HPE NFV Director

On-Boarding Guide Operations: Undeploy Virtual Link

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Second Edition

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Notices

Legal notice

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Preface

About this guide

This Guide is intended to explain and guide the user through the undeployment of a Virtual Link.

Audience

This document is targeting any user level of NFV Director: Domain users, Organization Users, Tenant Users, Group Users and Datacenter users.

For On boarding VNFs please refer to VNF On-Boarding Guide

Document history

Table 1: Document history

Edition	Date	Description
1.0	30 August 2016	First Edition

Chapter 1 Undeploy of a Virtual Link.

From now on, and to make easier the understanding of the TLDs, we are going to explain the functionality of each set of TASK_LIST_DEFINITION:GENERIC, and the number of TASK_DEFINITION:GENERIC children of the previously mentioned TASK_LIST_DEFINITION:GENERIC.

Basically, the TASK_LIST_DEFINITION:GENERIC connect what we can consider “units of execution”, those are the TASK_DEFINITION:GENERIC, that have a WORKFLOW assigned to be executed when the execution of the TLD reach them.

If you like to have a more deep knowledge about the workflows mentioned through this document please refer to the specific document.

** If in the category FIND, the attribute Path is present, the attribute FIND.ArtifactType will be the starting artifact for the Path, but the FIND.Status attribute refers to the last artifact on the Path.

FIND.ArtifactType == VIRTUAL_MACHINE.

FIND.Status== INSTANTIATED.

FIND.Path==

VIRTUAL_MACHINE>VIRTUAL_CORE<CORE<CPU<SERVER<AVAILABILITY_ZONE<REGION>COMPUTE>FLAVOR

In this example, we are looking for a FLAVOR in status INSTANTIATED, we do not expect to get a VIRTUAL_MACHINE, in status INSTANTIATED.

**If during the use of the TLDs, the “Regenerate UUIDs” option is used, the user should check the Id of the tree that brings all the elements of the TLD, this “id” is specific and it will be the same for all the tree groups in all the TLDs.

** The two modes available are “Default” and “Simulated”, the second one is only available if it is configured previously, by defect, the mode that will be used is “Default”.

Chapter 2 Specific Elements of the TLD Undeploy Virtual Link.

In this chapter the different elements of the specific TLD will be explained conscientiously.

2.1 TLD UNDEPLOY_VIRTUAL_LINK : Undeploy_Check

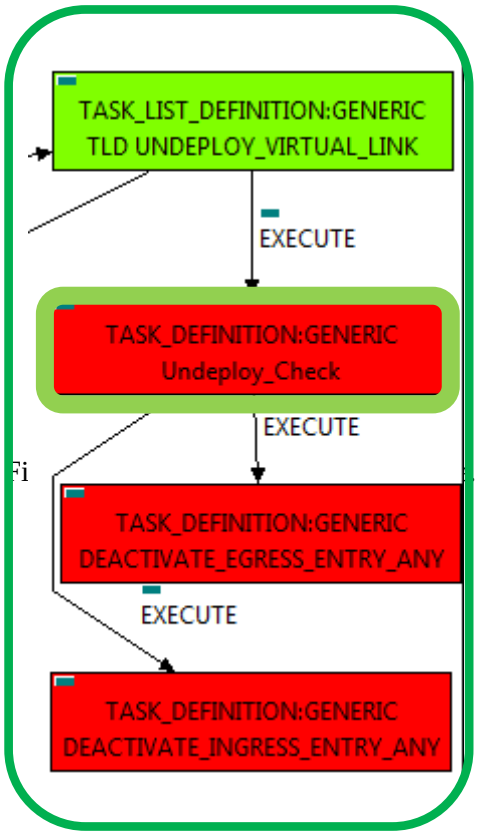

Figure 1: Check children for Undeploy.

This TD it is going to assure the scenario in order to delete a specific Organization, this means that during the execution the TD is going to check if all the children of the Organization are still or were properly deleted before launch the undeploy of an Organization.

