



SO Workflow Monitoring for Casablanca

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Date , 2018-10-30

SO Workflow Monitoring Problem Statement

The default Camunda-Cockpit based Workflow Monitoring has major limitations.

It is not practical!

- Workflow design/relationship knowledge is required to the user
 - VID/UI/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

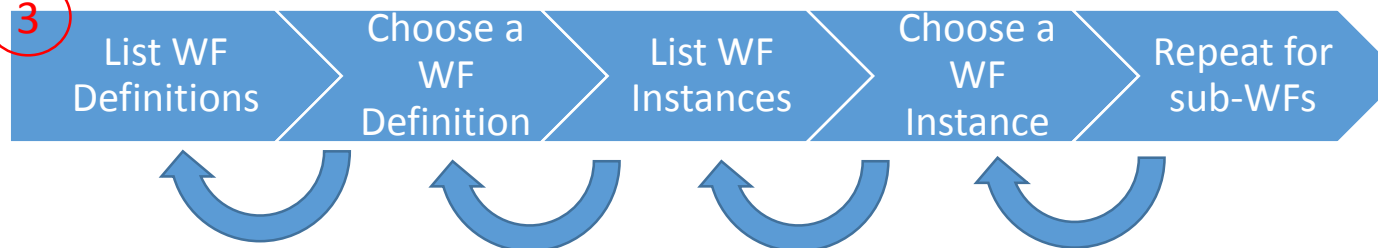
- CreateVcpeResCustServiceV2.bpmn
- Decompose.bpmn
- Homing.bpmn
- ReceiveAsyncCallback ReceiveWorkflowMessage.bpmn
- DoCreateServiceInstance.bpmn
- DoCreateVnfAndModules.bpmn
- GenericGetService.bpmn
- GenericGetVnf.bpmn
- GenericPutVnf.bpmn
- GenerateVfModuleName.bpmn
- DoCreateVfModule.bpmn
- ConfirmVolumeGroupTenant.bpmn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

2

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

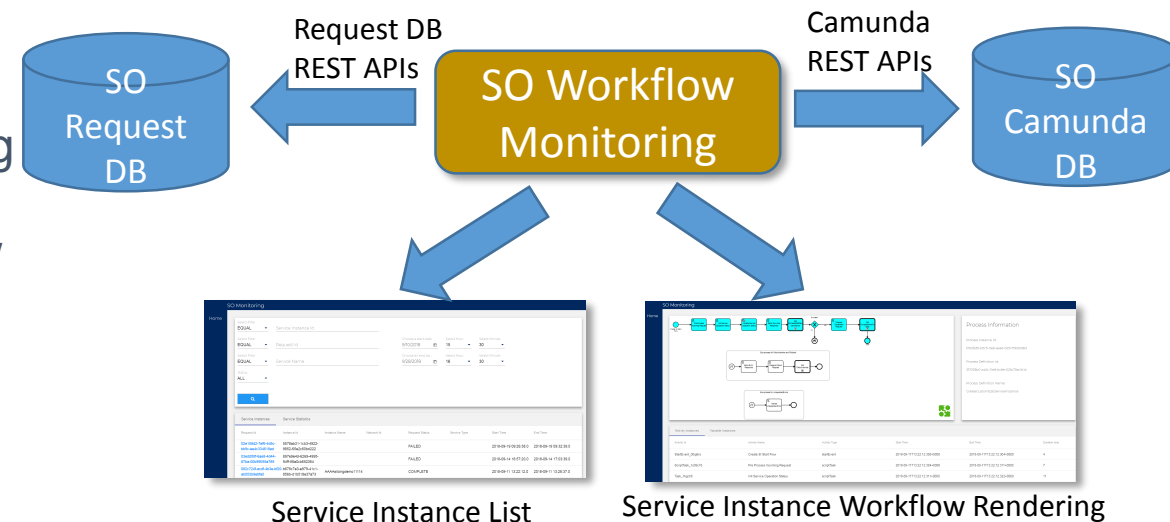
The default Camunda Cockpit Monitoring Behavior

3



SO Workflow Monitoring Solution

- SO Workflow Monitoring:
 - Allows SO clients (VID, UI and External Apps) to monitor Workflows based on search criteria.
 - 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
 - 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, provide 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 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

