

NOVEMBER 2022

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# AVEVA™ System Platform 2023

Deep dive into the latest in AVEVA Operations Control – Supervisory,  
AVEVA System Platform 2023

AVEVA



## Ernst van Wyk

Product Manager – System Platform & OMI

- AVEVA
- [Ernst.vanWyk@AVEVA.com](mailto:Ernst.vanWyk@AVEVA.com)

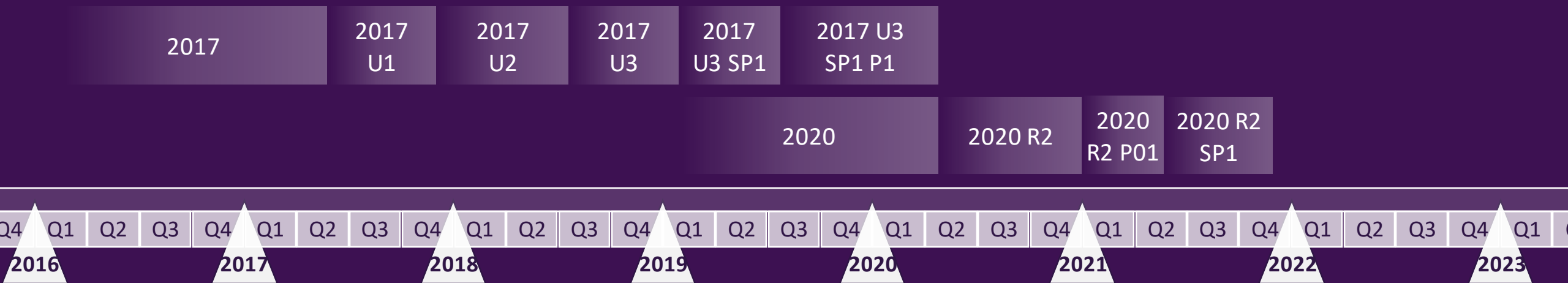


## Greg Belcher

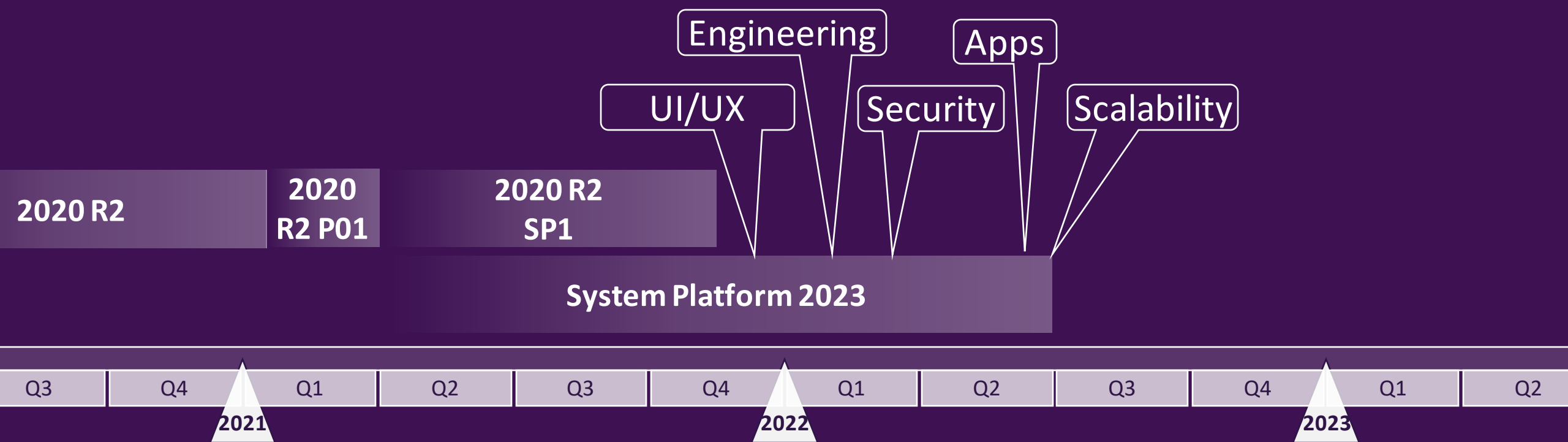
Program Manager – System Platform & OMI

- AVEVA
- [Greg.Belcher@AVEVA.com](mailto:Greg.Belcher@AVEVA.com)

# The history



# System Platform 2023



# System Platform 2023



Galaxy
Home
View
Help

Open

Rename

Duplicate

Tagname dictionary

Selected

Instance

Screen

Namespace

Deploy...

Check-in

Save

Find...

Assign To...

Upload changes

Object Viewer

Alias name...

Properties...

Delete

Import

Export

Template

Layout

External content

Undeploy...

Check-in

Save All

Validate

Unassign

Set as default

Contained name...

Edit

Toolset

Symbol

Create

Deploy

Save

Find

Assign

Runtime

Templates

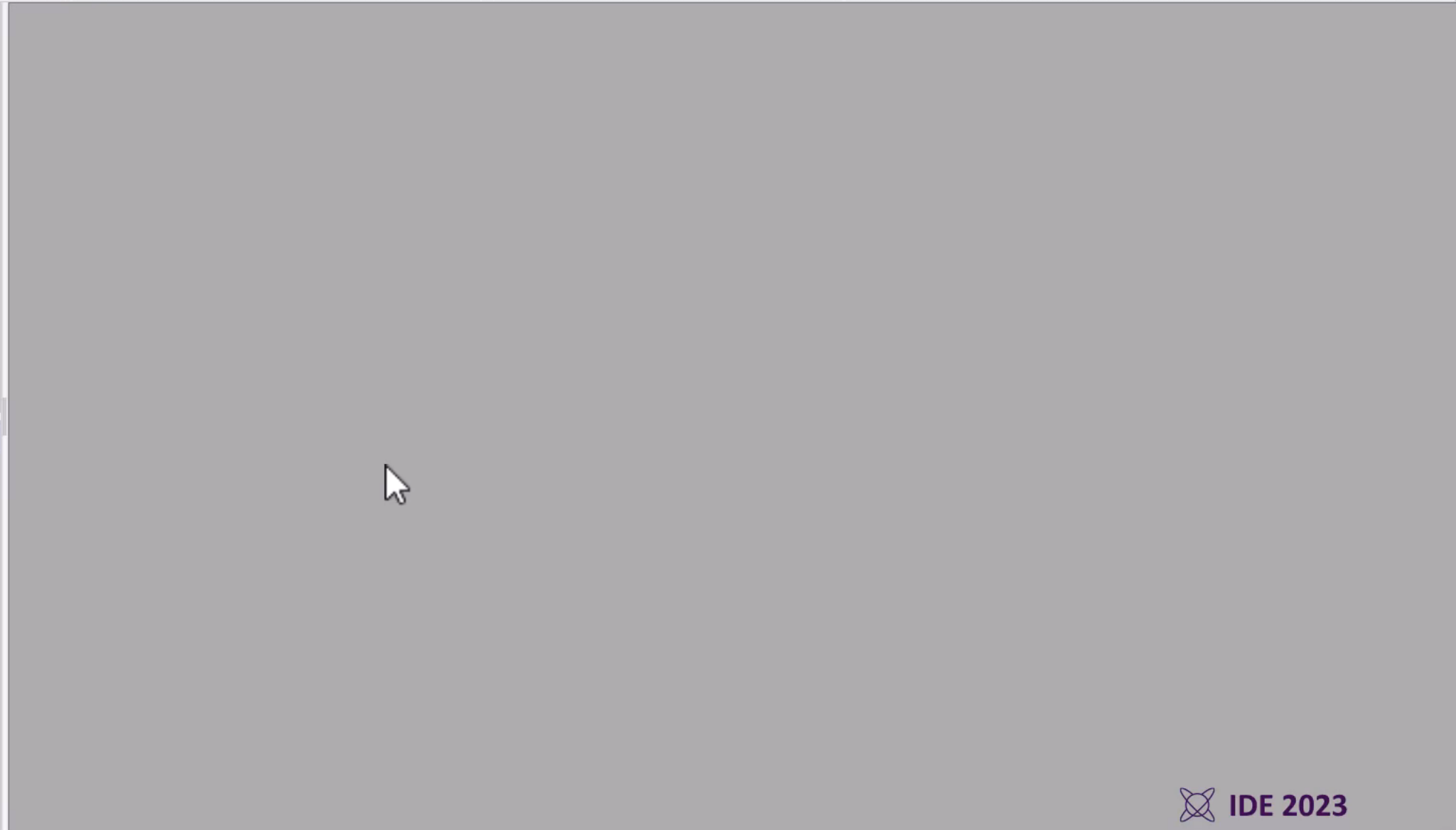
> PiesangSandpit

Templates
Graphics

Derivation

> PiesangSandpit

Model - Tagname
Deployment
Derivation



# System Platform 2023



Galaxy
Home
View
Help

Open

Rename  
 Alias name...  
 Contained name...

