virtual View





# What else is coming

Currently all attributes of a template are linked to a historian tag. Work is underway to expand what attributes can be linked to.

- Add attributes to existing templates.

- Static Value

```
Attribute(OEM, 'Syntegon')
```

- Reference value from a SQL data source

```
SELECT equipment_name,  
       serial_number  
FROM equipment_table  
WHERE equipment_name = 'Motor'  
AND manufacturer = 'GE'  
AND line = '10'  
AND Unit = 'Bagger04'  
AND Equipment Module = 'Unwind'  
AND subassembly = 'Spindle A';
```

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# Questions?