ASD PoC Update

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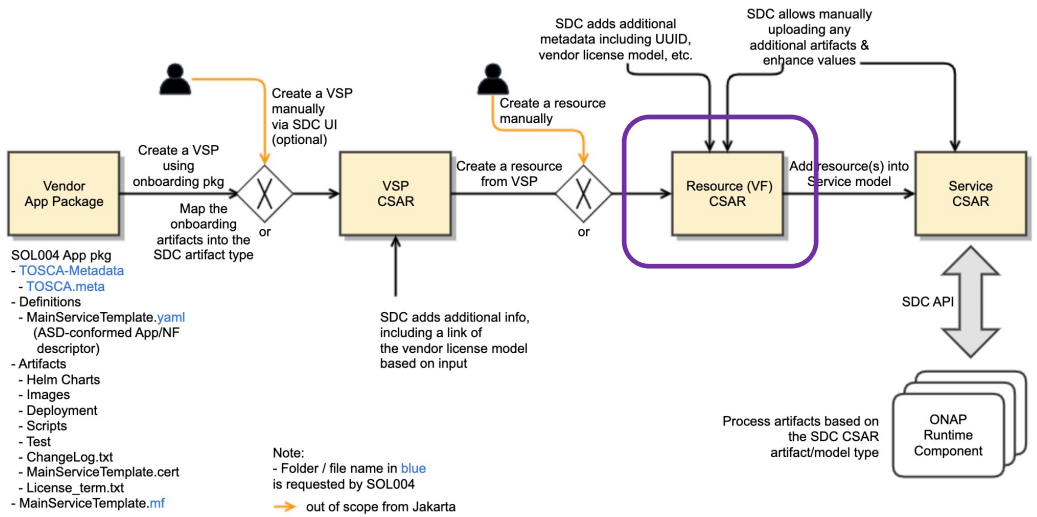
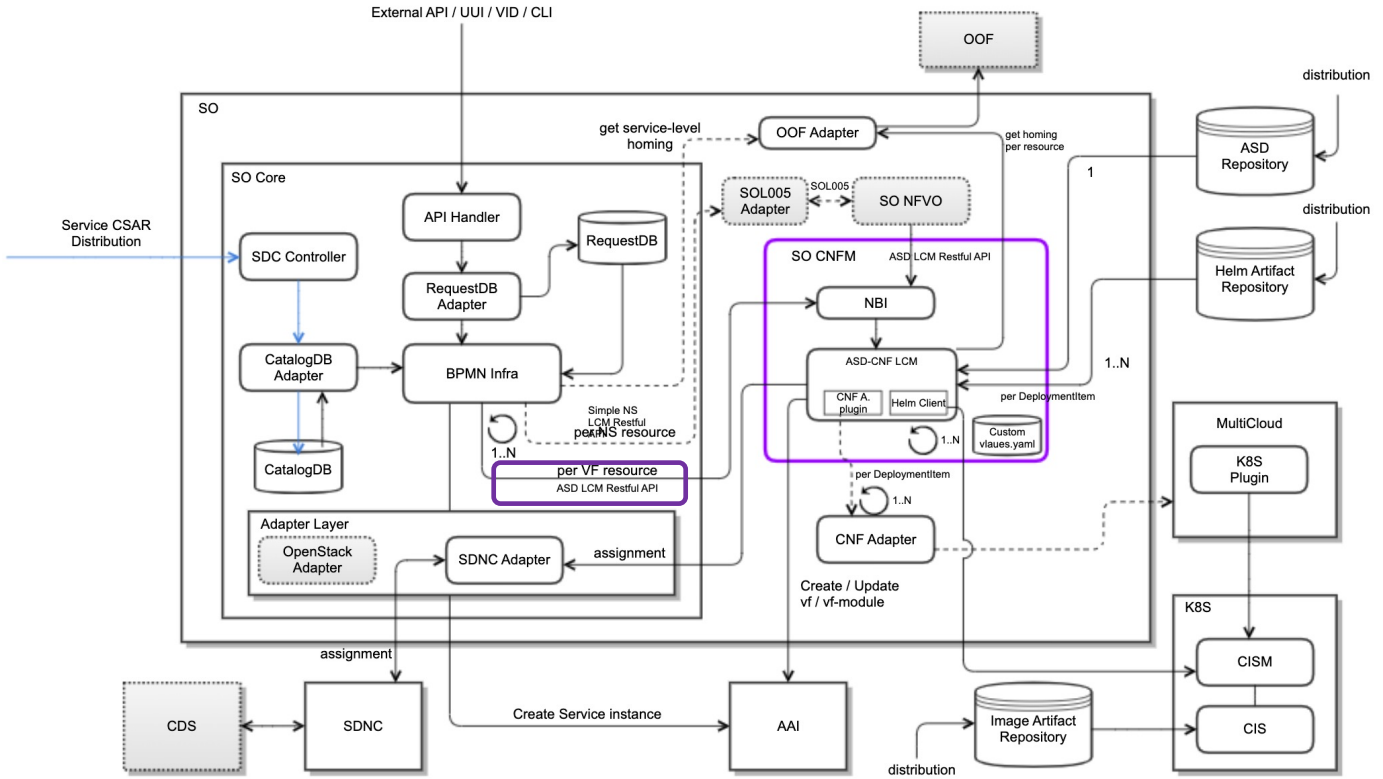
ASD PoC Plan & Status