Service Instance List Panel

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

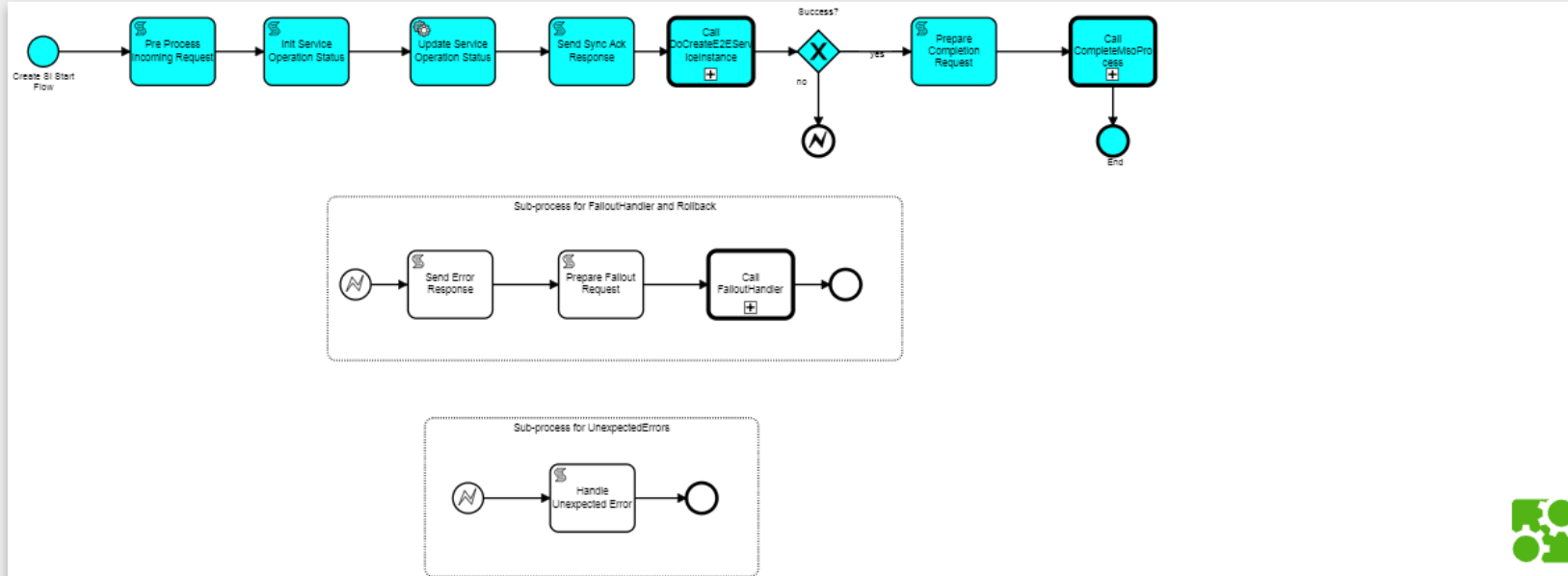
Click on the Request Id hyperlink

Request Id	Instance Id	Instance Name	Network	Request Status	Service Type	Start Time	End Time
02e158d2-7ef6-4d5c-bb9c-ee4c334618ad	5578ab31-1cb3-4922-9852-65e2c60bd222			FAILED		2018-09-19 09:26:38.0	2018-09-19 09:32:39.0
03edd58f-6ae8-4d44-87ba-00b99055a789	897e9e4d-6280-4995-9481-00a0cb652364			FAILED		2018-09-14 16:57:20.0	2018-09-14 17:03:39.0
082c724f-acdf-4b3e-bf20-ab053b9ebfa0	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