Duplicate  
 Properties...  
 Delete

Tagname dictionary  
**Import**

Selected  
**Export**

Instance  
 Template  
 Toolset

Screen  
 Layout  
 Symbol

(x) Namespace  
 External content  
**Create**

Deploy...  
 Undeploy...  
**Deploy**

Check-in  
**Check-in**

Save  
 Save All  
 Validate  
**Save**

Find...  
**Find**

Assign To...  
 Unassign  
 Set as default  
**Assign**

Upload changes  
**Runtime**

Object Viewer

Templates

PiesangSandpit

Templates

Graphics

Derivation

PiesangSandpit

Derivation

Model - Tagname

Deployment

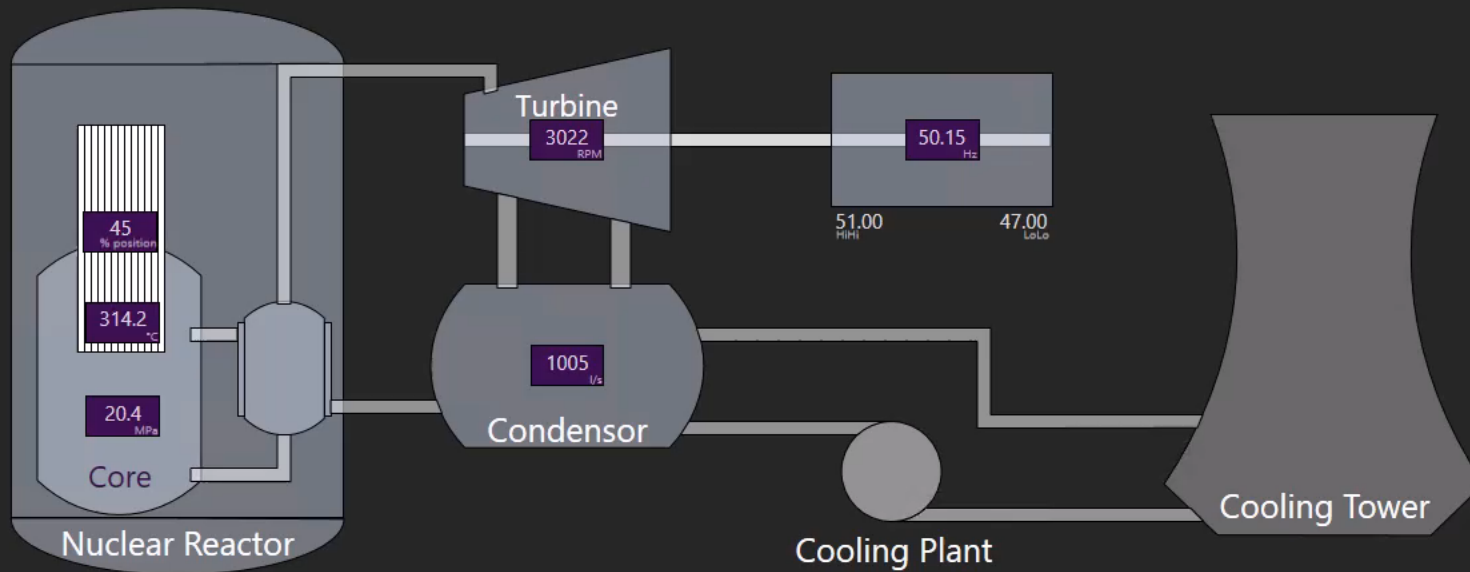
Derivation

**IDE 2023**

Ready

# System Platform 2023

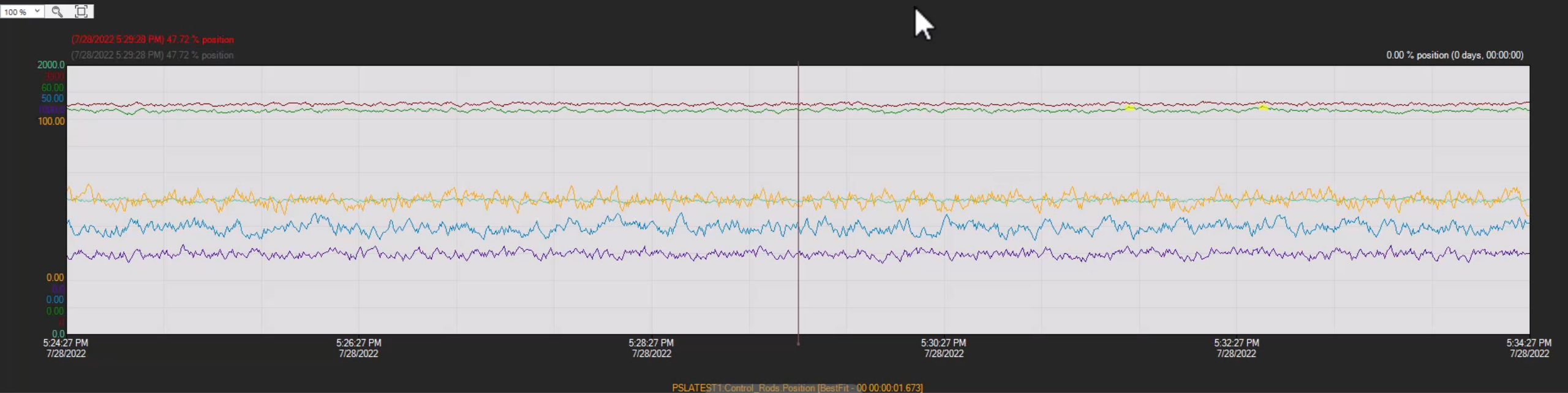




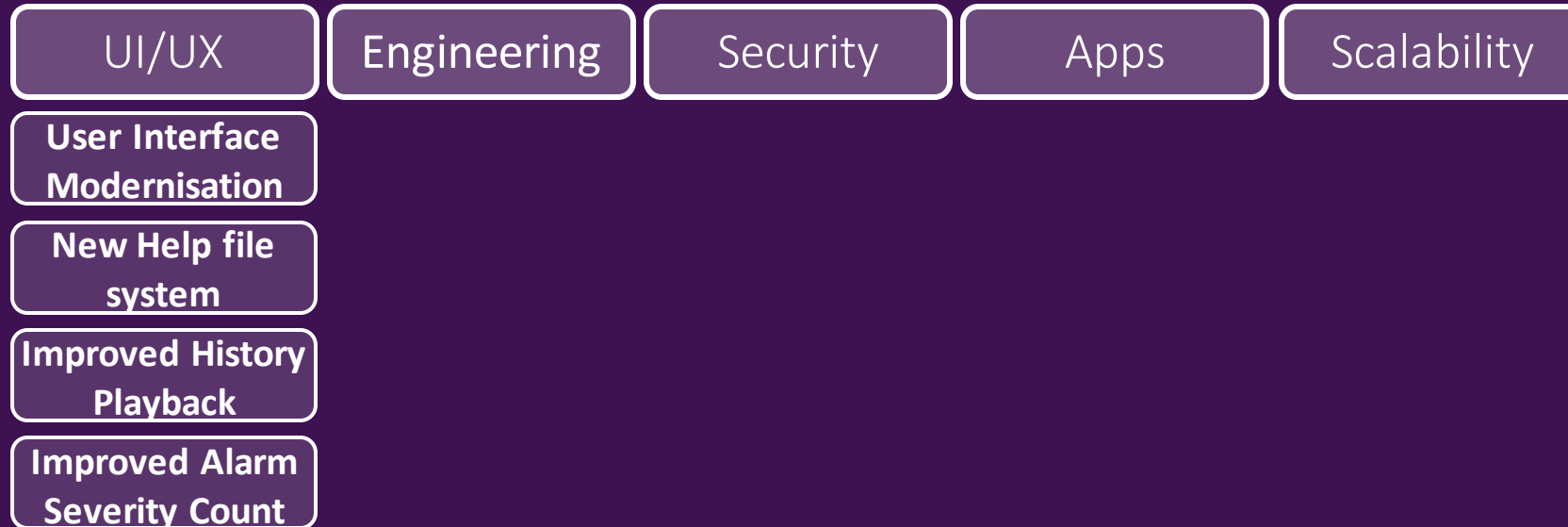
**Control Rods: Auto**

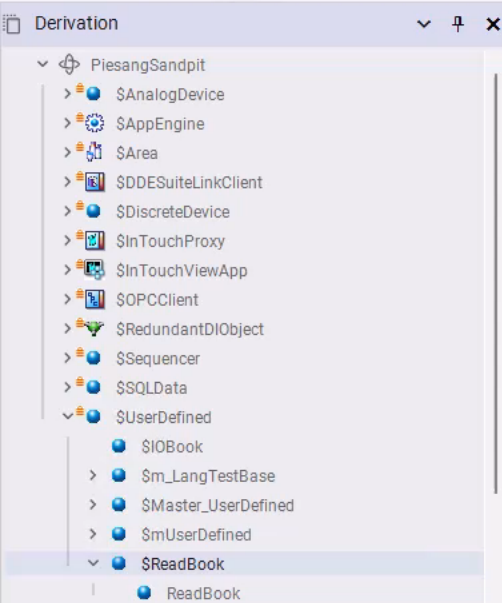
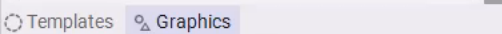
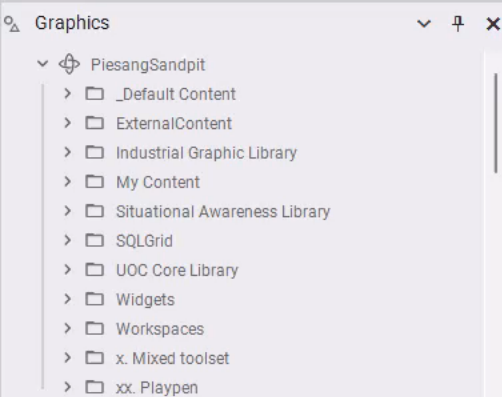
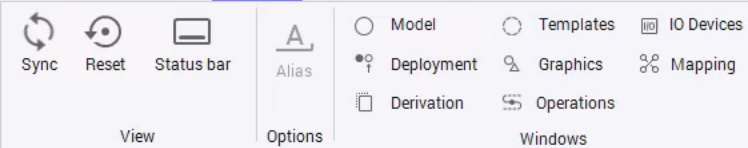
Control rod position setpoint: 50% position

**Cooling pump: Auto**

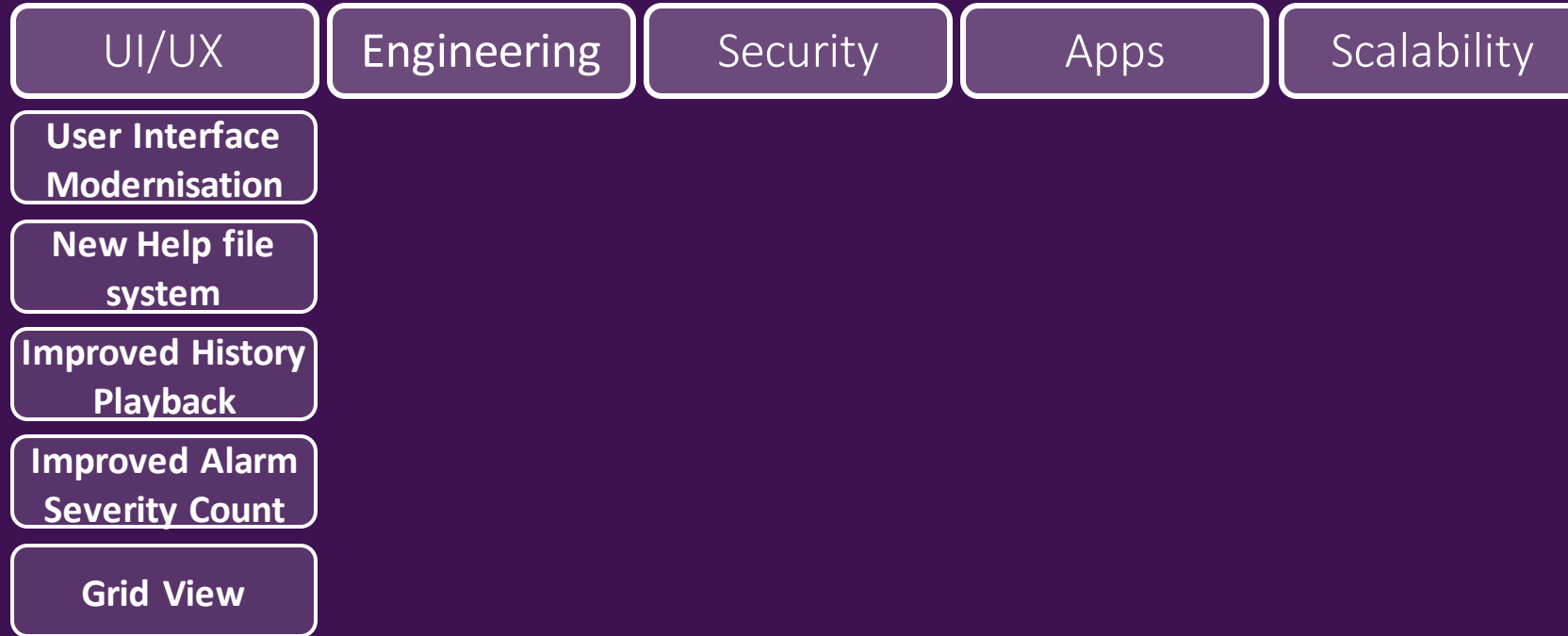


# System Platform 2023





# System Platform 2023



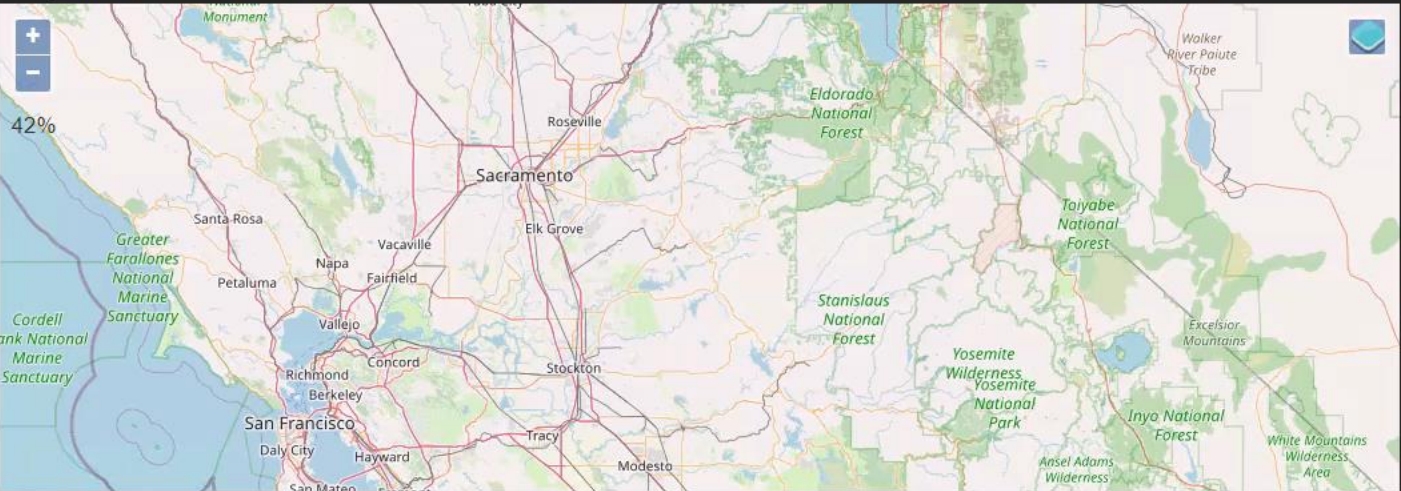
# Counties in California

County	Full name	Popu...	Lan...	Wate...	La
Alameda	Alameda County	1510271	739.02	83.57	37.8
Alpine	Alpine County	1175	738.33	4.57	38.6
Amador	Amador County	38091	594.58	11.73	38.3
Butte	Butte County	220000	1636.46	37.62	39.5
Calaveras	Calaveras County	45578	1020.01	16.81	38.1
Colusa	Colusa County	21419	1150.73	5.54	39.2
Contra_Costa	Contra Costa County	1049025	715.94	82.2	38.0
Del_Norte	Del Norte County	28610	1006.37	221.94	41.7
El_Dorado	El Dorado County	181058	1707.88	77.25	38.7
Fresno	Fresno County	930450	5957.99	54.7	36.7
Glenn	Glenn County	28122	1313.95	12.36	39.5
Humboldt	Humboldt County	134623	3567.99	479.74	40.7
Imperial	Imperial County	174528	4176.6	307	32.7
Inyo	Inyo County	18546	10180.88	23.88	36.8
Kern	Kern County	839631	8131.92	20.46	35.3
Kings	Kings County	152982	1389.42	0.5	36.3
Lake	Lake County	64665	1256.46	71.52	39.0

Amador|Amador County|38091|594.58|11.73|38.347604|-120.772295

## County: Amador County

Population: 38091      Land Area: 594.58 km<sup>2</sup>      Water Area: 11.73 km<sup>2</sup>



Latitude: 38.347604      Longitude: -120.772295

Article

Talk

### Amador County

From Wikipedia

**Amador County** is a county in the Sierra Nevada region of California, in the United States. The county seat is Jackson. Amador County, located within California's Gold Country, is known as "The Heart of the Mother Lode". There is a substantial viticultural industry in the county.