Targets of the TASK DEFINITION:
STATUS of the TD: ENABLED

Categories:

GENERAL.Name ==	Undeploy check
FIND.Condition ==	**status==constant:ACTIVE**
EXECUTE.Workflow ==	**"WF_TS_UNDEPLOY_CHECK_CHILDREN"**
EXECUTE.Inactive==	false
ROLLBACK.Behaviour_on_error ==	ROLLBACK
ROLLBACK.Number_of_retries ==	0
DATA.Lock ==	true

The Workflow present in EXECUTE.Workflow attribute it is going to seek for the children entities of the Virtual Link, in case the TD find some the execution of the TD will fail, the goal of this TD is to guarantee that the Virtual Link has no children and also is in the proper conditions to be set as an entity with status INSTANTIATED.

Once found, the TD would execute the WF present in EXECUTE.Workflow, in this case, the Wf is "WF_TS_UNDEPLOY_CHECK_CHILDREN", the workflow will develop the task previously explained.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

The attribute DATA.Lock is set with the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.2 TLD UNDEPLOY_VIRTUAL_LINK : Deactivate_Ingress Entry to Any.

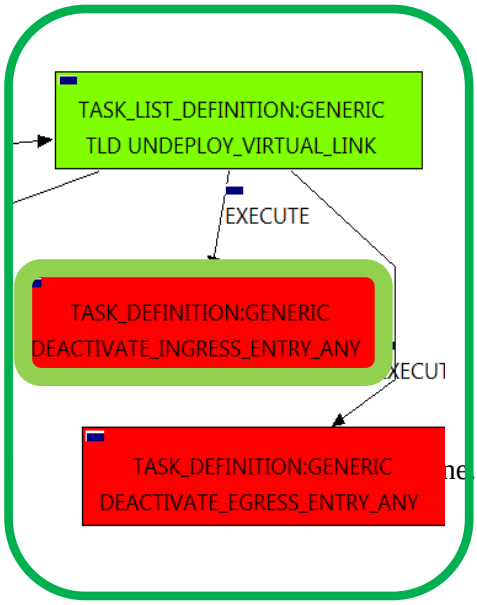

Figure 2: Deactivate Ingress Entry to any.

This TD it is going to deactivate our INGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and deactivate an INGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have an INGRESSACLENTRY POLICY deactivated with all the relationship needed for the correct behavior of the artifact still present, prepare to be deleted when required.

Targets of the TASK DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact ==
VIRTUAL_LINK>NETWORK:GENERIC.
FIND.Condition==
GENERAL.Name==EGRESSACL_%GENERAL.Name%_ANY&&
ACLENTRY.LocationType==constant:ZONE&&
ACLENTRY.NetworkType==constant:ANY
FIND.Path==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>
ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>
EGRESSACLENTRY@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow==
"WF_TS_DEACTIVATE_SDN_EGRESSACLENTRY_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a INGRESSACLENTRY that match the FIND.Condition attribute with value ***:"INGRESSACL_%GENERAL.Name%_PolicyBase&&ACLENTRY.LocationType==constant:ZONE&&ACLENTRY.NetworkType==constant:ANY"*** with Status ACTIVE, by the Path given, ***"VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>EGRESSACLENTRY@status=ACTIVE ".***

Once found , the WF will start the deactivation, if the deactivation it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

The attribute DATA.Lock is set with the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.3 UNDEPLOY_VIRTUAL_LINK : Deactivate_Egress Entry to Any.

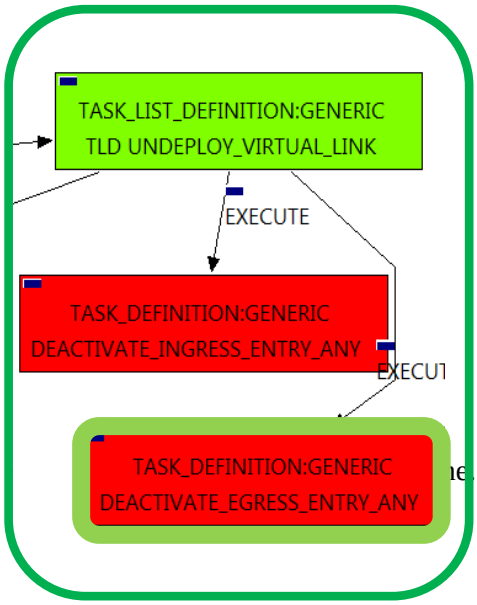

Figure 3: Deactivate Egress entry to any.