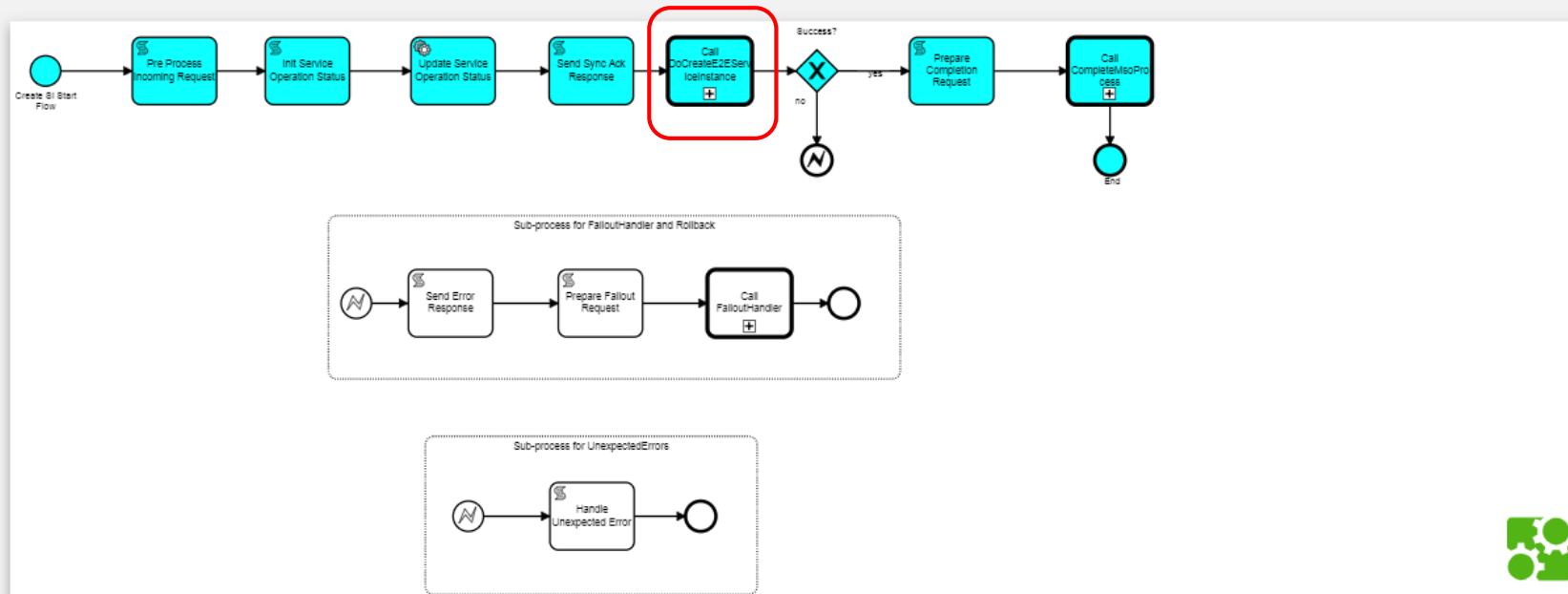


Activity Instances		Variable Instances			
Activity Id	Activity Name	Activity Type	Start Time	End Time	Duration (ms)
StartEvent_00qj6ro	Create SI Start Flow	startEvent	2018-09-11T13:22:12.300+0000	2018-09-11T13:22:12.304+0000	4
ScriptTask_1s09c7d	Pre Process Incoming Request	scriptTask	2018-09-11T13:22:12.304+0000	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