Not logged in | Talk | Contributions | Create account | Log in

Read

Edit

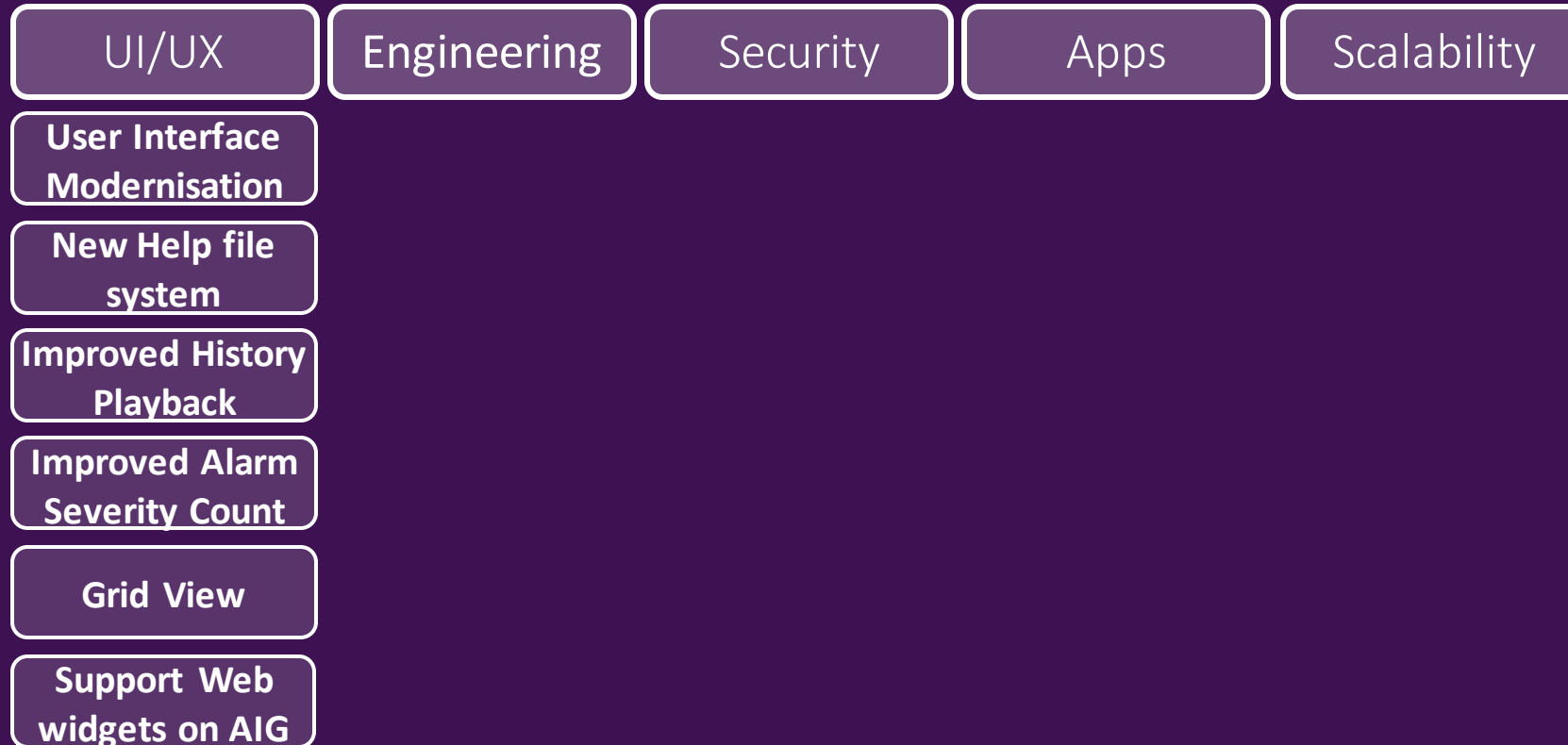
View history

Coordinates: 38.44°N 120.66°W

#### Amador County, California

County

# System Platform 2023





## Tools



## Elements

- Web\_Browser1
- Map\_App1
- Group1
- Datagrid1
- RoundRectangle2
- Image2
- Image1
- Text12
- Text11
- Text7
- Text3
- Rectangle3
- Text10
- Text9
- Text8
- Text1
- Ellipse1
- Text17
- Text6
- Text5
- Text4
- Text2
- TextBox1
- Rectangle2
- RoundRectangle1

## Counties in #####

Widget

Datagrid

County: County

Population: Population

Land Area: Land Area

Water Area: Water Area

Widget

Map\_App

Latitude: #####

Longitude: ###

HeaderForeColor

RowHoverBackColor

Widget

Web\_Browser

## Languages

English (United States) (en-US)