This TD it is going to deactivate our EGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and deactivate an EGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have an EGRESSACLENTRY POLICY deactivated with all the relationship needed for the correct behavior of the artifact still present, prepare to be deleted when required.

Targets of the TASK DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact ==
VIRTUAL_LINK>NETWORK:GENERIC.
FIND.Condition==
GENERAL.Name==INGRESSACL_%GENERAL.Name%_ANY&&
ACLENTRY.LocationType==constant:ZONE&&
ACLENTRY.NetworkType==constant:ANY
FIND.Path==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>
ZONE:DCN<L3DOMAIN:DCN>INGRESSACL>
INGRESSACLENTRY@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow==
"WF_TS_DEACTIVATE_SDN_INGRESSACLENTRY_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a INGRESSACLENTRY that match the FIND.Condition attribute with value ***:"EGRESSACL_%GENERAL.Name%_PolicyBase&&ACLENTRY.LocationType==constant:ZONE&&ACLENTRY.NetworkType==constant:ANY"*** with Status ACTIVE, by the Path given, ***"VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>EGRESSACLENTRY @status=ACTIVE ".***

Once found , the WF will start the deactivation, if the deactivation it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

The attribute DATA.Lock is set with the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.4 TLD UNDEPLOY_VIRTUAL_LINK : Deactivate_Egress Entry.

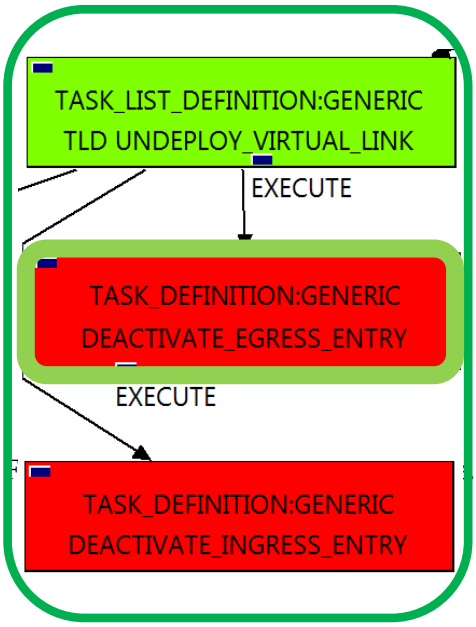

Figure 4: Deactivate Egress entry.

This TD it is going to deactivate our EGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and deactivate an EGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have an EGRESSACLENTRY POLICY deactivated with all the relationship needed for the correct behavior of the artifact still present, prepare to be deleted when required.

Targets of the TASK DEFINITION:
STATUS of the TD: ENABLED
Categories:
FIND.MainArtifact == **VIRTUAL_LINK>NETWORK:GENERIC**
FIND.Condition==
GENERAL.Name==EGRESSACL_%GENERAL.Name%_PolicyBase&&
ACLENTRY.LocationType==constant:ZONE&&
ACLENTRY.NetworkType==constant:ZONE
FIND.Path==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>
ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>
EGRESSACLENTRY@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow==
"WF_TS_DEACTIVATE_SDN_EGRESSACLENTRY_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a EGRESSACLENTRY that match the FIND.Condition attribute with value **:"EGRESSACL_%GENERAL.Name%_PolicyBase&&ACLENTRY.LocationType==constant:ZONE&&ACLENTRY.NetworkType==constant:ZONE"** with Status ACTIVE, by the Path given, ***"VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>EGRESSACLENTRY@status=ACTIVE ".***

Once found , the WF will start the deactivation, if the deactivation it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.5 TLD UNDEPLOY_VIRTUAL_LINK : Deactivate_Ingress Entry.