- SDC Onboarding is in progress by the Ericsson SDC team (https://wiki.onap.org/display/DW/Application+Package+Onboarding+to+SDC)
  - Creating Resource VF based on ASD
  - ASD specific metadata is copied to Resource VF
  - Code is being contributed, including enhanced TOSCA parser
- Ericsson SO team is working on AS orchestration (https://wiki.onap.org/display/DW/ASD-Based+CNF+Orchestration+PoC)
  - Initial PoC Scope is set
  - AS LCM Restful Protocols swagger is built
  - once a SO branch (as-orchestration) is created, PoC code will be contributed

User Story	Group	Description	Size
SO-3839		SO shall get the ASD-based CNF package from SDC and store its metadata to SO Catalog DB	Medium
SO-3905		Enhance SO API Handler and BPMN Infra workflow(s) for AS LCM	Large
SO-3890		Create SO CNFM NBI API Handler based on ASD LCM Restful Protocol swagger, with no-ops	Small
SO-3840	CREATE AS	SO BPMN Infra shall trigger Create AS Instance workflow(s).	Small
SO-3883		In BPMN Infra, create the Create AS Workflow(s) to launch SO CNFM for Create AS	Small
SO-3893		Implement Create AS Business Logic in SO CNFM NBI Handler to invoke the Create AS workflows(s)	Medium
SO-3891		Create SO CNFM Workflow(s) for Create AS (Java implementation)	Medium
SO-3898		SO CNFM Processes ASD & Retrieves DeploymentItems	Medium
SO-3888		Create SO CNFM and make it available in ONAP (OOM changes)	Medium
	INSTANTIATE AS		
SO-3881		Select and Run Instantiate AS Workflows	Small
SO-3884		Enhance Instantiate AS Workflow(s) to launch SO CNFM for Instantiate AS	Medium
SO-3904		Implement Instantiate AS Business Logic in SO CNFM NBI Handler to invoke the Instantiate AS workflows(s)	Medium
SO-3906		Create SO CNFM Workflow(s) for Instantiate AS (Java implementation)	Medium
SO-3885	DELETE AS	SO BPMN Infra shall trigger Delete AS Instance workflow(s).	Small
SO-3886		Enhance Delete AS Workflow(s) to launch SO CNFM for Delete AS	Small
SO-3894		Implement Delete AS Business Logic in SO CNFM NBI Handler to invoke Delete AS workflows(s)	Medium
SO-3892		Create SO CNFM Workflow(s) for Delete AS (Java implementation)	Medium
SO-3882		ONAP Admin creates Cloud Region(s) and Tenant(s) in AAI (Note: Size is based on creating cloud and tenant in A&AI)	Small
SO-3900	INSTANTIATE AS WITH INSTANCE VARIABLE I.e. generate new values file	Generate and replace values file based on instance variable	Large