## Properties

## Toolbox

## Assets

## Graphic

Description

Size

FixedWidth

FixedHeight

## Appearance

AnchorFixed

Locked

AbsoluteAn

RelativeAn

Smoothing

## Runtime Behavior

ContentTyp

Faceplate

MultiplePo

Scripts

ZoomPerce

ZoomCent

ZoomCent

## Custom Properties

CustomPro

DataString

SelectedRc

Config

County

CountyFull

Population

LandArea

WaterArea

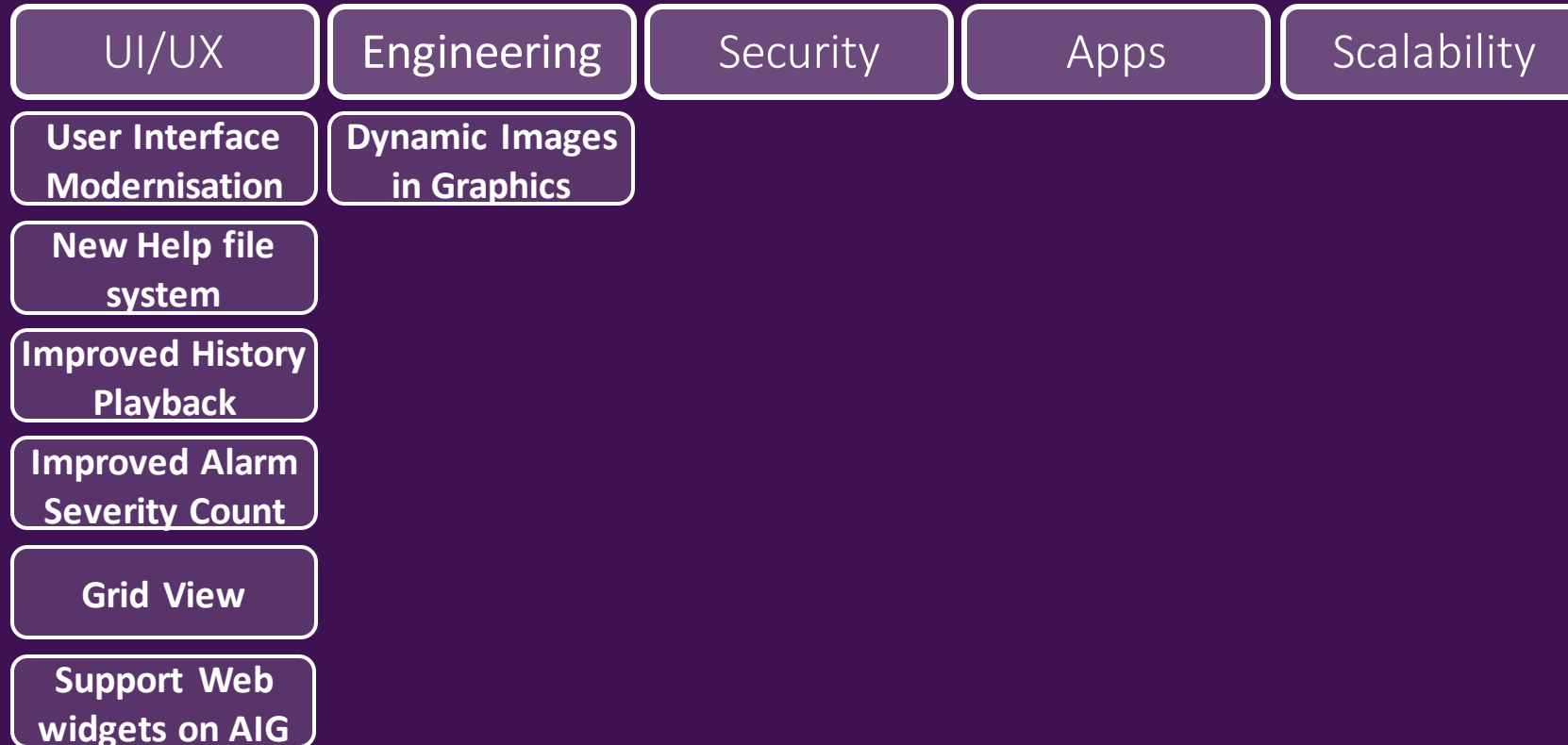
Latitude

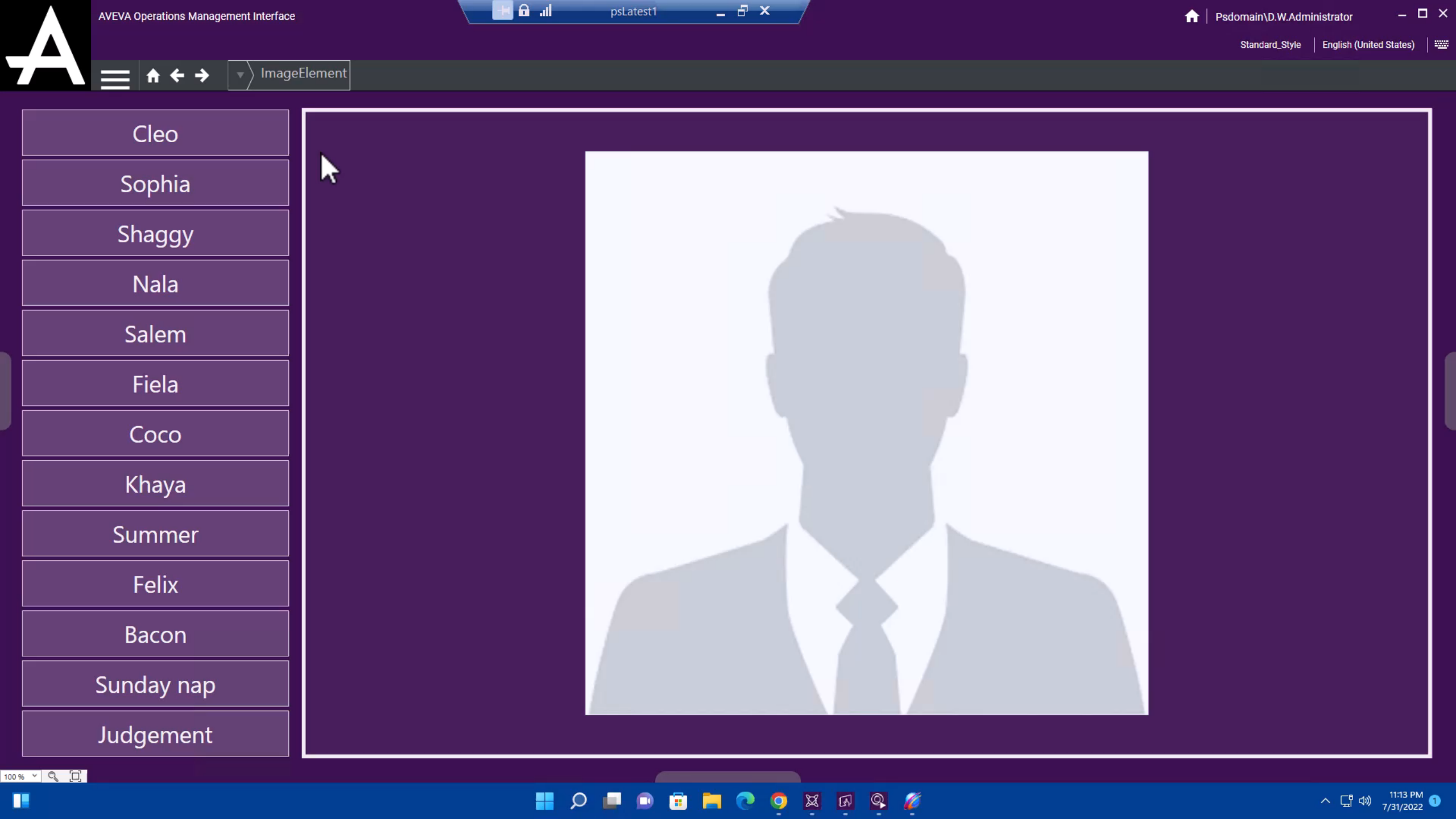
Longitude

SetCounty

## Appearance

# System Platform 2023





ImageElement

Cleo

Sophia

Shaggy

Nala

Salem

Fiela

Coco

Khaya

Summer

Felix

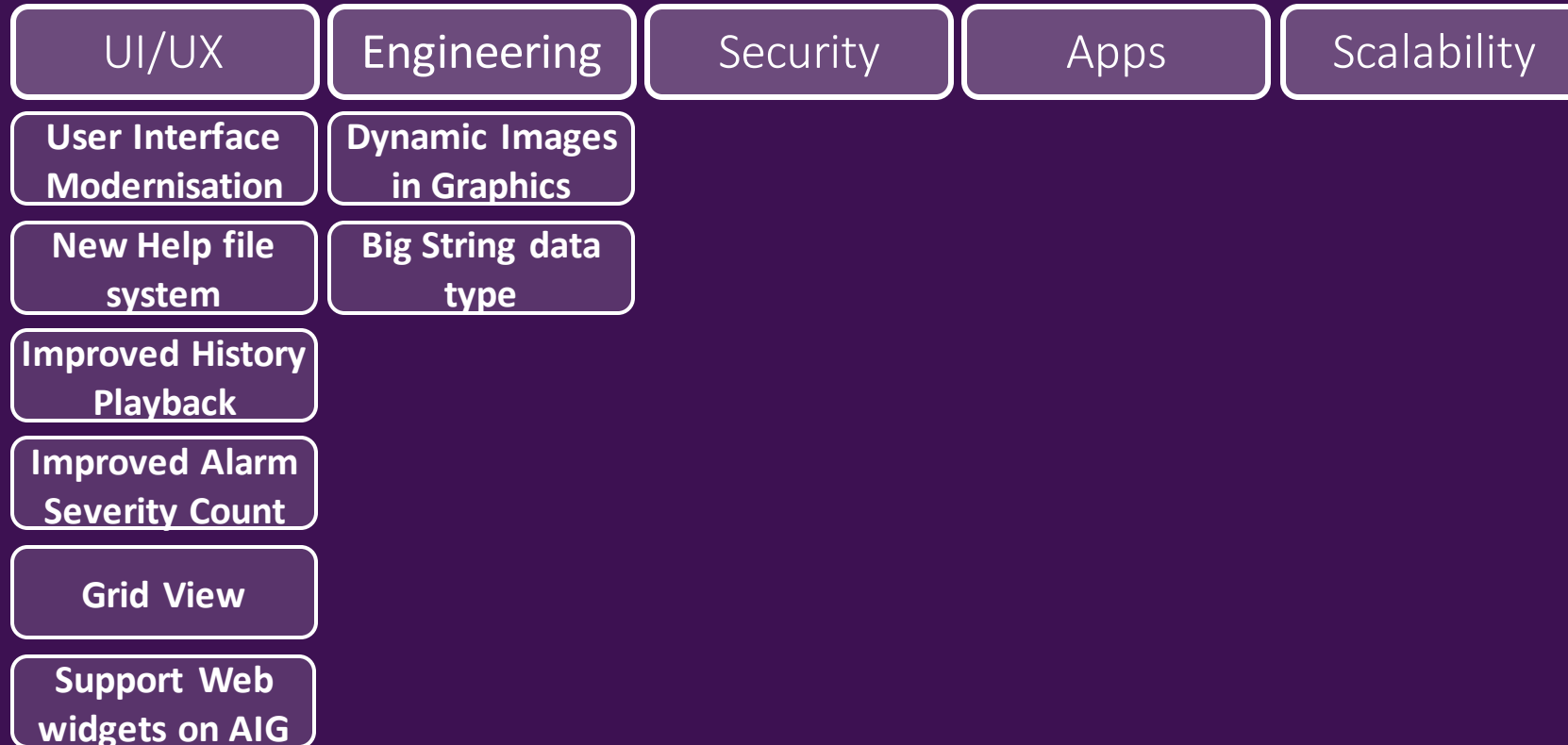
Bacon

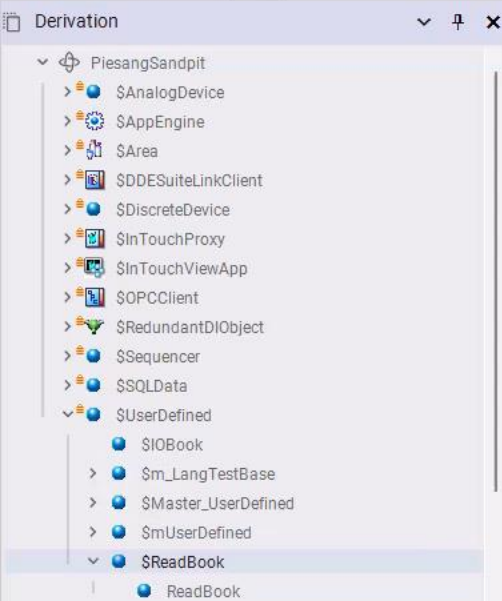
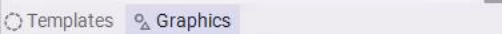
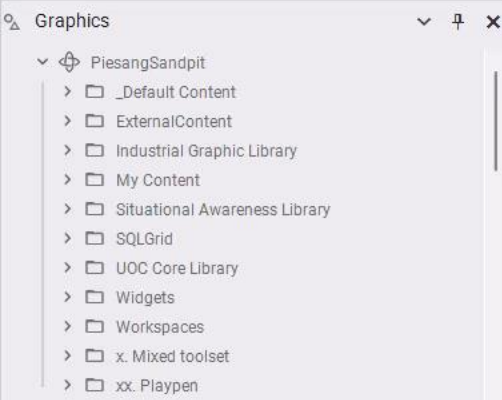
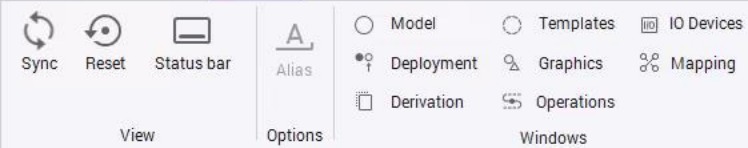
Sunday nap

Judgement

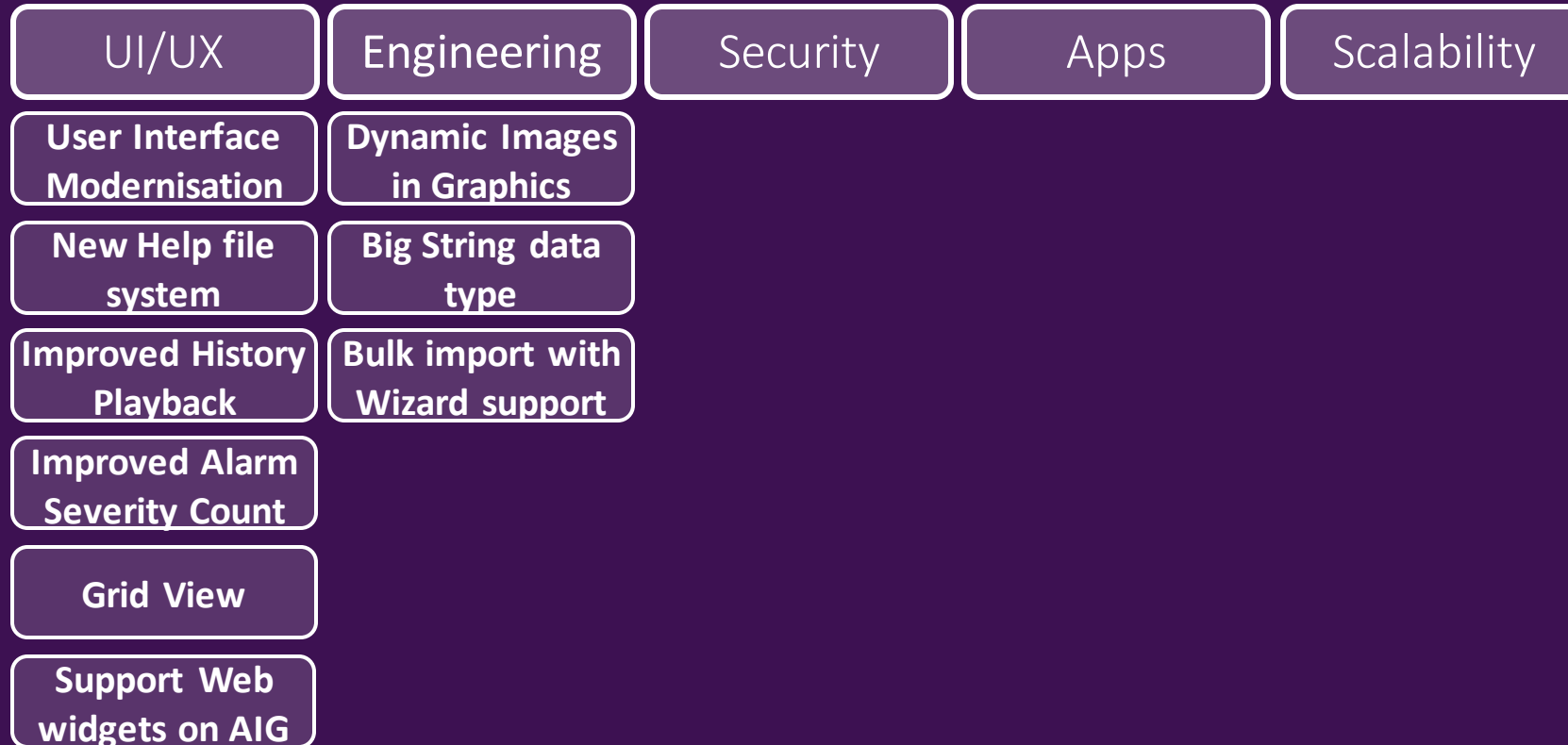


# System Platform 2023





# System Platform 2023



Galaxy
Home
View
Help

Open

Rename  
Alias name...  
Contained name...

Duplicate  
Properties...  
Delete

Tagname dictionary  
Import

Selected  
Export

Instance  
Template  
Toolset

Screen  
Layout  
Symbol

Namespace  
External content  
Create

Deploy...  
Undeploy...  
Deploy

Check-in  
Check-in

Save  
Save All  
Validate  
Save

Find...  
Find

Assign To...  
Unassign  
Set as default  
Assign

Upload changes  
Object Viewer  
Runtime

Templates

> PiesangSandpit

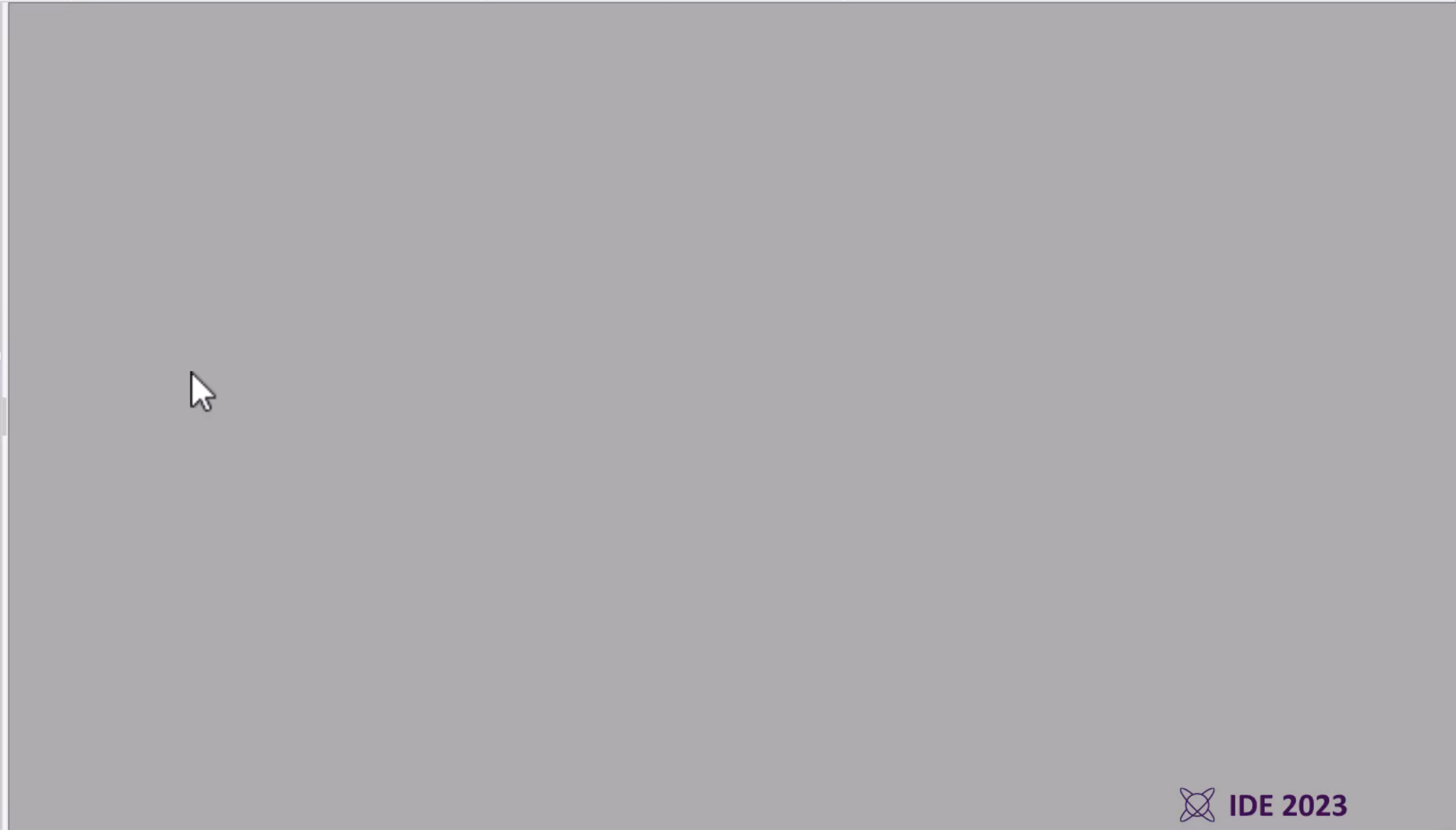
Templates Graphics

Model - Tagname

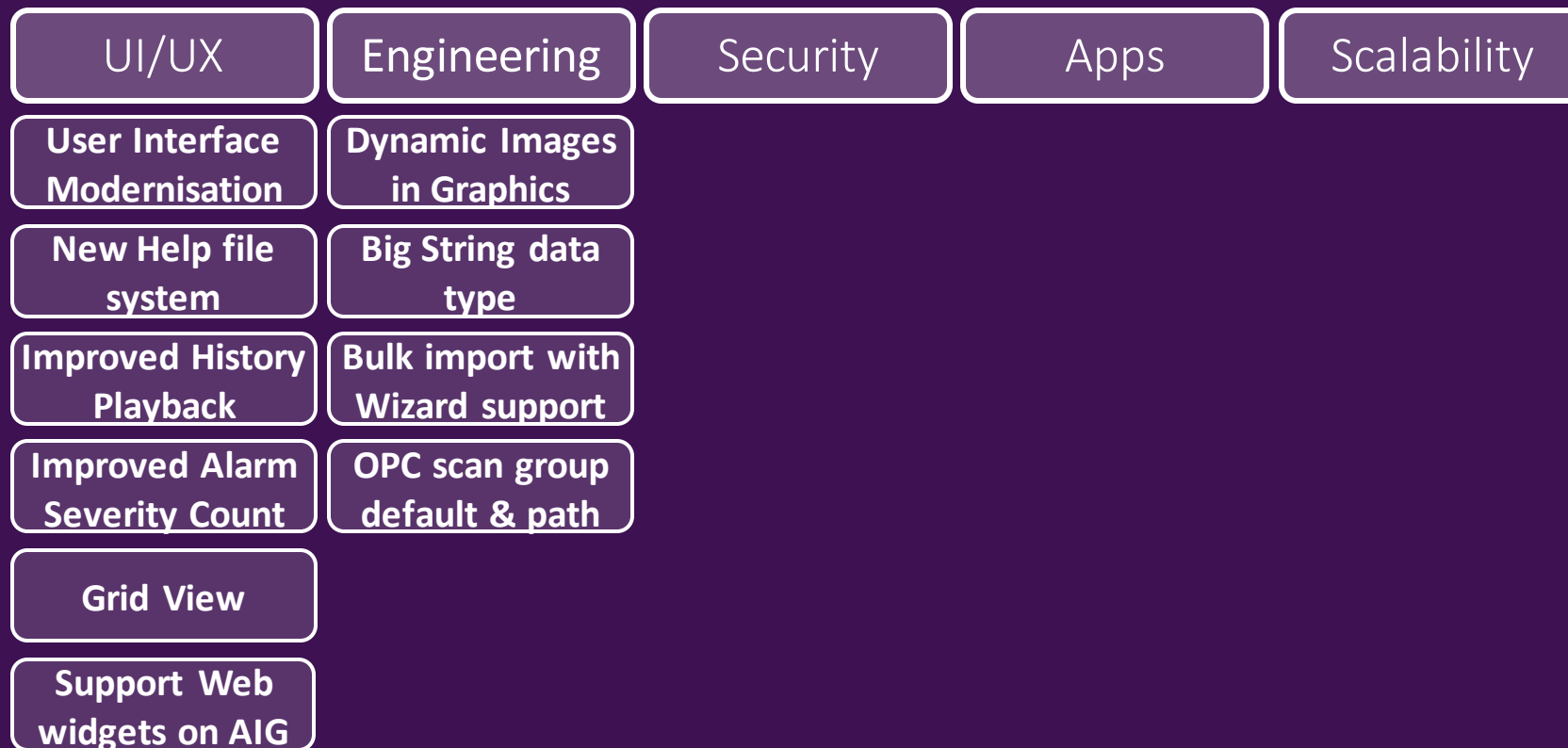
> PiesangSandpit

- > Unassigned Area
- > Enterprise
- > Wonder\_Power
- > Wonder\_Water
  - > \_Systems [ \_Systems ]
  - > United\_States [ USA ]
    - > Midwest [ Midwest ]
      - > East\_North\_Central [ East\_North\_Central ]
        - Illinois [ IL ]
        - Indiana [ IN ]
        - Michigan [ MI ]
        - Ohio [ OH ]
        - Wisconsin [ WI ]
      - > West\_North\_Central [ West\_North\_Centra ]
      - > Northeast [ Northeast ]
      - > South [ South ]
      - > West [ West ]

Model - Tagname Deployment Derivation



# System Platform 2023



Galaxy
Home
View
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Open

Rename

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Tagname dictionary

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Deploy...