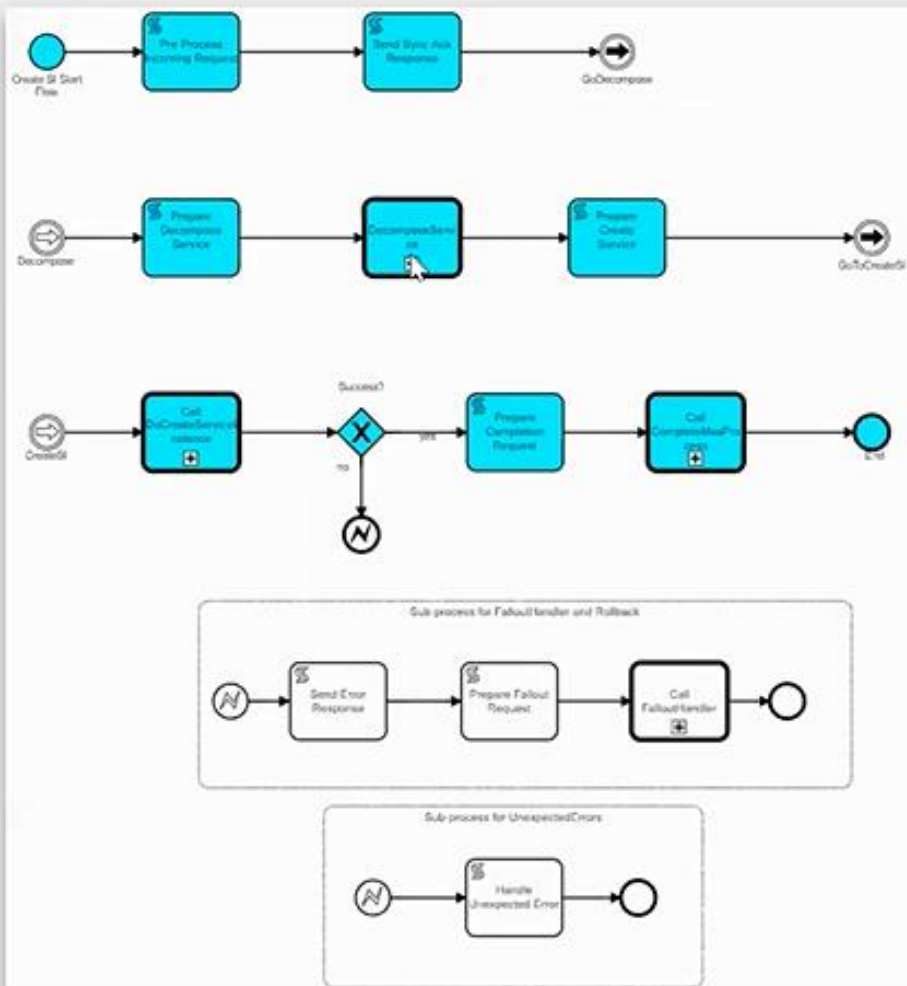
Process Instance Id:
b152fa35-b5c5-11e8-aea6-025c75b92d8d

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

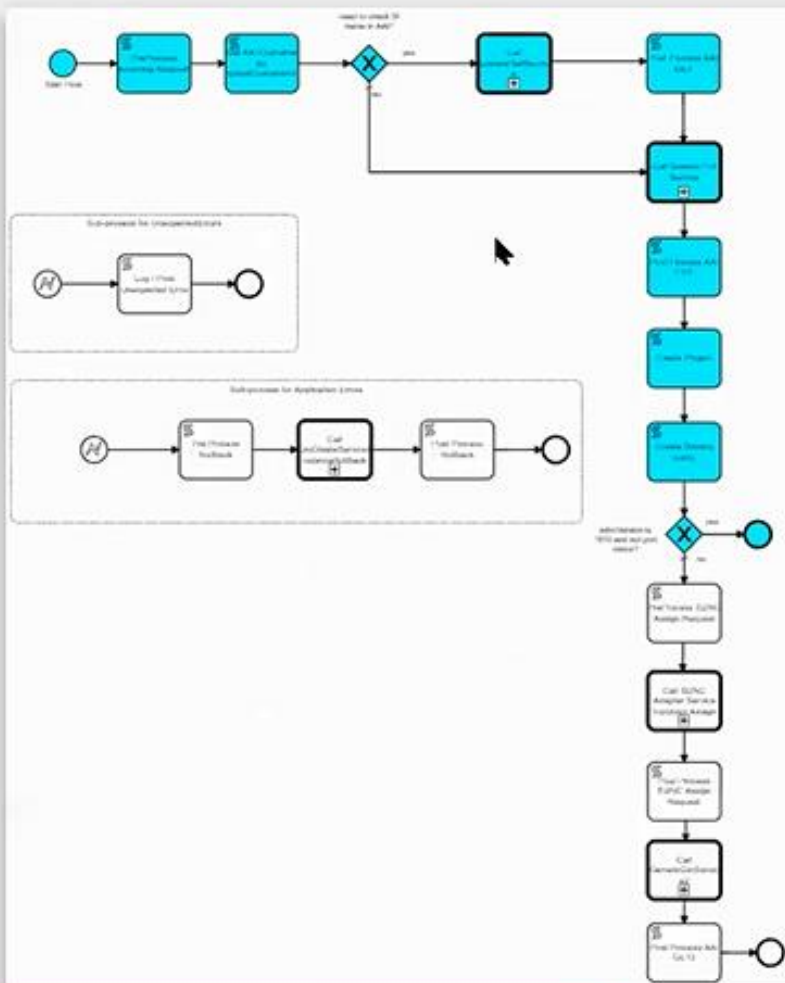
Process Definition Id:

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

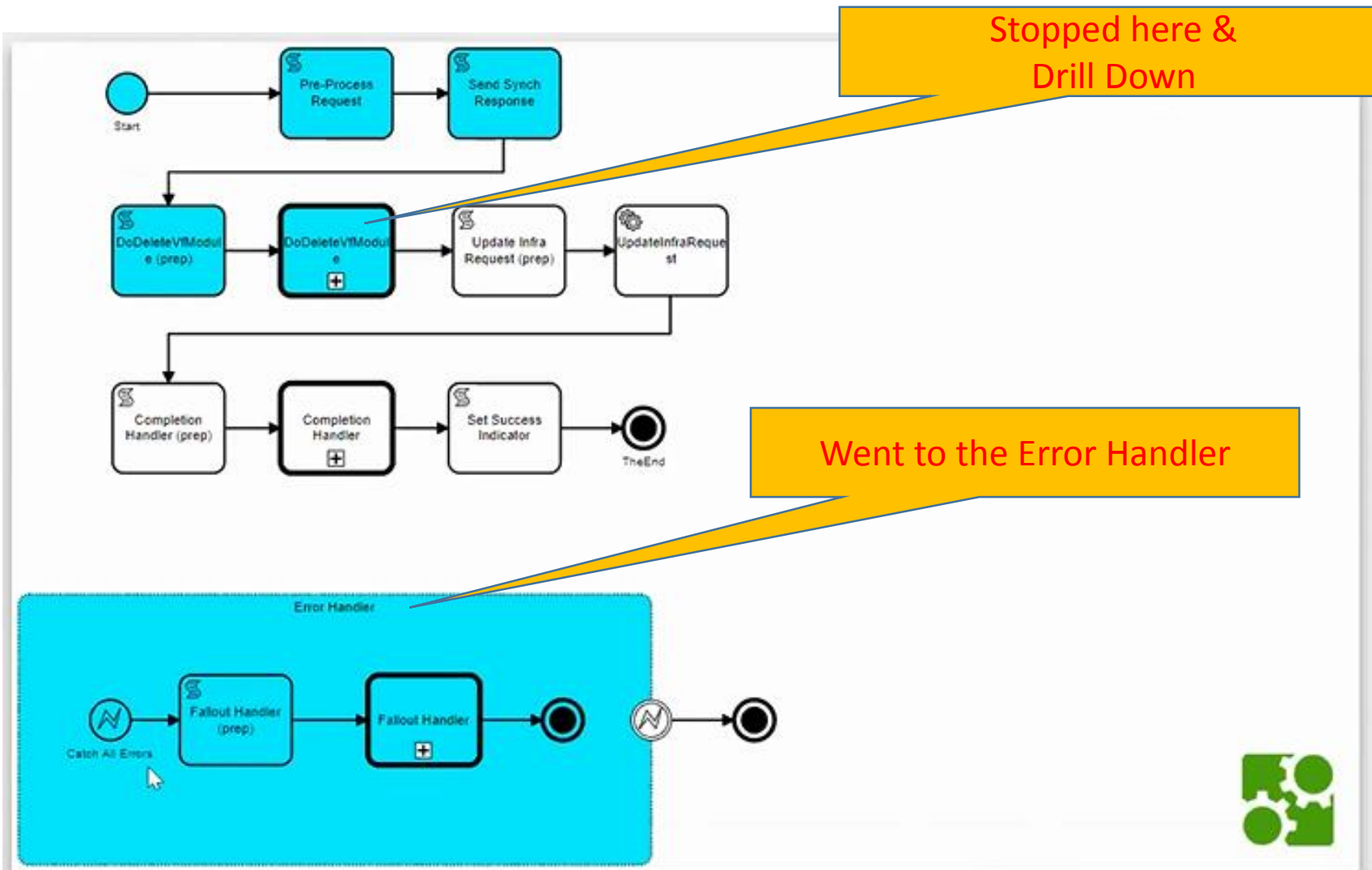
Process Definition Id:

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

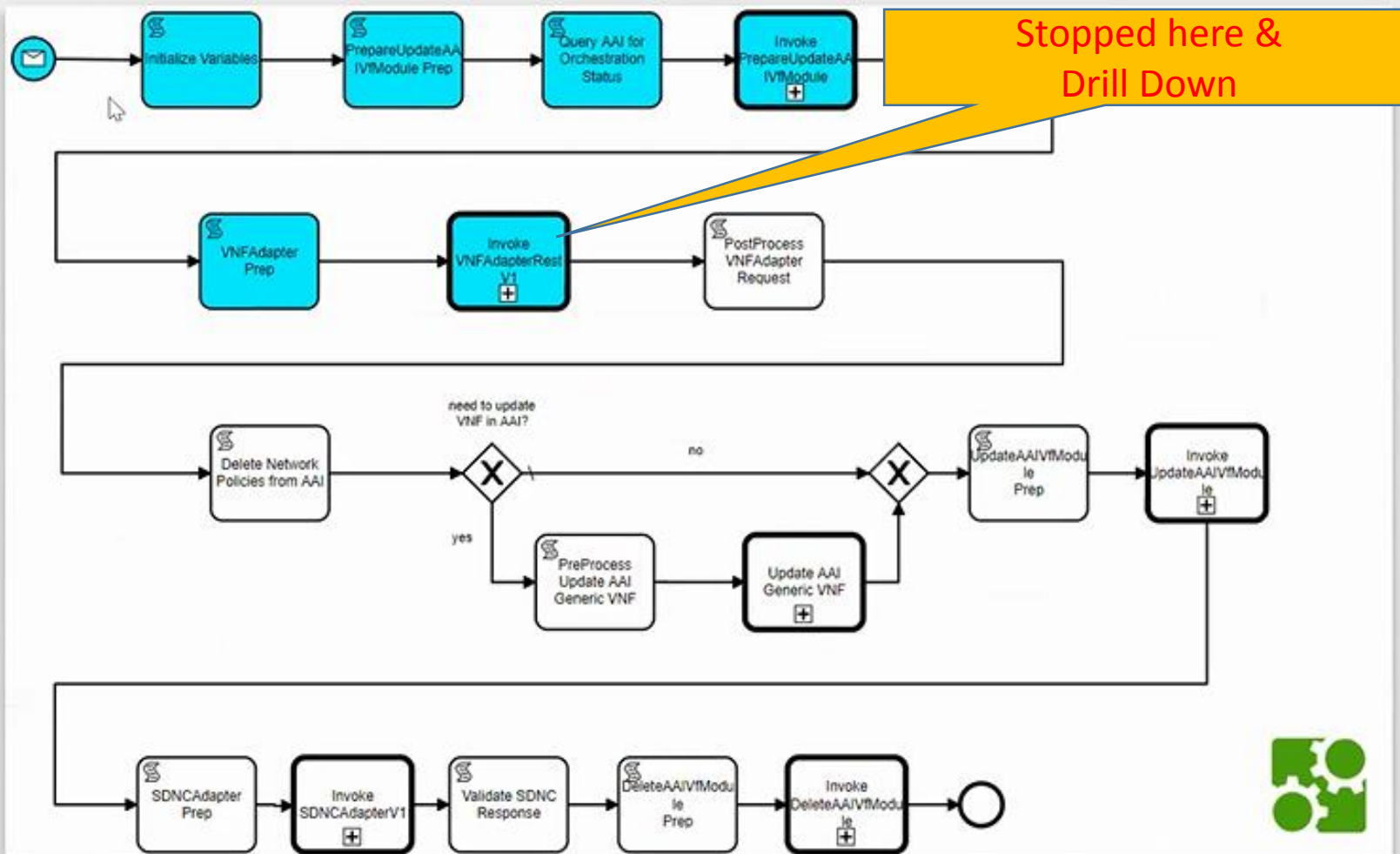
Process Definition Id:

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

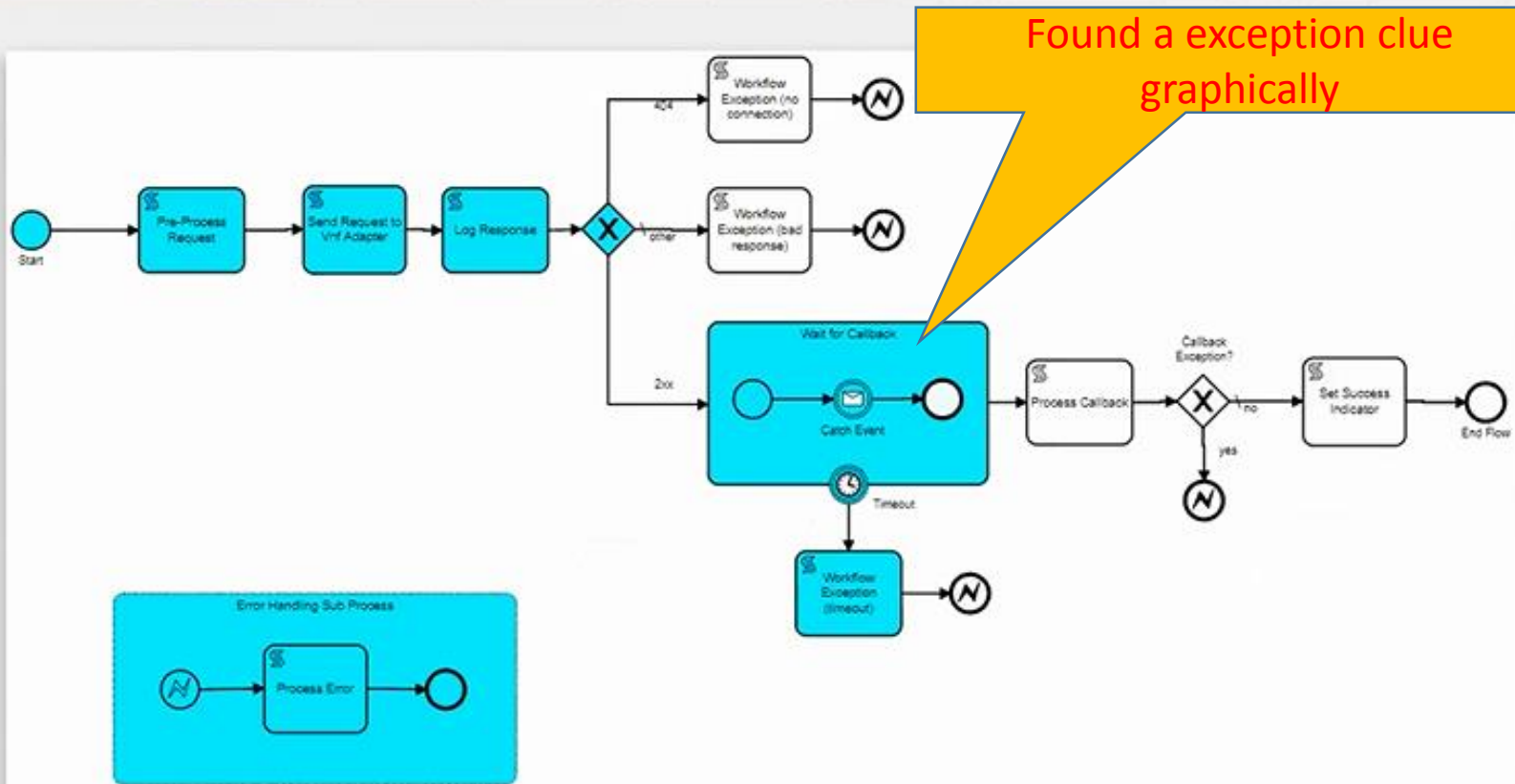
Process Definition Id:

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

Process Definition Name:

DoDeleteVfModule

SO Workflow Monitoring – Failed One Drill Down



Found a exception clue graphically

Process Information

Process Instance Id:

fabfec0b-ab82-11e8-b5fa-025c75bada97

Process Definition Id:

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

Process Definition Name:

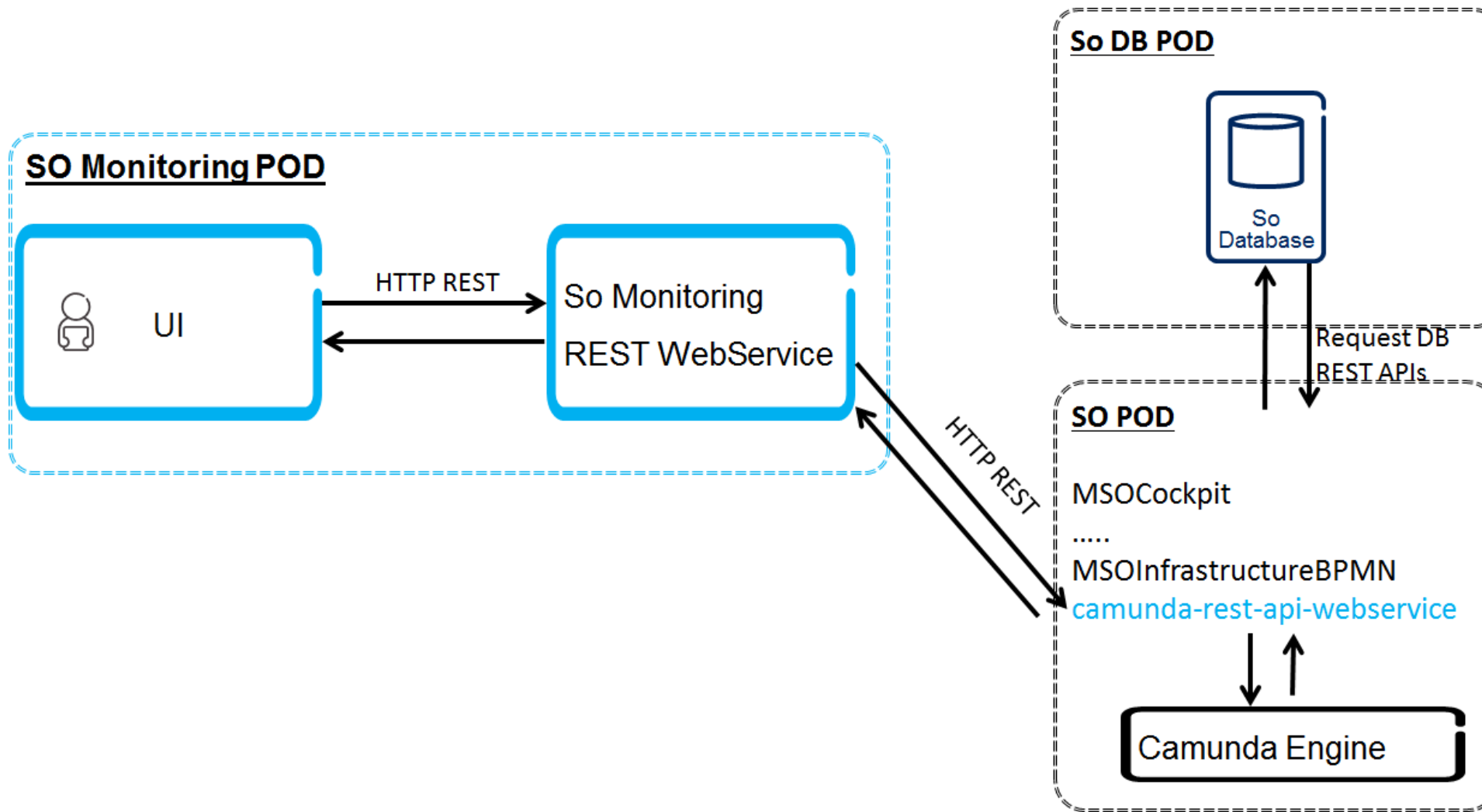
vnfAdapterRestV1

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
- Monitoring not only history database but also process session database