



# SO Workflow Monitoring for Casablanca

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# SO Workflow Monitoring Problem Statement

The default Camunda-Cockpit (community version) based Workflow Monitoring has major limitations.

- Workflow design/relationship knowledge is required to the user
  - VID/UUI/Ext App Users are not necessarily BPMN designers
  - Multiple BPMN workflow definitions can be used for a single service request execution (e.g., vCPE, E2E)
  - Each workflow definition can have thousands of instances daily
- Community edition does NOT support workflow execution history or search
- Users need to go through tedious manual search; finding workflow definitions, corresponding instances

1

- CreateVcpeResCustServiceV2.bpmn
- Decompose.bpmn
- Homing.bpmn
- ReceiveAsyncCallback ReceiveWorkflowMessage.bpmn
- DoCreateServiceInstance.bpmn
- DoCreateVnfAndModules.bpmn
- GenericGetService.bpmn
- GenericGetVnf.bpmn
- GenericPutVnf.bpmn
- GenerateVfModuleName.bpmn
- DoCreateVfModule.bpmn
- ConfirmVolumeGroupTenantName.bpmn
- ConfirmVolumeGroupName.bpmn
- CreateAAIVfModule.bpmn
- SdncAdapterRestV2.bpmn
- VnfAdapterRestV1.bpmn

~16

2

# of WF Definition	Daily Transaction (e.g.)	Total # WF Instances
186 (Casablanca)	1000 instances	186,000

The default Camunda Cockpit Monitoring Behavior

3

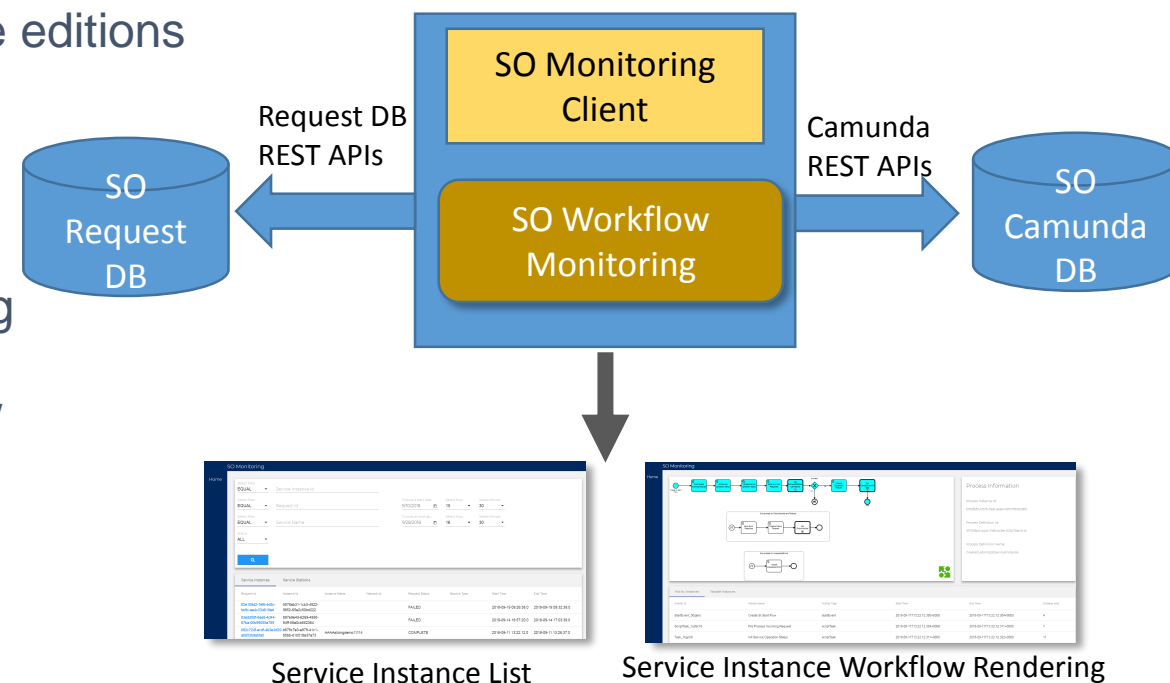


# SO Workflow Monitoring Solution

- SO Workflow Monitoring:
  - Allows SO clients (VID, UII and External Apps) to monitor Workflows based on search criteria.
  - Provides client for SO standalone to monitor the tasks.
  - Provides connections between service requests and workflows instances
  - Navigates parent and child workflows
  - Shows color-coded workflow activity paths for trouble shooting
  - Works for both Camunda Community and Enterprise editions

- Design

- To leverage SO Request DB and create a Service Instance List
- For the selected service instance, find corresponding Workflow instances from Camunda DB
- By leveraging Camunda Rest APIs, display workflow instance details (Activity Instances, Process Variables, BPMN diagrams)
- By using activity instance data, provides navigation between parent and child workflows