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Upload changes

Object Viewer

Alias name...

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External content

Undeploy...

Check-in

Save All

Validate

Unassign

Set as default

Edit

Create

Deploy

Check-in

Save

Find

Assign

Runtime

Templates

>
PiesangSandpit

Templates
Graphics

Derivation

PiesangSandpit

\$AnalogDevice

\$AppEngine

\$Area

\$DDESuiteLinkClient

\$DiscreteDevice

\$InTouchProxy

\$InTouchViewApp

\$OPCCClient

\$Master\_OPCCClient

\$OIGW

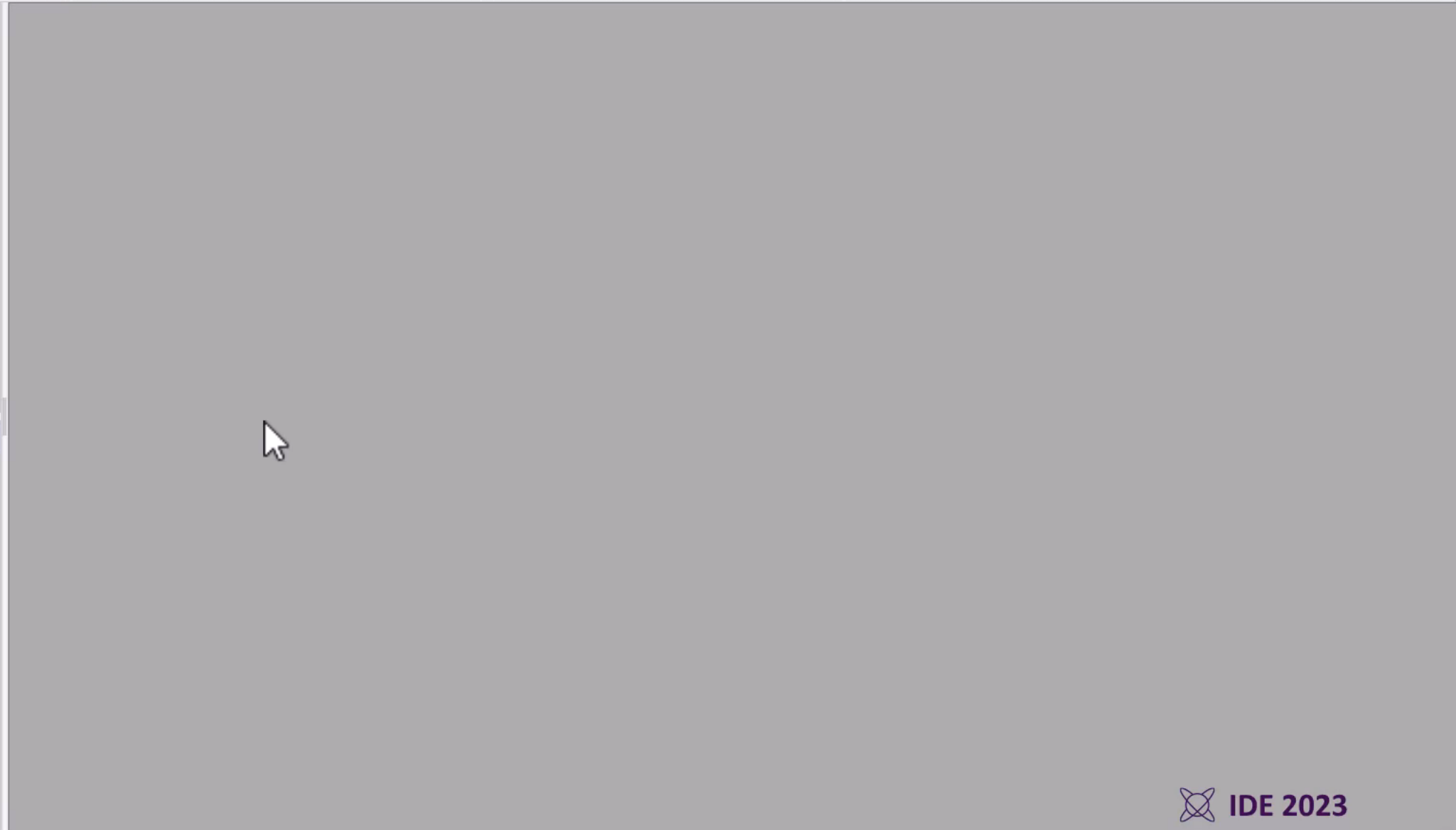
\$Sim

\$OPCCClient\_001

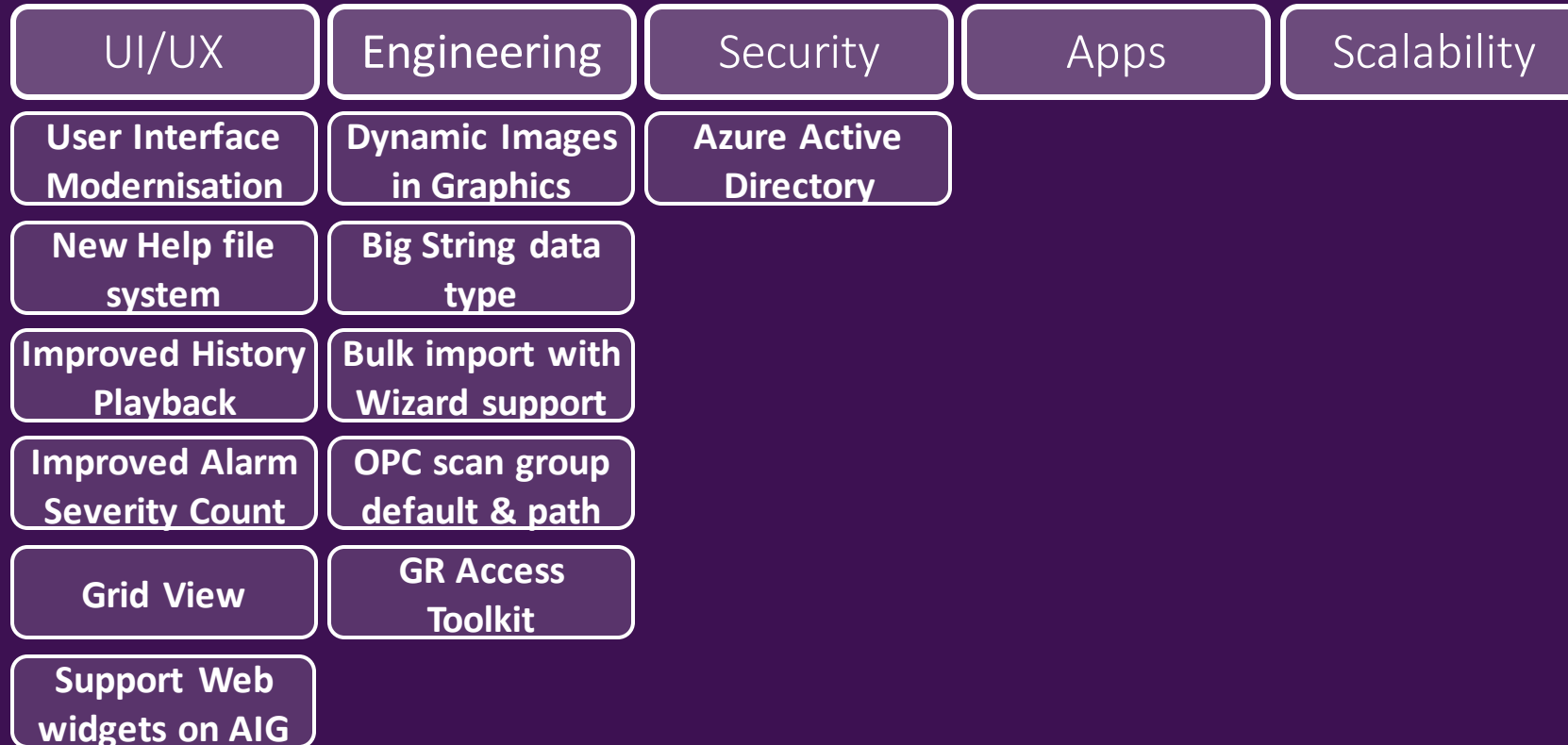
\$RedundantDIOObject

\$Sequencer

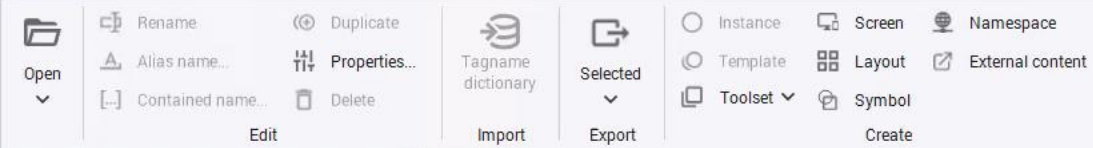
Model - Tagname
Deployment
Derivation



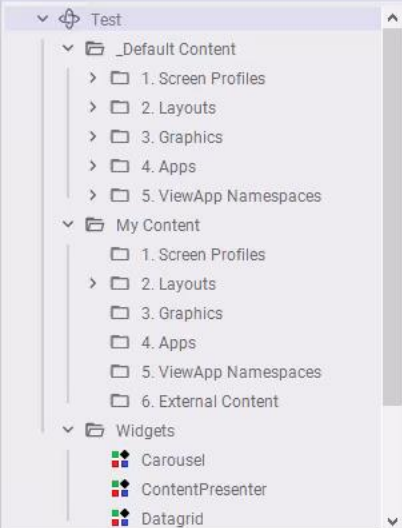
# System Platform 2023



Galaxy Home View Help

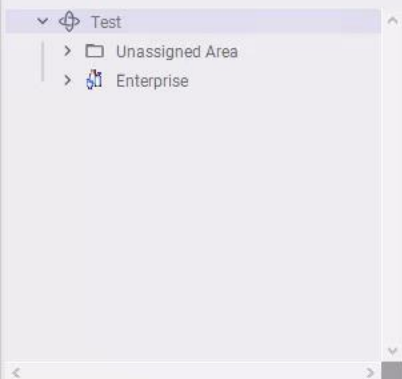


Graphics



Templates Graphics

Model - Tagname



Model - Ta... Deployment Derivation

Ready

Configurator

File Help

- Common Platform
  - System Management Server
  - Authentication Provider
- Industrial Graphics Server
  - Client Settings
  - Authentication Settings
- AVEVA Historian
  - Server
  - Security
  - Search
  - Reporting
- AVEVA Enterprise Licensing Platform
  - AVEVA Enterprise License S
- AVEVA System Monitor
  - System Monitor Manager
  - Alert Email Server
- AVEVA System Platform
  - Galaxy License Mode

Authentication Provider

This machine is configured as a System Management Server and can also function as an Authentication Provider server.

☒ Configure this machine as an Authentication Provider

Configure Token Host

Identity Provider ☒ Azure ADEndpoint Client Id Client Secret 

Configuration Messages

Refresh

All Messages

Configure

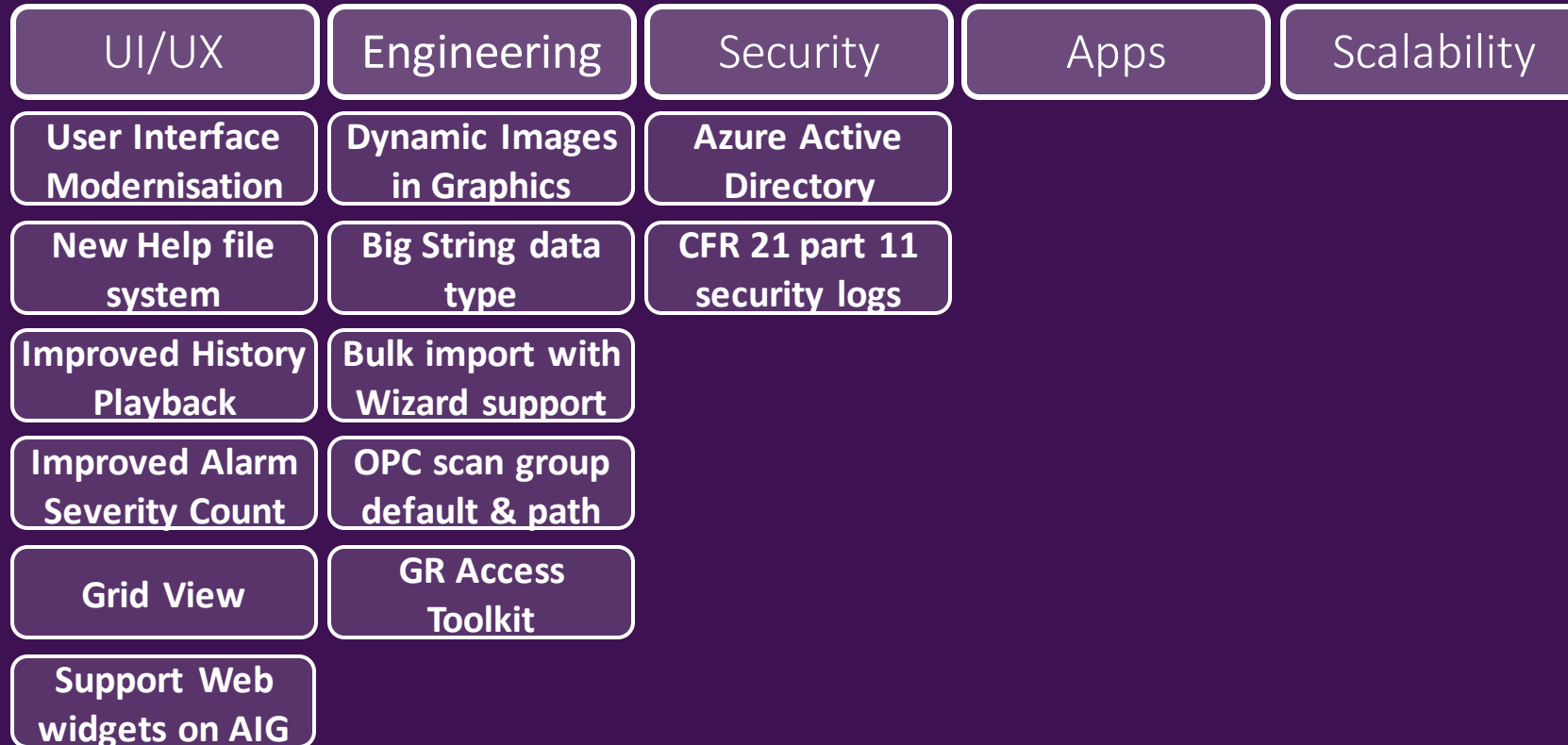
Close

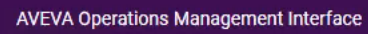
Operations

✓	Name	Status	Command result
---	------	--------	----------------

Activate Windows  
Go to Settings to activate Windows.