ASD Onboarding & Orchestration





Supported AS LCM Operations

- Lifecycle Management Interfaces
  - Create AS
  - Instantiate AS
  - Terminate AS (could be part of Delete AS)
  - Delete AS
  - Query AsInstance
  - Update AS (stretch goal)

- The latest AS LCM Restful APIs swagger
  - https://wiki.onap.org/display/DW/ASD+LCM+RESTful+Protocols+for+SO+CNF+Manager#ASDLCMRESTfulProtocolsforSOCNFManager-SwaggerFile

Create AS Instance Resource

- REST Interface
  - POST .../as_instances (CreateAsRequest)
  - 201 Created (AsInstance)

- CreateAsRequest

Attribute Name	Data Type	Cardinality	Description
asdId	Identifier (UUID)	1	Identifier that identifies the ASD which defines the AS instance to be created.
asInstanceName	String	0..1	Human-readable name of the AS instance to be created.
asInstanceDescription	String	0..1	Human-readable description of the AS instance to be created.
additionalParams[1, 2]	KeyValuePairs	0..1	Additional input parameters for the instantiation process (this is a pace holder to hold any additional parameters for the orchestrator, such as CNFM)

1. The additional parameters can be passed to define custom values. All keys that are separated by dots are handled as separate values. Passing a value file content is under consideration. Special characters are allowed to represent \n, \., etc.
2. The target cluster name could be passed thru additionalParams if the client wants to select the target cluster.

- AsInstance (see the AsInstance section)

Instantiate AS Instance Resource (1/2)

- REST Interface
  - POST .../as_instances/{asInstanceId}/instantiate (InstantiateAsRequest)
  - 202 Accepted ()
  - Send asLcmOperationOccurrenceNotification (STARTING/PROCESSING/COMPLETED) : out of scope
  - 200 OK (AsLcmOpOcc:operationState=COMPLETED) : out of scope

  Note: in the initial PoC, the Query Individual AS will be used instead of the LcmOpOcc to check the status

- InstantiateAsRequest

Attribute Name	Data Type	Cardinality	Description
asdExtCpdInputParams	ExtCpdParams	0..N	contains ext cpd parameter instance-level values
deploymentItems	DeploymentItems	1..N	contains lifecycle parameters for deploymentItems
additionalParams[1, 2]	KeyValuePairs	0..1	Additional input parameters for the instantiation process (this is a pace holder to hold any additional parameters for the orchestrator, such as CNFM)

1. The additional parameters can be passed to define custom values. All keys that are separated by dots are handled as separate values. Passing a value file content is under consideration. Special characters are allowed to represent \n, \., etc.
2. The target cluster name could be passed thru additionalParams if the client wants to select the target cluster.

Instantiate AS Instance Resource (2/2)

- ExtCpdParams

Attribute Name	Data Type	Cardinality	Description
extCpdId	UUID	1	identifier
loadbalancerIP	String	0..1	contains the IP address to configure the loadBalancer of the K8s service or ingress controller that the ExtCpd represents
externalIPs	String	0..N	contains external IPs
nadNames	String	0..N	contains a list of nad names
nadNamespace	String	0..1	contains a nad namespace

- DepolymentItems

Attribute Name	Data Type	Cardinality	Description
deploymentItemId	Identifier	1	Identifies which deploymentItem
lifecycleParameterKeyValues[1]	KeyValuesPairs	0..N	provides lifecycle parameter keys and values