# SO Workflow Monitoring - Service Instance List

SO Monitoring

Home

Select Filter  
EQUAL Service Instance Id

Select Filter  
EQUAL Request Id

Select Filter  
EQUAL Service Name

Status  
ALL

Choose a start date  
9/10/2018

Select Hour  
15

Select Minute  
30

Choose an end da...  
9/28/2018

Select Hour  
16

Select Minute  
30

**Search button**

**Default Search Criteria Panel**

Service Instances | **Service Statistics**

**Service Instance List Panel**

Request Id	Instance Id	Instance Name	Network Id	Request Status	Service Type	Start Time	End Time
02e158d2-7ef6-4d5c- bb9c-ee4c334618ac	ab31-1cb3-4922- 5e2c60bd222			FAILED		2018-09-19 09:26:38.0	2018-09-19 09:32:39.0
03edd58f-6ae8-4d44- 87ba-00	6269-4995- 50004			FAILED		2018-09-14 16:57:20.0	2018-09-14 17:03:39.0
082c724- ab053b9				COMPLETE		2018-09-11 13:22:12.0	2018-09-11 13:28:37.0

# SO Workflow Monitoring – Service Statistics

SO Monitoring

Home

Select Filter  
EQUAL Service Instance Id

Select Filter  
EQUAL Request Id

Select Filter  
EQUAL Service Name

Status  
ALL

Choose a start date  
9/10/2018

Select Hour  
15

Select Minute  
30

Choose an end da...  
9/28/2018

Select Hour  
16

Select Minute  
30

Service Instances **Service Statistics**

Total: 25

Complete: 19	76%
Failed: 6	24%
In Progress: 0	0%
Pending: 0	0%
Unlocked: 0	0%

# SO Workflow Monitoring - Service Instance Selection

SO Monitoring

Home

Select Filter  
EQUAL Service Instance Id

Select Filter  
EQUAL Request Id

Select Filter  
EQUAL Service Name

Status  
ALL

Choose a start date  
9/10/2018

Select Hour  
15

Select Minute  
30

Choose an end da...  
9/28/2018

Select Hour  
16

Select Minute  
30

Service Instances

Service Statistics

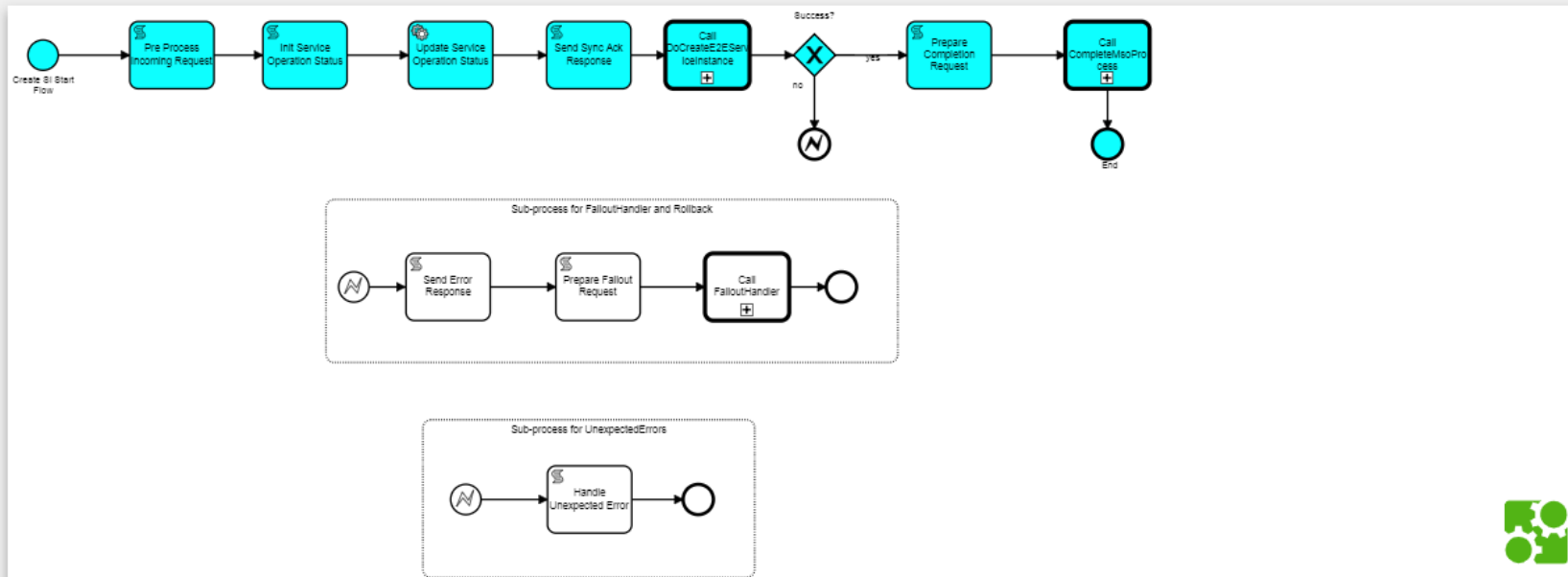
Click on the Request Id hyperlink

Request Id	Instance Id	Instance Name	Network	Request Status	Service Type	Start Time	End Time
<a href="#">02e158d2-7ef6-4d5c-bb9c-ee4c334618ad</a>	5578ab31-1cb3-4922-9852-65e2c60bd222			FAILED		2018-09-19 09:26:38.0	2018-09-19 09:32:39.0
<a href="#">03edd58f-6ae8-4d44-87ba-00b99055a789</a>	897e9e4d-6280-4995-9481-00a0cb652364			FAILED		2018-09-14 16:57:20.0	2018-09-14 17:03:39.0
<a href="#">082c724f-acdf-4b3e-bf20-ab053b9ebfa0</a>	b678c7e3-e979-41c1-856b-d1b518e37a73	AAAAslicingdemo11114		COMPLETE		2018-09-11 13:22:12.0	2018-09-11 13:28:37.0