# System Platform 2023





### Shelved Alarms

## 2 Active Alarms

5



Area State

Area Mode

## Running

Enable

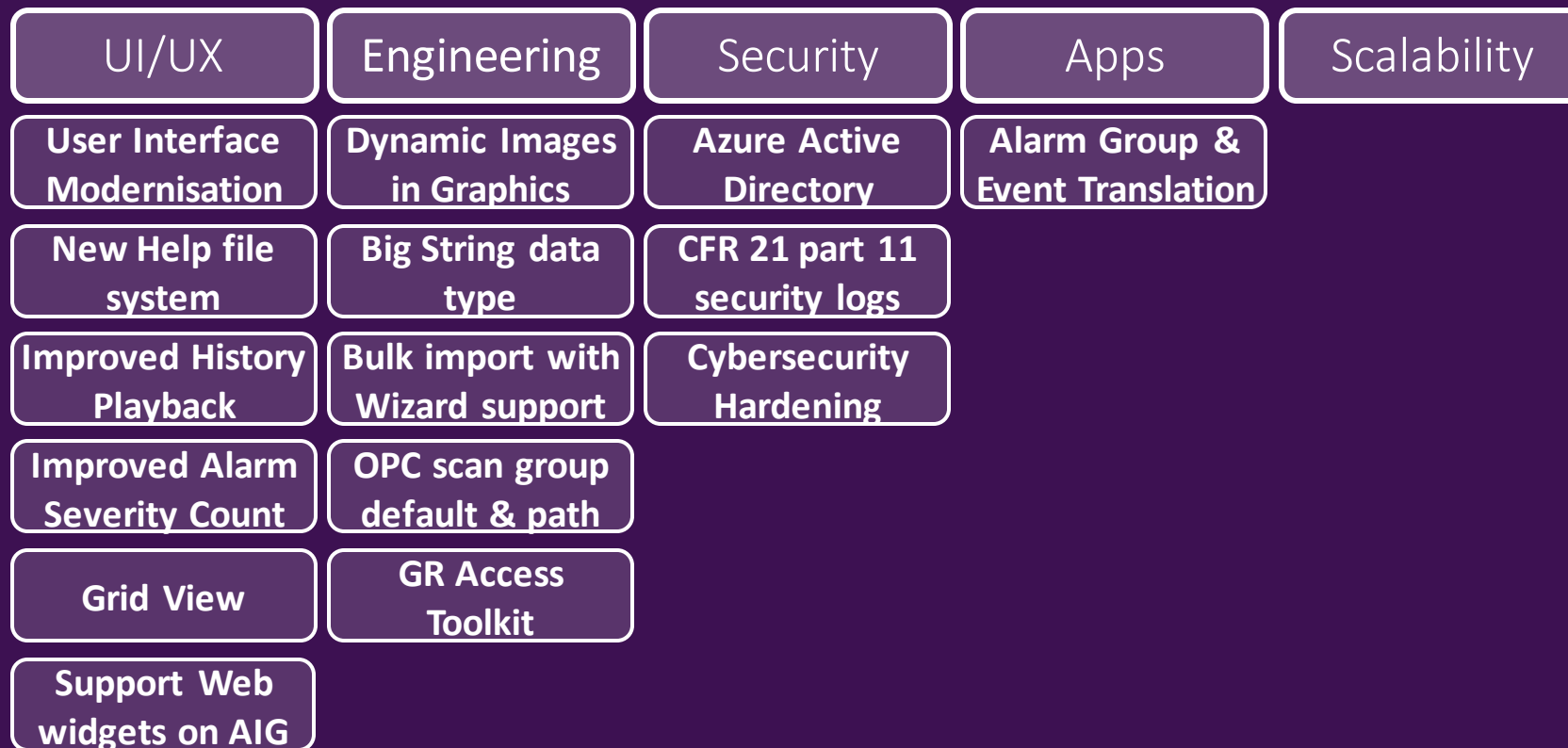
5



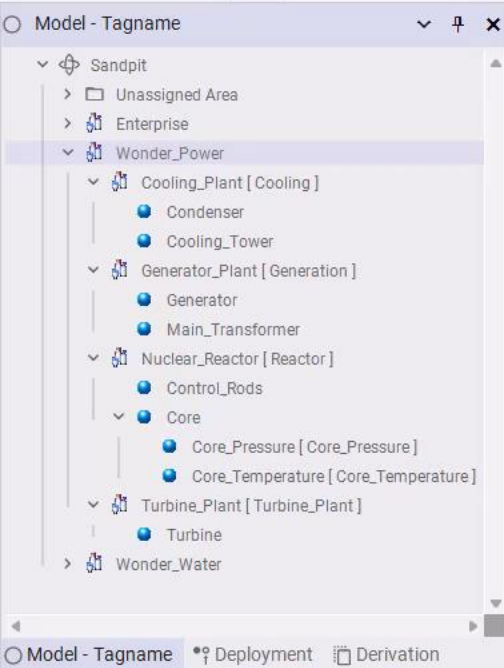
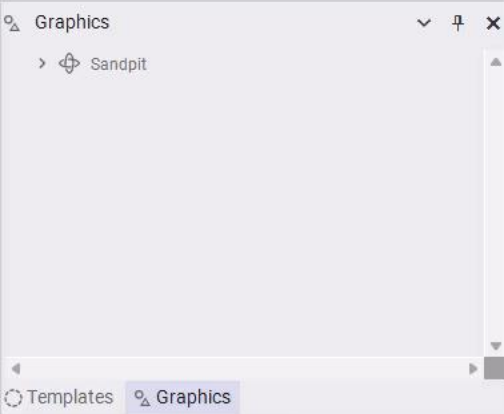
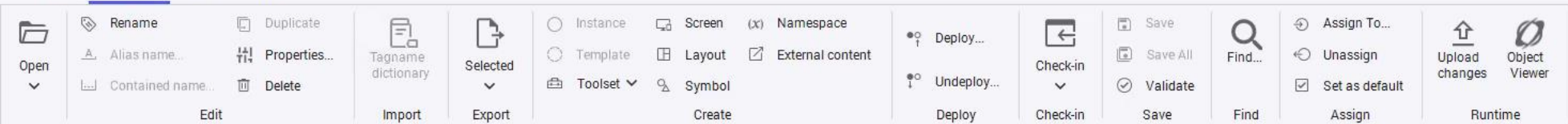
Requery

Activate Windows  
Go to Settings to activate Windows.

# System Platform 2023

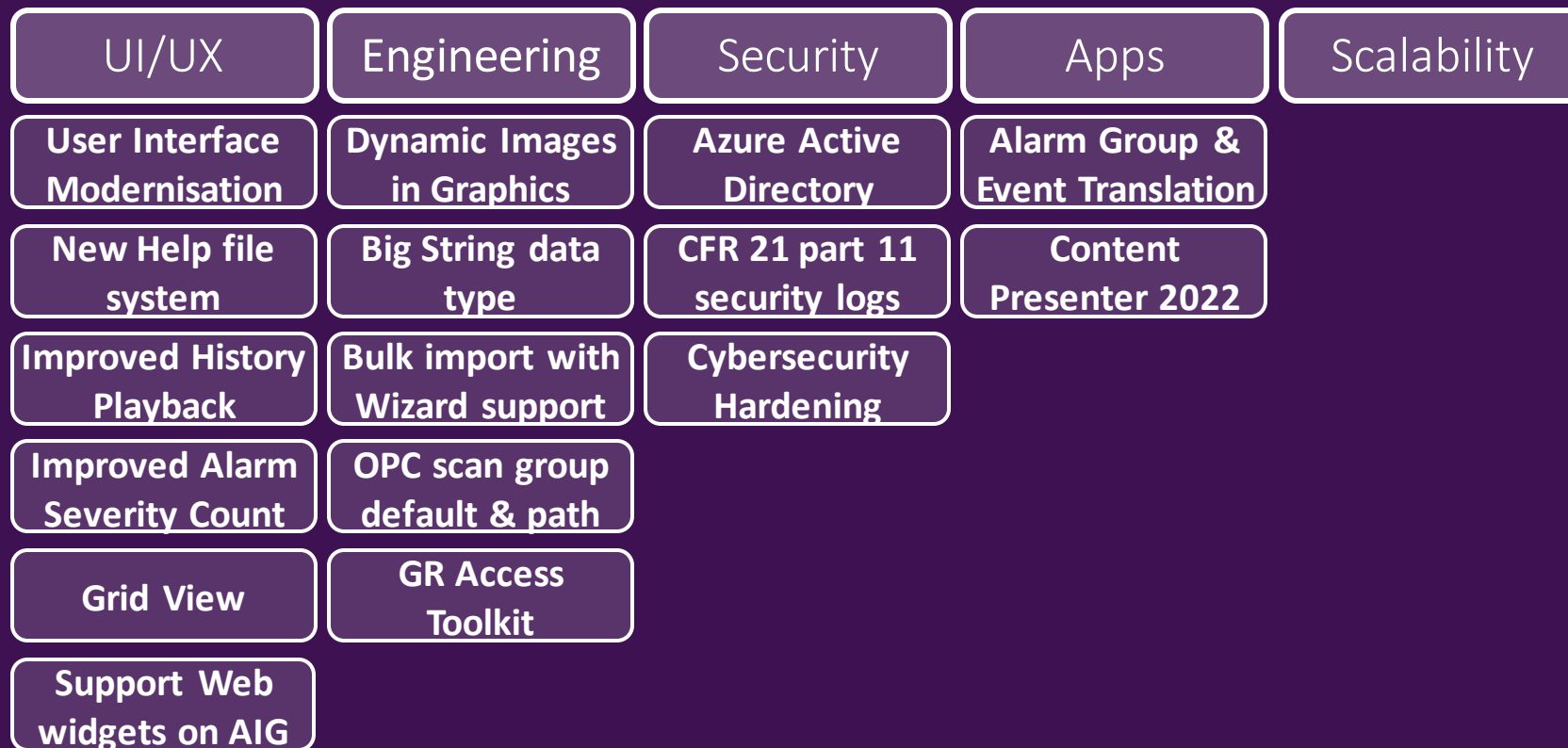


Galaxy Home View Help



Export Alarm Fields for selected Area objects

# System Platform 2023



Actions

+

+

+

Pane1

Pane2 (default)

Pane3

Pane8

Pane4

Pane5

Pane6

Pane7

Content Presenter

InSightChartControl

LAYOUT as CONTENT

THIS PANE CONTAINS THE LAYOUT NAMED: WEBLOOKUP

41%

+

+

Properties

Toolbox

Assets

Content properties

Search...