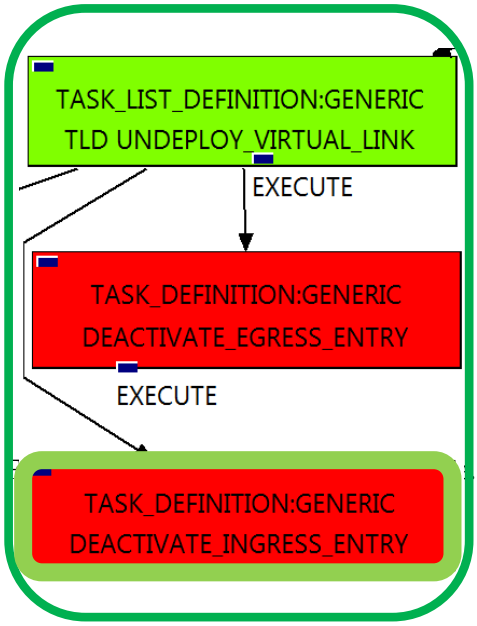

Figure 5: Deactivate Ingress entry.

This TD it is going to deactivate our INGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and deactivate an INGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have an INGRESSACLENTRY POLICY deactivated with all the relationship needed for the correct behavior of the artifact still present, prepare to be deleted when required.

Targets of the TASK DEFINITION:
STATUS of the TD: ENABLED
Categories:
FIND.MainArtifact == **VIRTUAL_LINK>NETWORK:GENERIC**
FIND.Condition==
GENERAL.Name==INGRESSACL_%GENERAL.Name%_PolicyBase&&
ACLENTRY.LocationType==constant:ZONE&&
ACLENTRY.NetworkType==constant:ZONE
FIND.Path==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>
ZONE:DCN<L3DOMAIN:DCN>INGRESSACL>
INGRESSACLENTRY@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow==
"WF_TS_DEACTIVATE_SDN_EGRESSACLENTRY_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a EGRESSACLENTRY that match the FIND.Condition attribute with value **:"INGRESSACL_%GENERAL.Name%_PolicyBase&&ACLENTRY.LocationType==constant:ZONE&&ACLENTRY.NetworkType==constant:ZONE"** with Status ACTIVE, by the Path given, ***"VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>INGRESSACL>INGRESSACLENTRY @status=ACTIVE ".***

Once found , the WF will start the deactivation, if the deactivation it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.6 TLD DEACTIVATE OPENSTACK SUBNET: DEACTIVATE_SUBNETWORK_OPENSTACK.

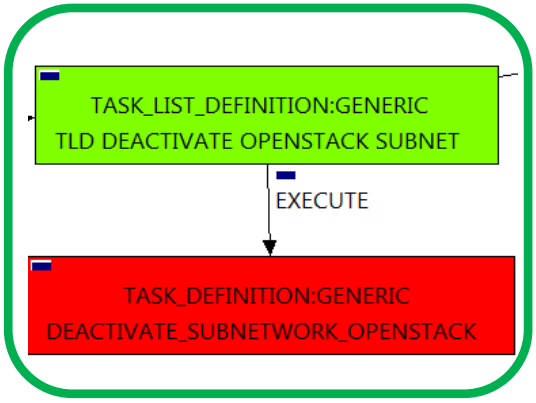

Figure 6: Deactivate S/N OS.

The TDs that have present in the their names “Deactivate”, are Task Definitions responsible of the deactivation in the platform targeted and the updating of the status in the platform and the DDBB, in this case, the artifact that is going to be deactivated is a “SUBNETWORK:OPENSTACK”, this means, when this workflow finish, we will have a SUBNETWORK:OPENSTACK with status INSTANTIATED, still present in the DDBB..