# SO Workflow Monitoring - Service Instance Rendering

## SO Monitoring

Home



## Process Information

Process Instance Id:

b152fa35-b5c5-11e8-aea6-025c75b92d8d

Process Definition Id:

3f7293b0-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

CreateCustomE2EServiceInstance



### Activity Instances

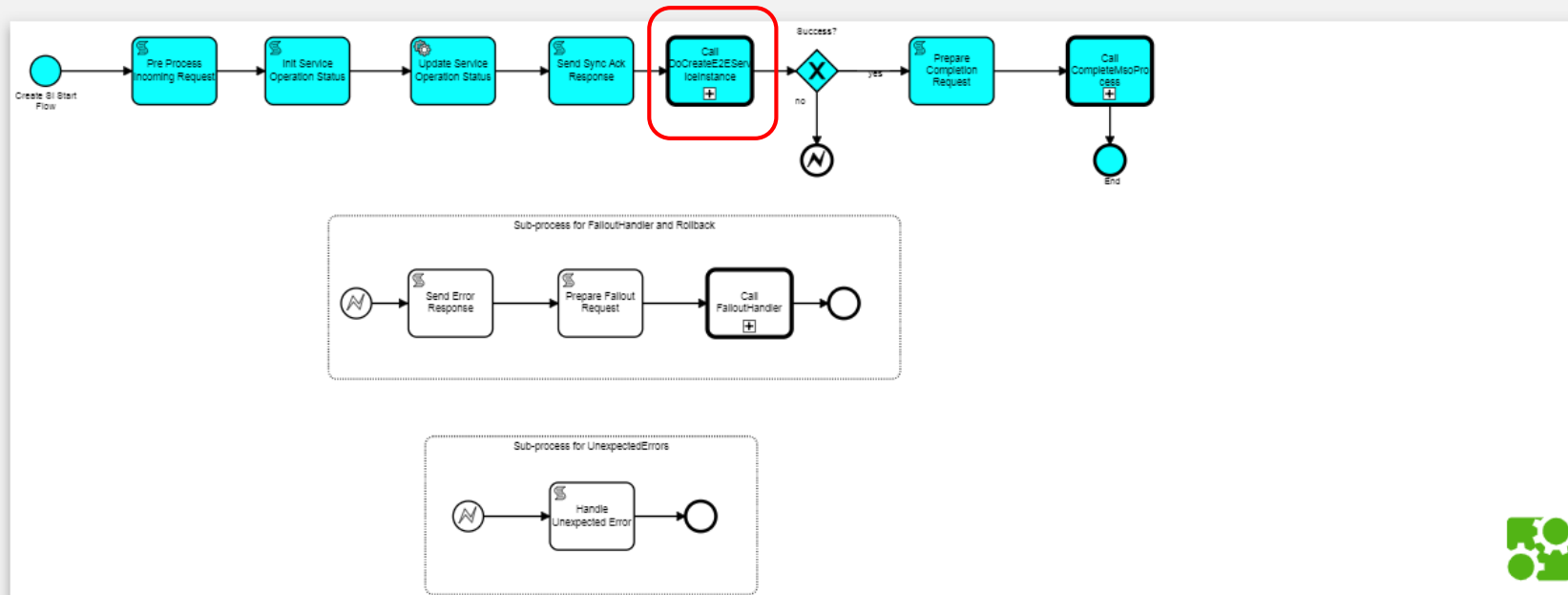
### Variable Instances

Activity Id	Activity Name	Activity Type	Start Time	End Time	Duration (ms)
StartEvent_00qj6ro	Create SI Start Flow	startEvent	2018-09-11T13:22:12.300+0000	2018-09-11T13:22:12.304+0000	4
ScriptTask_1s09c7d	Pre Process Incoming Request	scriptTask	2018-09-11T13:22:12.304+0000	2018-09-11T13:22:12.311+0000	7
Task_1tqjch6	Init Service Operation Status	scriptTask	2018-09-11T13:22:12.311+0000	2018-09-11T13:22:12.322+0000	11

# SO Workflow Monitoring – Parent-Child Navigation

## SO Monitoring

Home



### Process Information

Process Instance Id:

b152fa35-b5c5-11e8-aea6-025c75b92d8d

Process Definition Id:

3f7293b0-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

CreateCustomE2EServiceInstance

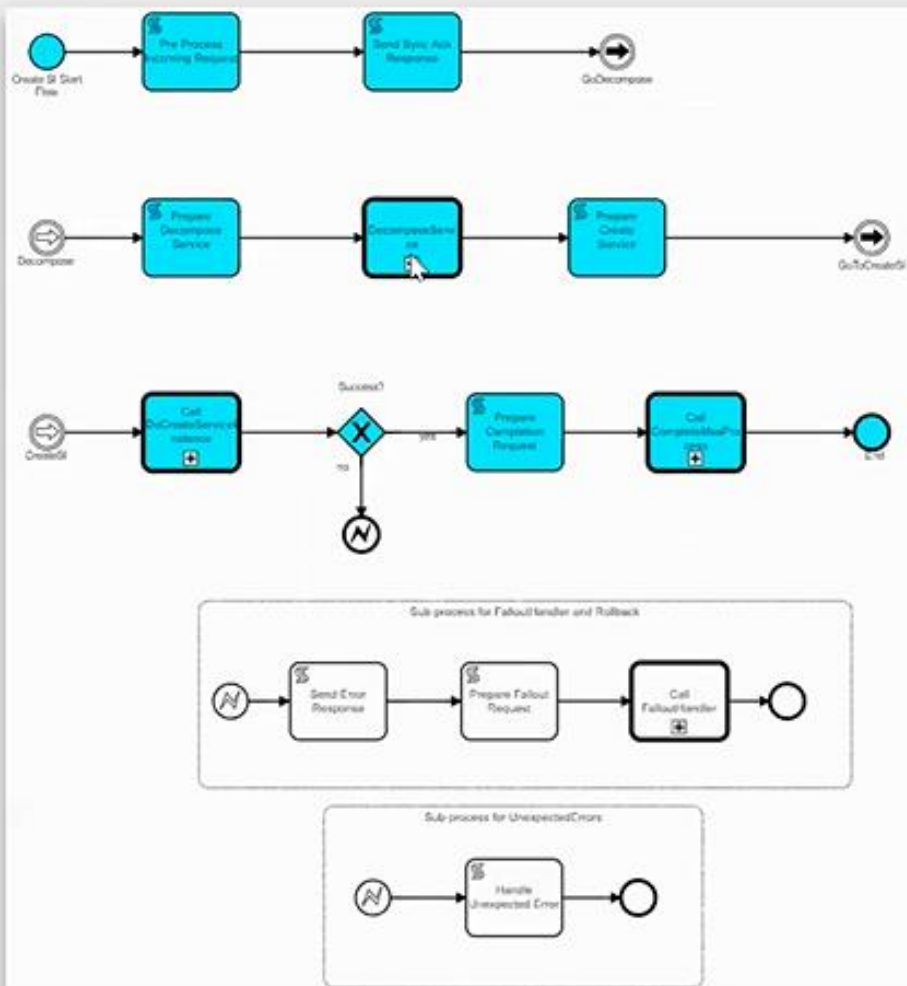
#### Activity Instances

#### Variable Instances

Activity Id	Activity Name	Activity Type	Start Time	End Time	Duration (ms)
StartEvent_00qj6ro	Create SI Start Flow	startEvent	2018-09-11T13:22:12.300+0000	2018-09-11T13:22:12.304+0000	4
ScriptTask_1s09c7d	Pre Process Incoming Request	scriptTask	2018-09-11T13:22:12.304+0000	2018-09-11T13:22:12.311+0000	7
Task_1tqjch6	Init Service Operation Status	scriptTask	2018-09-11T13:22:12.311+0000	2018-09-11T13:22:12.322+0000	11



# SO Workflow Monitoring – Parent-Child Drill Down...



## Process Information

Process Instance Id:

19da996a-ab80-11e8-b5fa-025c75bada97

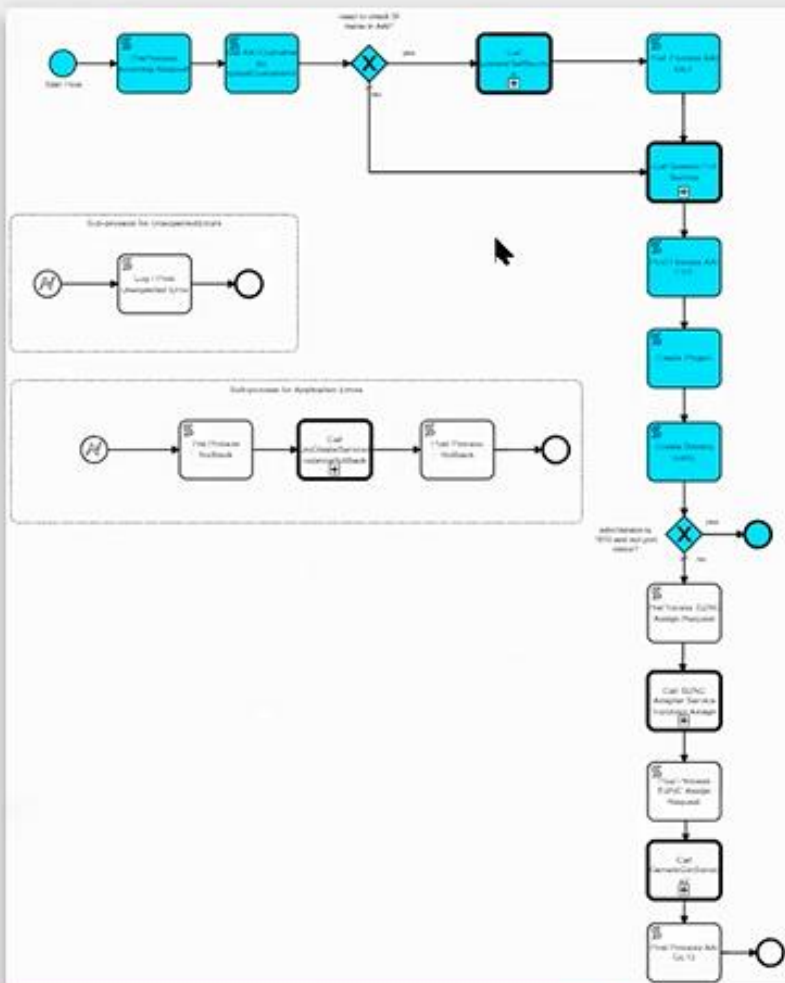
Process Definition Id:

3f7022a8-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

CreateGenericALaCarteServiceInstance

# SO Workflow Monitoring – Parent-Child Drill Down



## Process Information

Process Instance Id:

19fd62f3-ab80-11e8-b5fa-025c75bada97

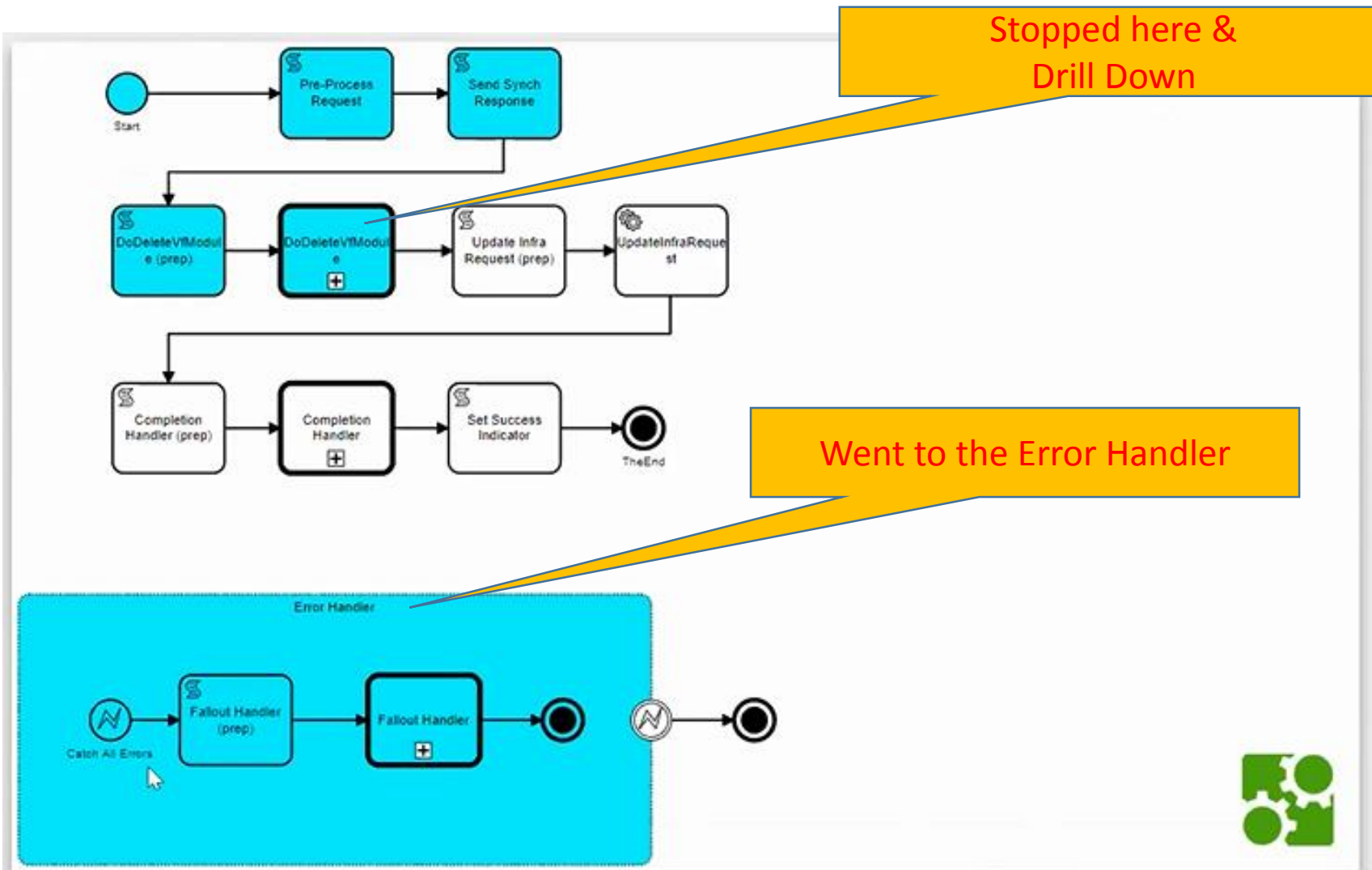
Process Definition Id:

DoCreateServiceInstance:1:3f7775c1-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

DoCreateServiceInstance

# SO Workflow Monitoring – Failed Case



## Process Information

Process Instance Id:

fa5b0f98-ab82-11e8-b5fa-025c75bada97

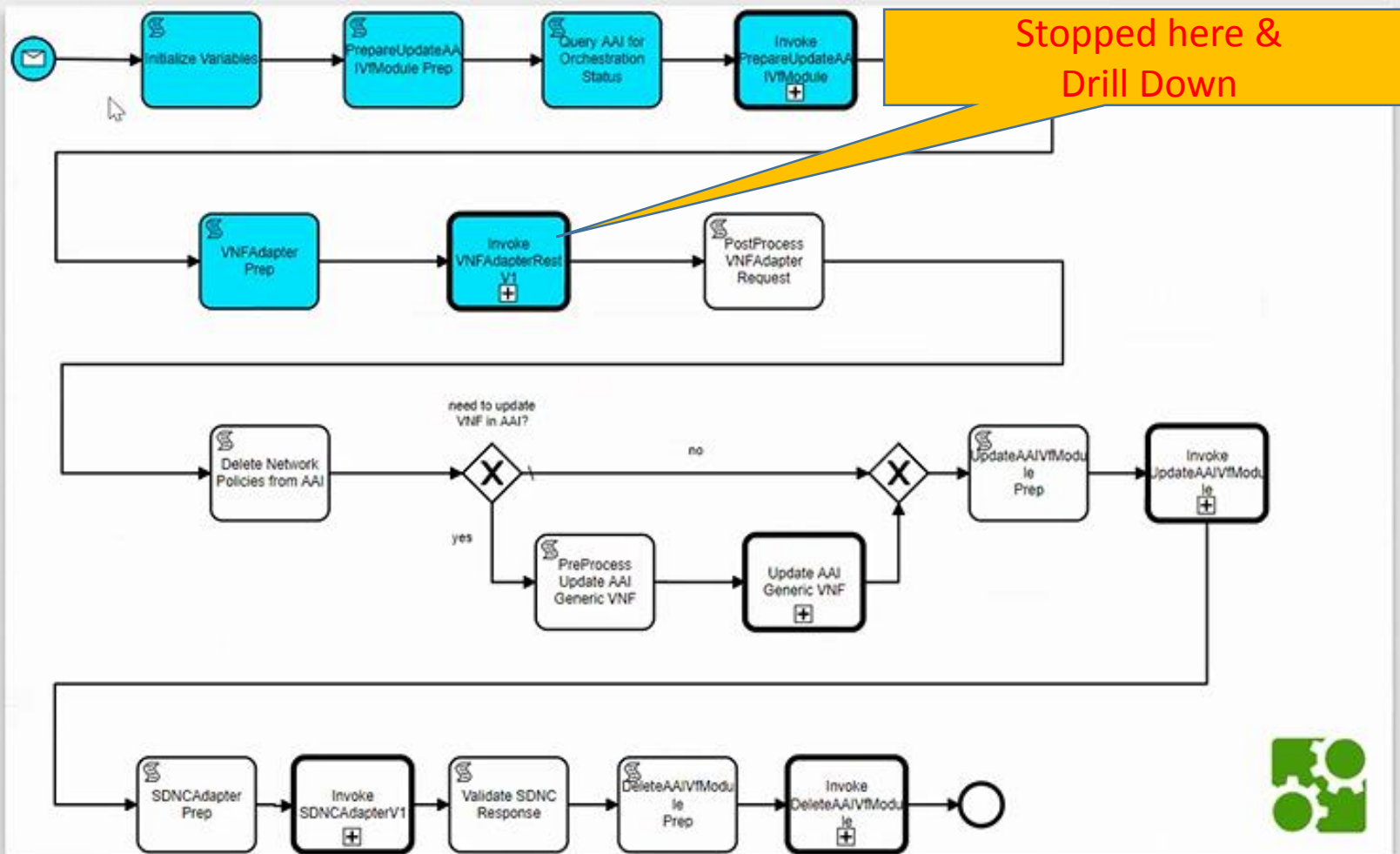
Process Definition Id:

DeleteVfModuleInfra:1:3f71341c-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

DeleteVfModuleInfra

# SO Workflow Monitoring – Failed Case Drill Down



## Process Information

Process Instance Id:

fa67e0a5-ab82-11e8-b5fa-025c75bada97

Process Definition Id:

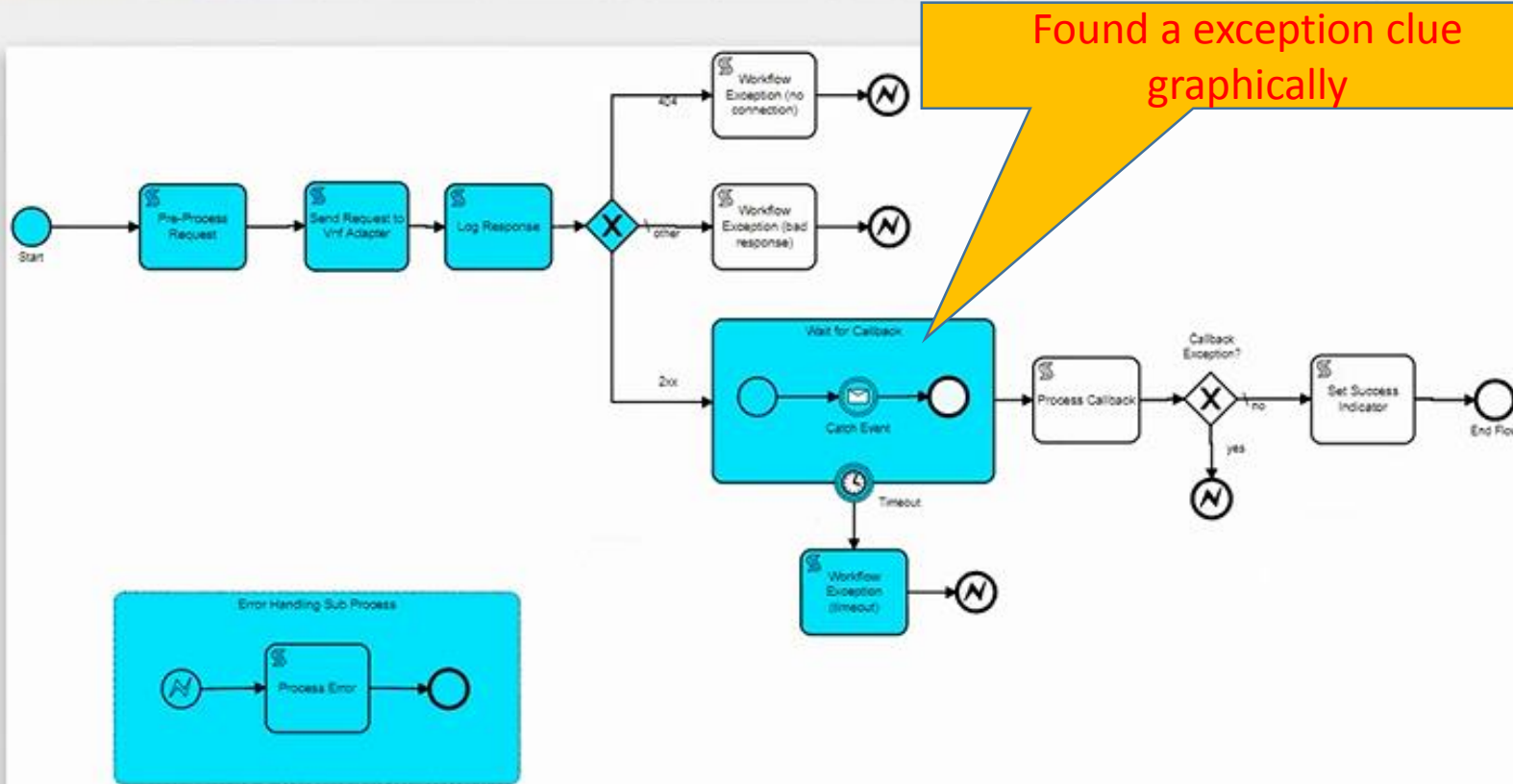
DoDeleteVfModule:1:3f6c2b02-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

DoDeleteVfModule



# SO Workflow Monitoring – Failed One Drill Down



## Process Information

Process Instance Id:

fabfec0b-ab82-11e8-b5fa-025c75bada97

Process Definition Id:

vnfAdapterRestV1:3fff1bbd-a45c-11e8-bc8e-025c75ec3c1a

Process Definition Name:

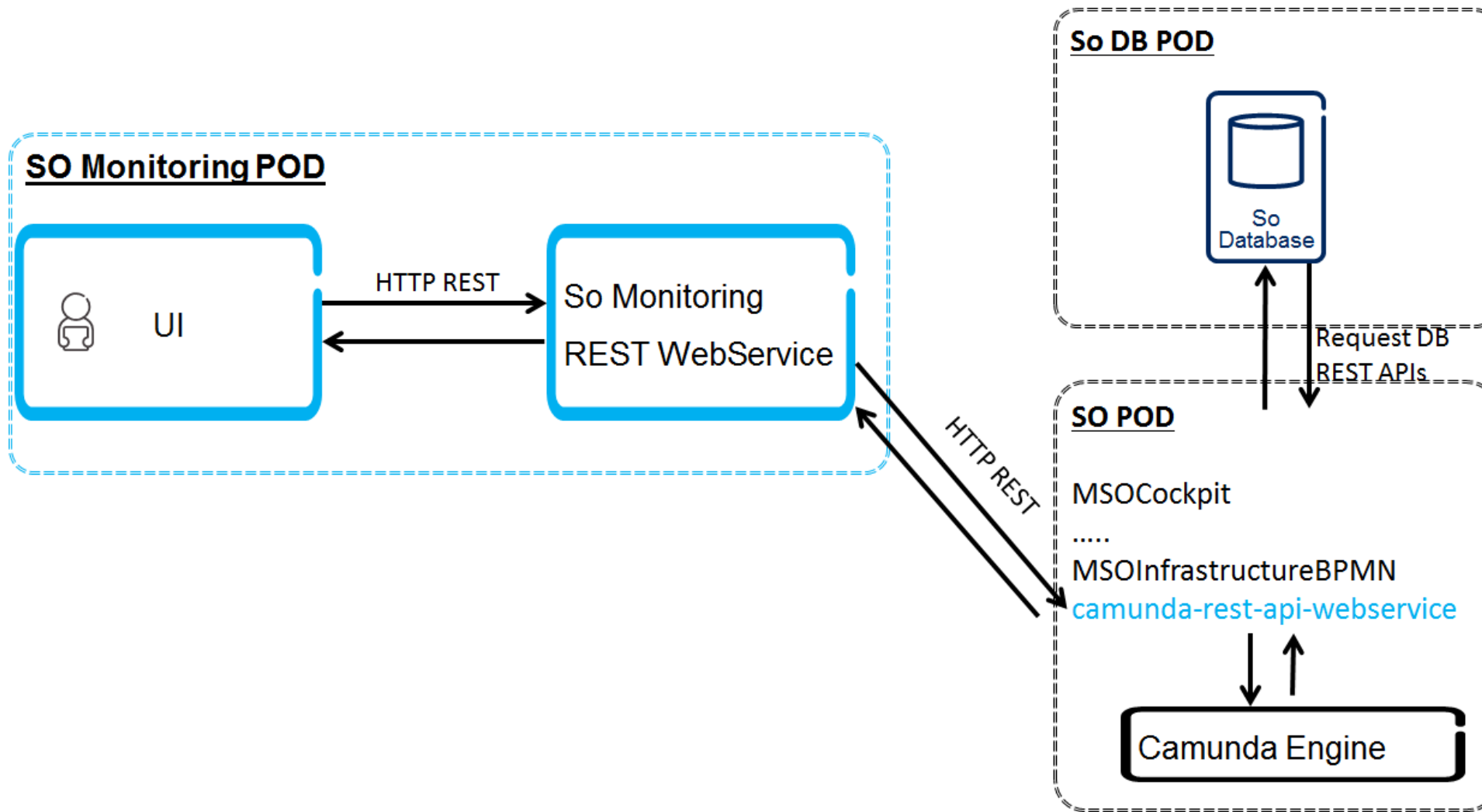
vnfAdapterRestV1

# SO Workflow Monitoring – Failed One Drill Down

ScriptTask_2	Log Response	scriptTask	2018-08-29T11:59:27.600+0000	2018-08-29T11:59:27.601+0000	1
ExclusiveGateway_1		exclusiveGateway	2018-08-29T11:59:27.601+0000	2018-08-29T11:59:27.602+0000	1
StartEvent_3			2018-08-29T11:59:27.603+0000	2018-08-29T11:59:27.604+0000	1
waitForAsyncMessage	Wait for Callback	process	2018-08-29T11:59:27.603+0000	2018-08-29T12:04:35.597+0000	307994
IntermediateCatchEvent_1	Catch Event	intermediateMessageCatch	2018-08-29T11:59:27.604+0000	2018-08-29T12:04:35.593+0000	307989
BoundaryEvent_1	Timeout	boundaryTimer	2018-08-29T12:04:35.601+0000	2018-08-29T12:04:35.602+0000	1
ScriptTask_5	Workflow Exception (timeout)	scriptTask	2018-08-29T12:04:35.602+0000	2018-08-29T12:04:35.664+0000	62
SubProcess_1	Error Handling Sub Process	subProcess	2018-08-29T12:04:35.664+0000	2018-08-29T12:04:35.665+0000	1
ScriptTask_8	Process Error	scriptTask	2018-08-29T12:04:35.664+0000	2018-08-29T12:04:35.665+0000	1
StartEvent_2		errorStartEvent	2018-08-29T12:04:35.664+0000	2018-08-29T12:04:35.664+0000	0

Found a exception clue in the Activity Instance list

# SO Workflow Monitoring Microservice Component



# SO Workflow Monitoring References

- SO Workflow Monitoring Summary, <https://wiki.onap.org/display/DW/SO+Monitoring>
- SO Workflow Monitoring User Guide, <https://wiki.onap.org/display/DW/SO-Monitoring+User+Guide>
- SO Workflow Monitoring Feature Design, <https://wiki.onap.org/display/DW/SO+Monitoring+Feature+Design>
- SO Workflow Monitoring API, <https://wiki.onap.org/display/DW/SO+Monitoring+API>



# What Next for Dublin?

- More Search Criteria as needed
- Better feasibility for plug and play for maintaining the current tasks being run.
- Dynamic updates of the current progress
- Monitoring history data for a 2 week time (configurable)