General

NameContentPresenterControl1

ContentContentPresenterApp.ContentPresenterControl1

PanePane1

Follow Current Context

Content Type

Name Contains

Search Child Levels

Navigation Search Options

Configure Web Mode

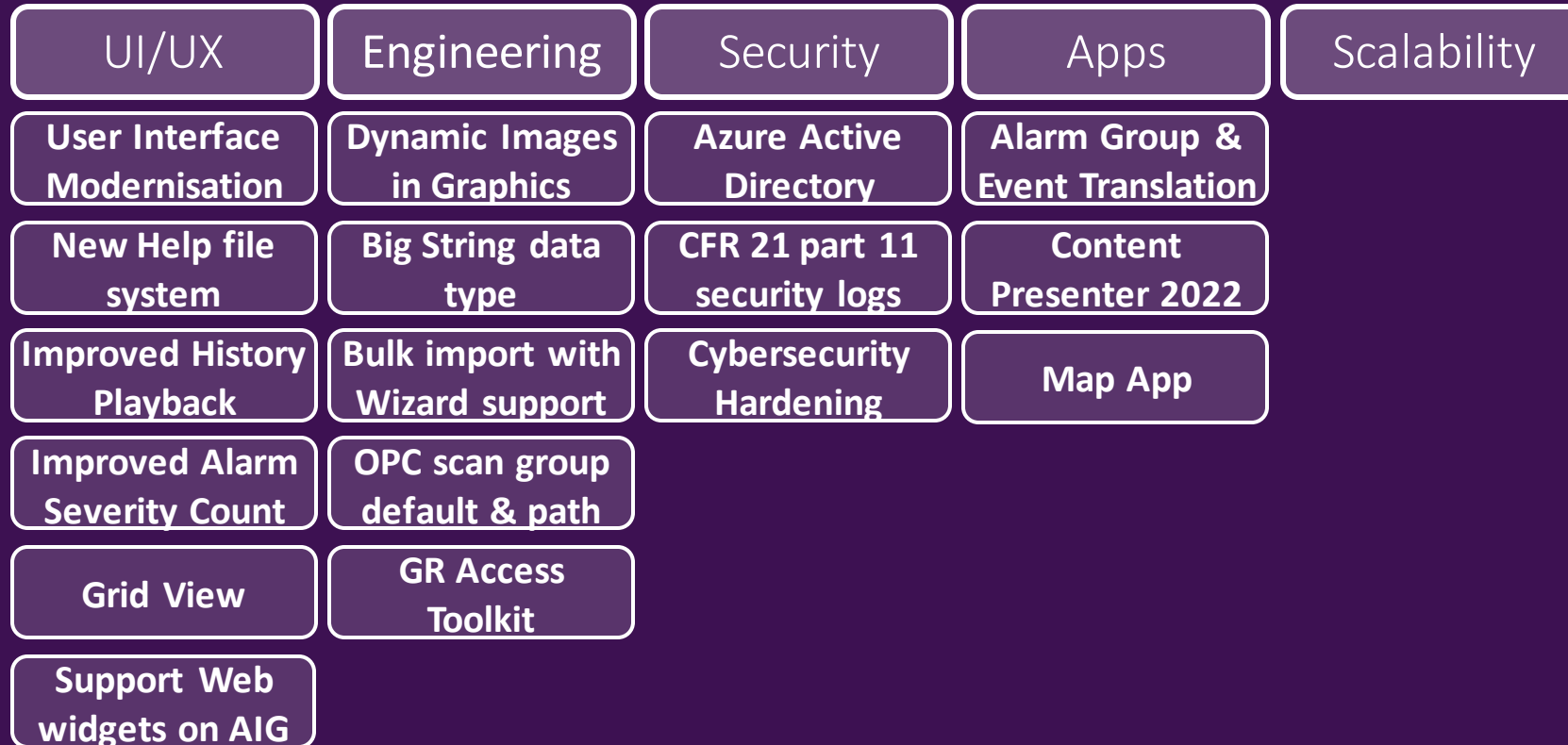
Sort by Alphabetical Order

Layout

Name

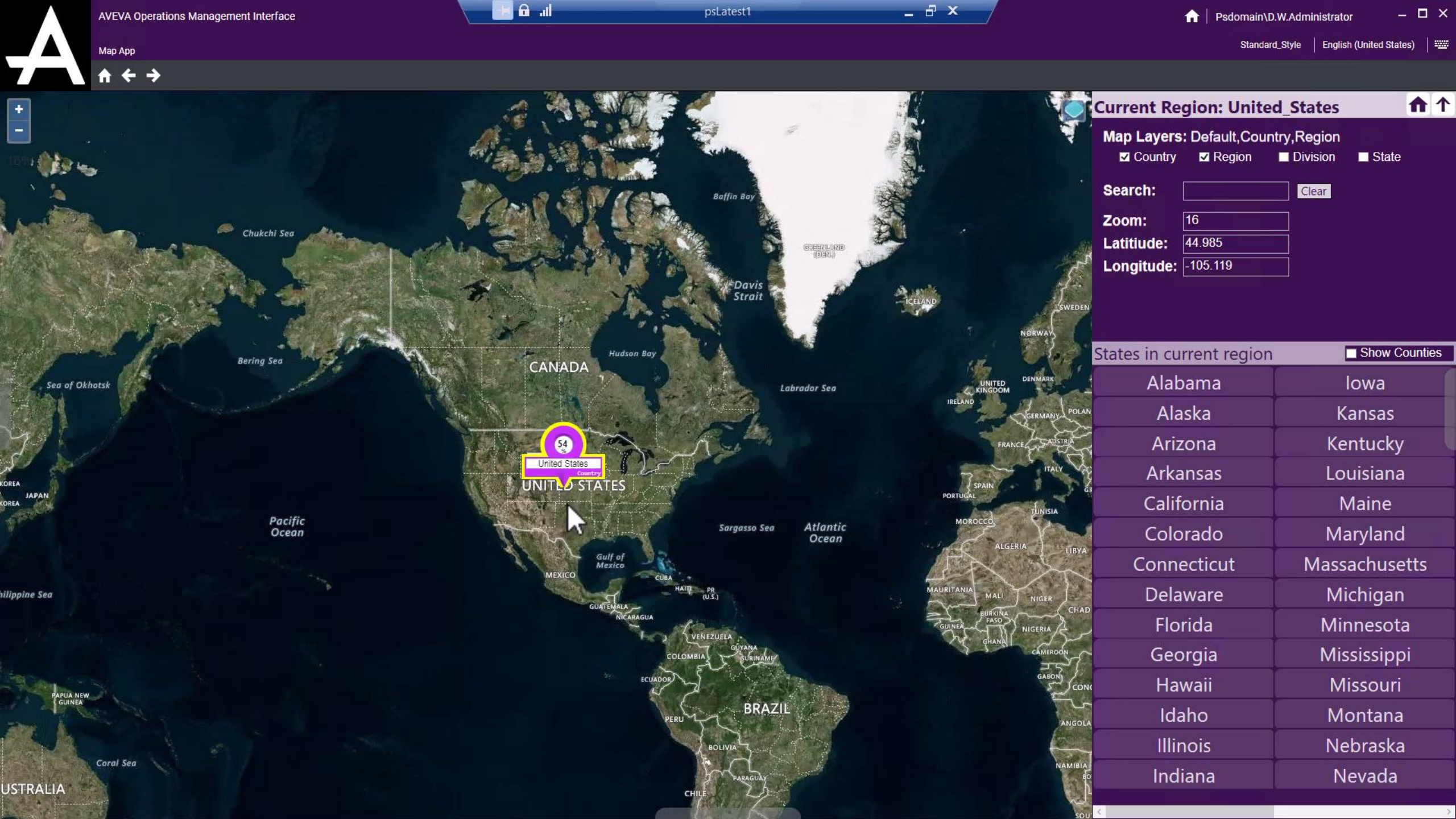
(No description)

# System Platform 2023



# System Platform 2023

UI/UX	Engineering	Security	Apps	Map App	Scalability
User Interface Modernisation	Dynamic Images in Graphics	Azure Active Directory	Alarm Group & Event Translation	Asset-specific Zoom levels	
New Help file system	Big String data type	CFR 21 part 11 security logs	Content Presenter 2022	Initial Asset	
Improved History Playback	Bulk import with Wizard support	Cybersecurity Hardening		View App Namespace	
Improved Alarm Severity Count	OPC scan group default & path			Layer control	
Grid View	GR Access Toolkit			Dynamic Properties	
Support Web widgets on AIG				Dynamic adding of Content	



Current Region: United\_States

Map Layers: Default, Country, Region

☒ Country ☒ Region ☐ Division ☐ StateSearch:  Zoom: Latitude: Longitude: States in current region ☐ Show Counties

Alabama	Iowa
Alaska	Kansas
Arizona	Kentucky
Arkansas	Louisiana
California	Maine
Colorado	Maryland
Connecticut	Massachusetts
Delaware	Michigan
Florida	Minnesota
Georgia	Mississippi
Hawaii	Missouri
Idaho	Montana
Illinois	Nebraska
Indiana	Nevada

# System Platform 2023

UI/UX	Engineering	Security	Apps	Map App	Scalability
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Support Web widgets on AIG				Dynamic adding of Content	

Galaxy Home View Help

Open

Rename  
Alias name...  
Contained name...

Duplicate  
Properties...  
Delete

Tagname dictionary

Selected

Export

Instance  
Template  
Toolset

Screen  
Layout  
Symbol

(X) Namespace  
External content

Deploy...

Undeploy...

Deploy

Check-in

Check-in

Save  
Save All  
Validate

Save

Find...

Find

Assign To...  
Unassign  
Set as default

Assign

Upload changes  
Object Viewer

Runtime

Templates

- Andromeda
  - Application
  - Device Integration
  - System

Templates Graphics

Deployment

- Andromeda
  - Unassigned Host
  - Platform (No AppEngine)

Model - Tagname Deployment Derivation

Ready

# System Platform 2023

UI/UX	Engineering	Security	Apps	Map App	Scalability
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Check-in

Save

Save All

Validate

Find...

Assign To...

Unassign

Set as default

Upload changes

Object Viewer

Edit

Import

Export

Create

Deploy

Check-in

Save

Find

Assign

Runtime

Derivation

Del\_Dark

\$UserDefined

\$Template

Unused Base Templates

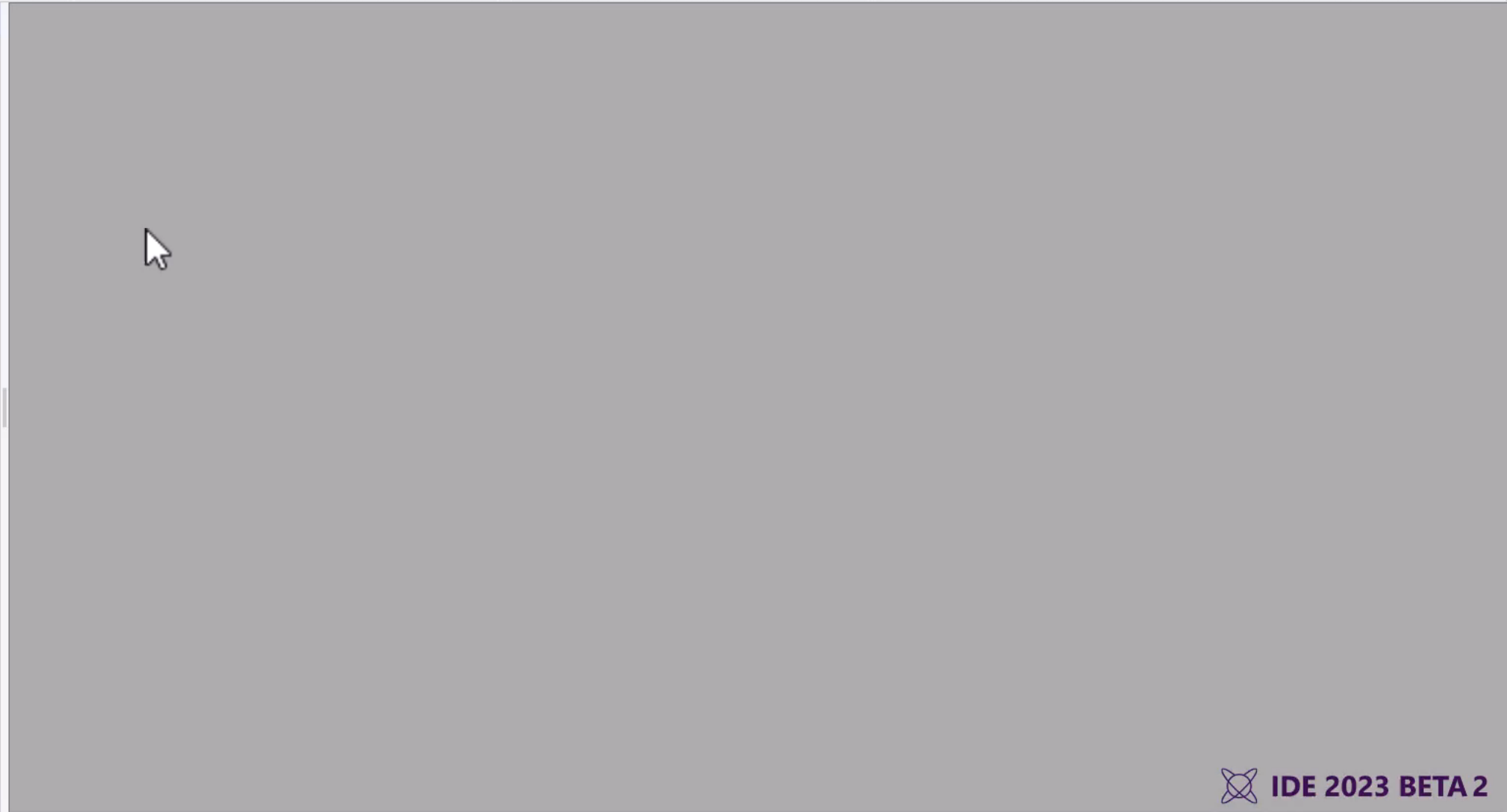
Temp ...

Grp ...

Mode ...

Deplo ...

Deriv ...



# System Platform 2023

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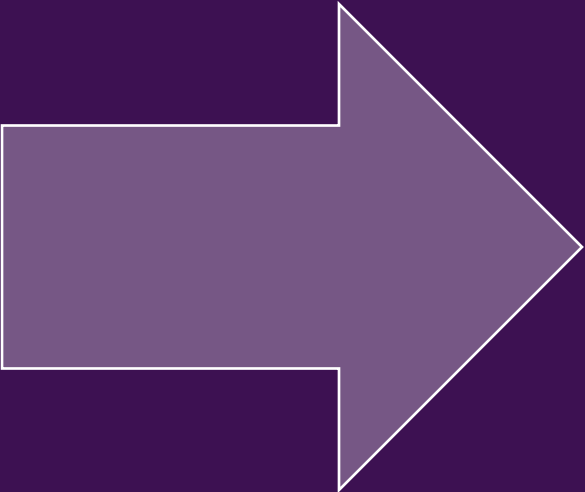
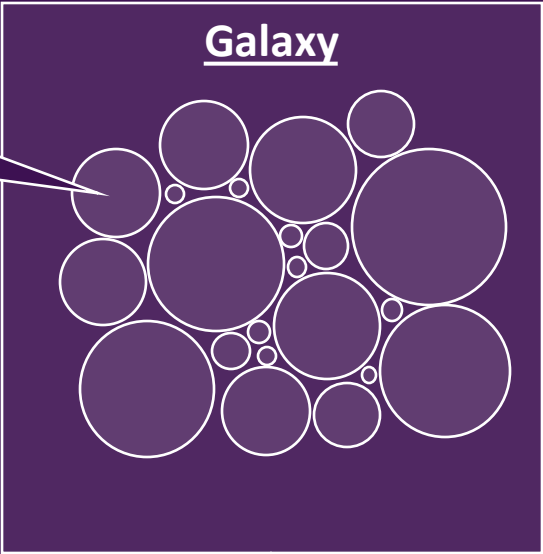
# Scalability

When we started...