1. provides instance-level key-value sets for the Helm Charts values file(s)

Terminate AS Instantiate Resource

- REST Interface
  - POST .../as_instances/{asInstanceId}/terminate (TerminateAsRequest)
  - 202 Accepted ()
  - Send asLcmOperationOccurrenceNotification (STARTING/PROCESSING/COMPLETED) : out of scope
  - 200 OK (AsLcmOpOcc:operationState=COMPLETED) : out of scope

  Note 1: in the initial PoC, the Query Individual AS will be used instead of the LcmOpOcc to check the status

  Note 2: the Terminate AS Instance Resource operation could be part of the Delete AS Instance Resource operation.

- TerminateAsRequest

Attribute Name	Data Type	Cardinality	Description
terminationType	Enum	1	•FORCEFUL •GRACEFUL
gracefulTerminationTimeout	Integer	0..1	The unit is seconds
additionalParams	KeyValuePairs	0..1	Additional input parameters for the Terminate AS process (this is a pace holder to hold any additional parameters for the orchestrator, such as CNFM)

Delete AS Instantiate Resource

- REST Interface
  - DELETE .../as_instances/{asInstanceId}
  - 204 No Content

Query Individual AS Instance Resource (1/2)

- REST Interface
  - GET .../as_instances/{asInstanceId}
  - 200 OK (AsInstance)

- AsInstance (contains instance-level information for AS LCM, not holding information of a CNF instance)

Attribute Name	Data Type	Cardinality	Description
asInstanceId	Identifier	1	Identifier of the AS instance that is created by the CNF orchestrator
asInstanceName	String	0..1	Name of the AS instance that is created by the CNF orchestrator. This attribute can be modified with the PATCH (i.e., update) method.
asInstanceDescription	String	0..1	Human-readable description of the AS instance that is created by the CNF orchestrator. This attribute can be modified with the PATCH method.
asdId	Identifier	1	Identifier of the ASD on which the CNF instance is based. The value is copied from the ASD.
asVersion	Version	1	Specifies the version of the Application. The value is copied from the ASD.
asSchemaVersion	Version	1	Specifies the version of the ASD's schema. The value is copied from the ASD.
asProvider	String	1	Provider of the AS instance. The value is copied from the ASD.
asApplicationName	String	1	Name to identify the AS instance. The value is copied from the ASD.
asApplicationVersion	String	1	Specifies the version of the Application. The value is copied from the ASD.
asApplicationInfoName	String	0..1	Human readable name for the Application service instance. The value is copied from the ASD.
asInfoDescription	String	0..1	Human readable description of the AS instance. The value is copied from the ASD.
	Continued…		

Query Individual AS Instance Resource (2/2)

- AsInstance (continued)

Attribute Name	Data Type	Cardinality	Description
asdExtCpd	datatype.ExtCpd	0..N	Contains the externally exposed “instance-level” connection points of the application.
enhancedClusterCapabilities	datatype. enhancedClusterCapabilities	0..N	Contains a list of “instance-level” expected capabilities of the target Kubernetes cluster to aid placement of the application service on a suitable cluster.
deploymentItems	DeploymentItems	1..N	Contains Deployment artifacts with “instance-level” lifecylceparmaeterKeyValues
instantiationState	String of Enum; •NON_INSTANTIATION, •INSTANTIATED	1	Indicates the current Instantiation State
instantiationAsInfo	datatype.instantiationAsInfo	0..1	Information specific to an instantiated AS Instance, such as STARTED, STOPPED
metadata	object (key value pair)	0..1	represents a list of “instance-level” metadata key-value pairs
extensions	object (key value pair)	0..1	Additional AS-specific “instance-level” attributes that affect the lifecycle management of this AS instance
_links	datatype._links	0..1	Links to resources related to this resource, such as self, indicators, instantiate, terminate and operate URIs