Scores of Platforms

Tens of Thousands of Objects

Hundreds of Thousands of IO



# Scalability

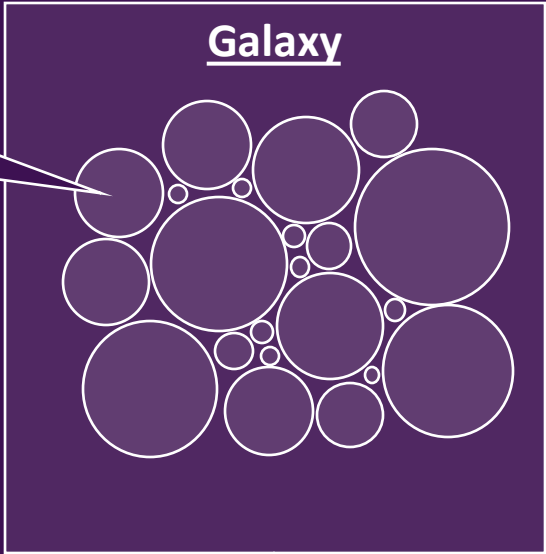
Today...

Scores of Platforms

Tens of Thousands of Objects

Millions of IO

Hundreds or Thousands of IO



# Scalability

Hundreds of  
Thousands  
of Objects

Millions of IO

Galaxy

Scores of  
Platforms



AVEVA

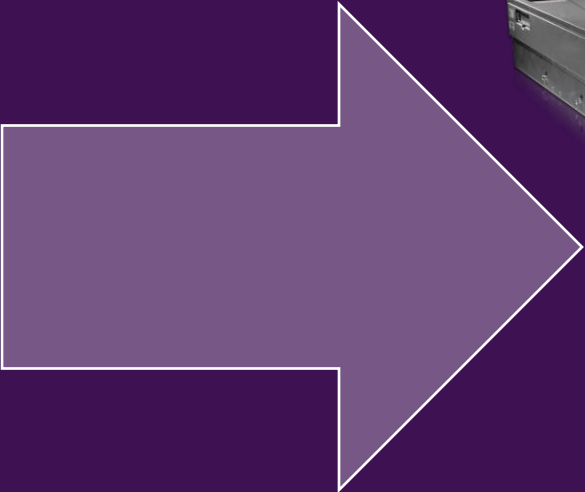
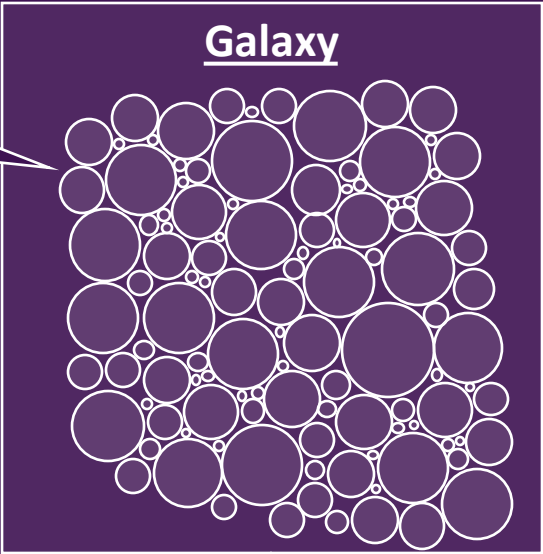
# Scalability

Hundreds of Platforms

Scores of Platforms

Hundreds of Thousands of Objects

Millions of IO



# Scalability Testing

Galaxy



Small  
footprint tests



300k IO  
InTouch Node

100k IO all-in-  
one System  
Platform



Hyper-V

VMWare

SQL server  
versions

Windows  
SAC/LTSC  
versions

1 Million  
IO galaxy

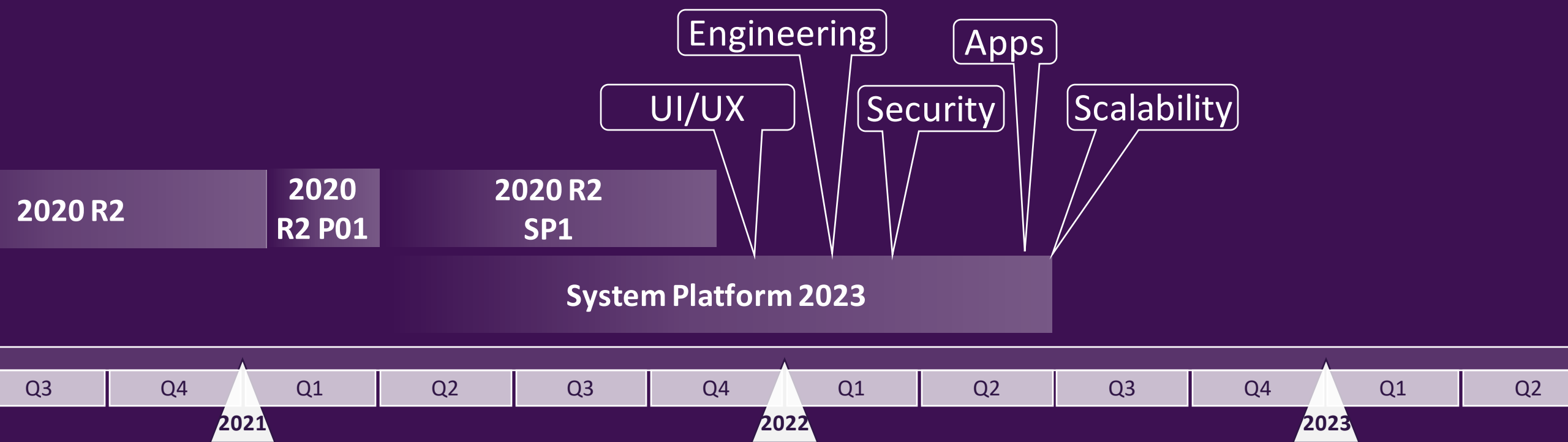
Nutanix



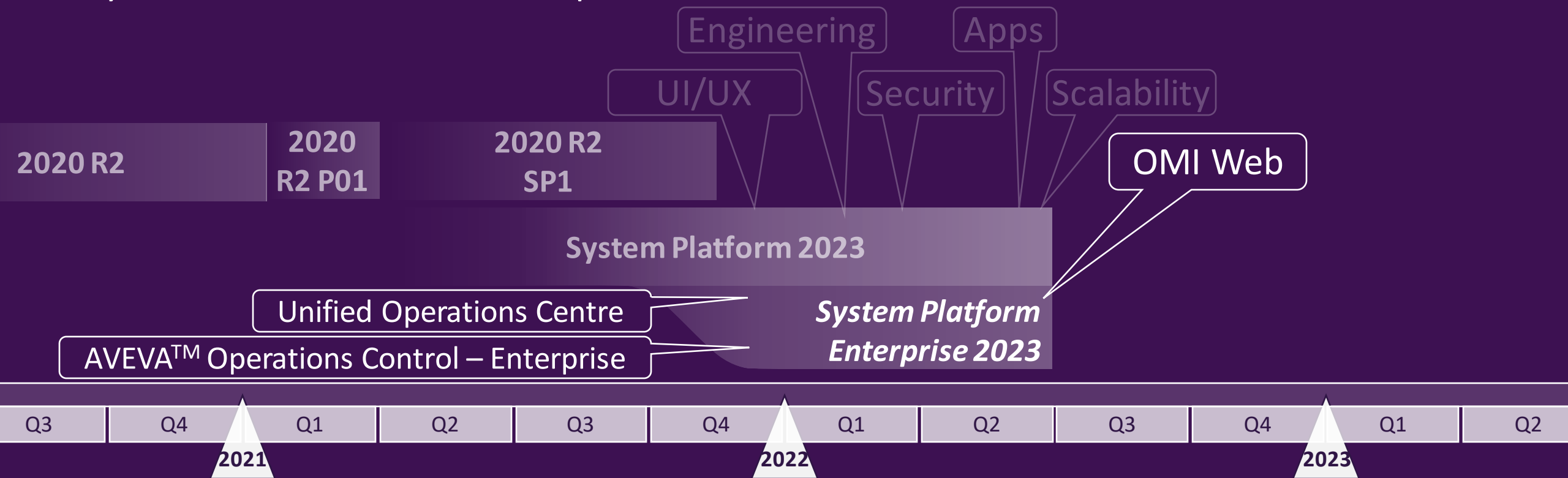
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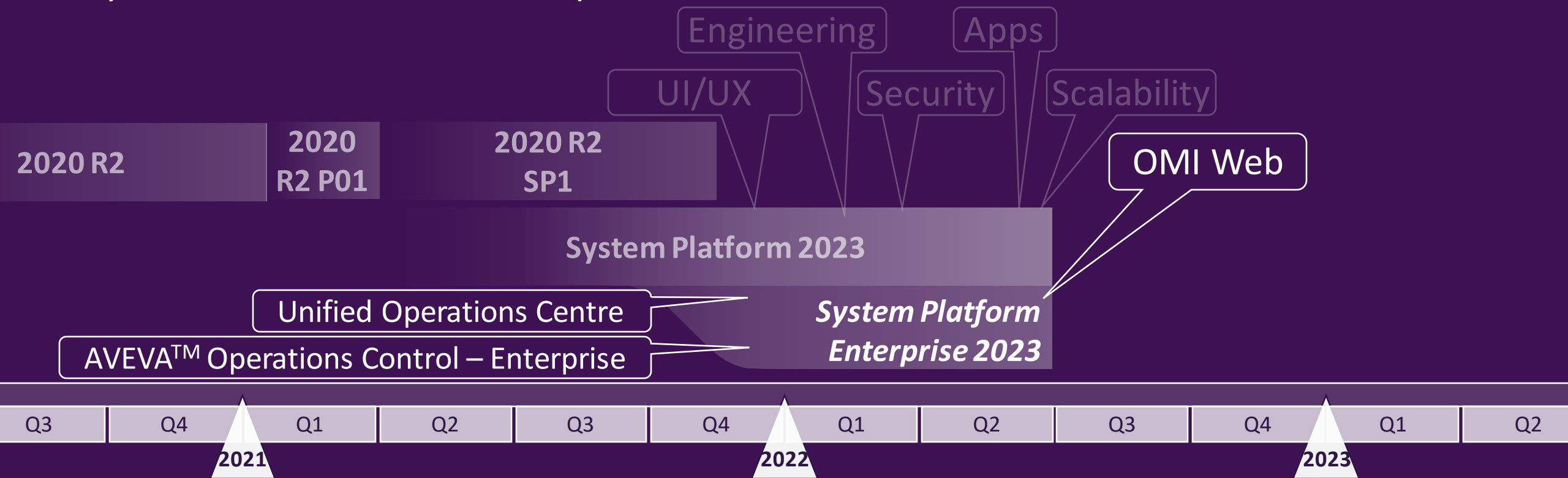
# System Platform 2023



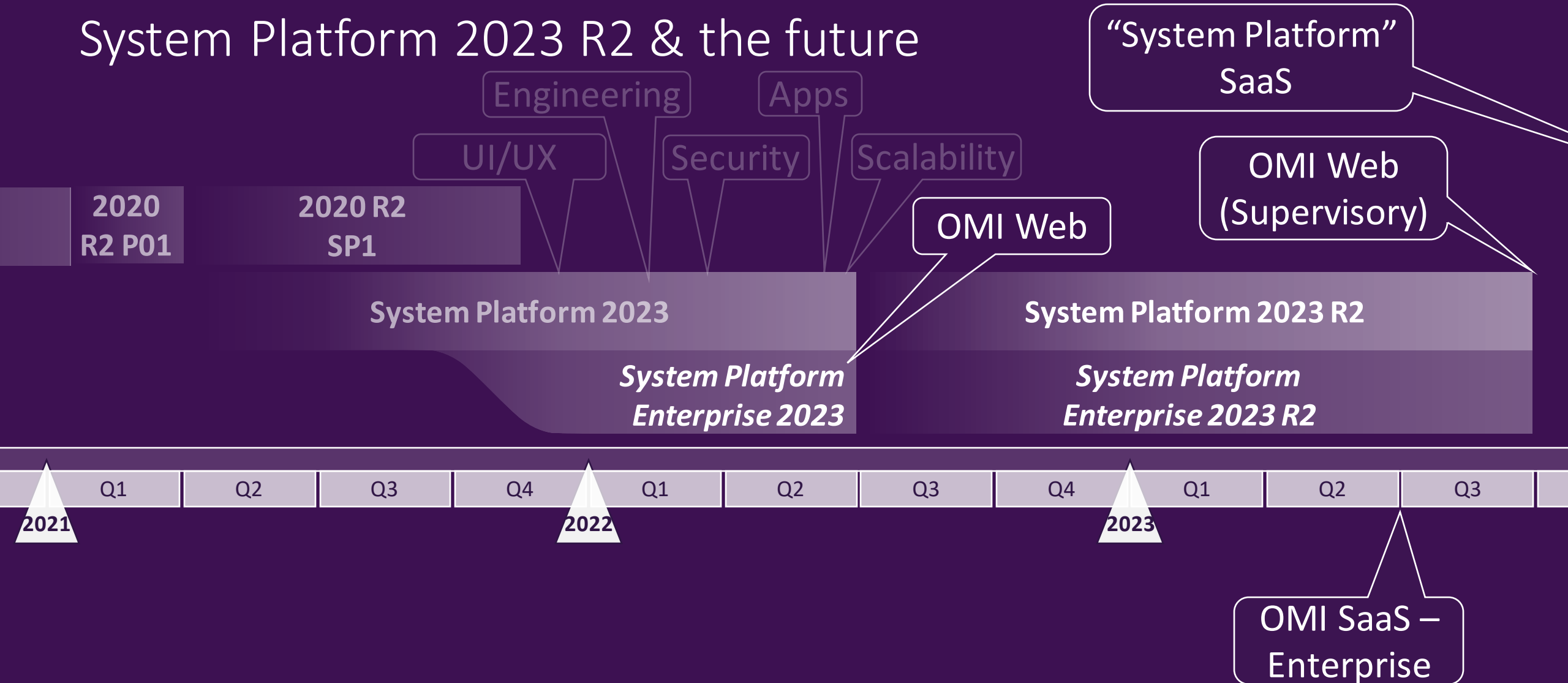
# System Platform Enterprise 2023



# System Platform Enterprise 2023



# System Platform 2023 R2 & the future



# Questions?

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# Please remember to...


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