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact==
VIRTUAL_LINK>NETWORK:GENERIC>
NETWORK:OPENSTACK>
SUBNETWORK:OPENSTACK@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_SUBNETWORK”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “SUBNETWORK:OPENSTACK” policy with Status ACTIVE, reachable by the Path given,
***“VIRTUAL_LINK>NETWORK:GENERIC>NETWORK:OPENSTACK>SUBNETWORK:OPENSTACK*@status=ACTIVE “.**

Once found, the WF will start the deactivating, if deactivation is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a “STOP” set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.7 TLD DEACTIVATE OPENSTACK NET: DEACTIVATE_NETWORK_OPENSTACK

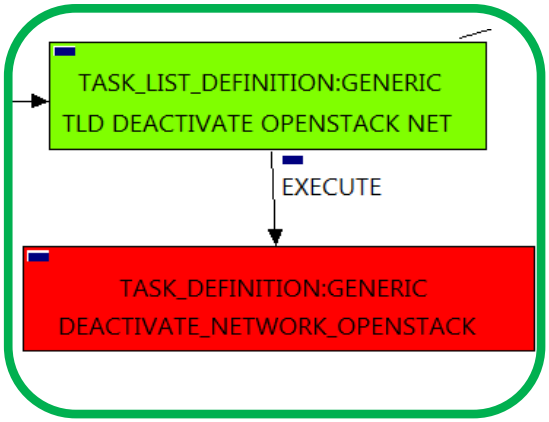

Figure 7: Deactivate N/W OS.

The TDs that have present in the their names “Deactivate”, are Task Definitions responsible of the deactivation in the platform targeted and the updating of the status in the platform and the DDBB, in this case, the artifact that is going to be deactivated is a “NETWORK:OPENSTACK”, this means, when this workflow finish, we will have a NETWORK:OPENSTACK with status INSTANTIATED, still present in the DDBB.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact==
VIRTUAL_LINK>NETWORK:GENERIC>
NETWORK:OPENSTACK@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_NETWORK”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “NETWORK:OPENSTACK” policy with Status ACTIVE, reachable by the Path given,
“*VIRTUAL_LINK>NETWORK:GENERIC>NETWORK:OPENSTACK@status=ACTIVE “*.

Once found, the WF will start the deactivating, if deactivation is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a “STOP” set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.8 TLD DEACTIVATE DCN SUBNET: DEACTIVATE _SUBNETWORK_DCN

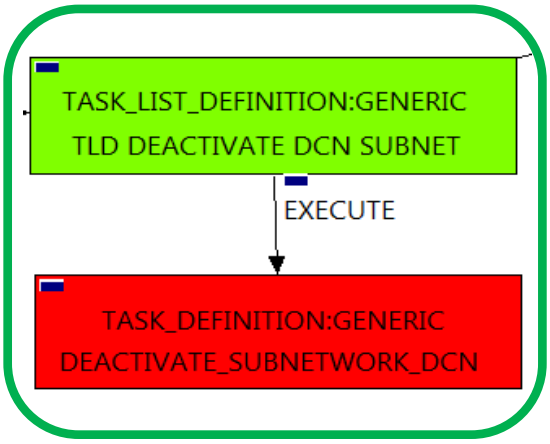

Figure 8: Deactivate S/N DCN.

The TDs that have present in the their names “Deactivate”, are Task Definitions responsible of the deactivation in the platform targeted and the updating of the status in the platform and the DDBB, in this case, the artifact that is going to be deactivated is a “SUBNETWORK:DCN”, this means, when this workflow finish, we will have a SUBNETWORK:DCN with status INSTANTIATED, still present in the DDBB.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:
FIND.MainArtifact ==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>
SUBNETWORK:TEMPLATE:DCN>
SUBNETWORK:DCN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_SDN_SUBNETWORK”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “SUBNETWORK:DCN” policy with Status ACTIVE, reachable by the Path given,
“VIRTUAL_LINK>NETWORK:GENERIC>NETWORK:OPENSTACK>SUBNETWORK:OPENSTACK@status=ACTIVE “.

Once found, the WF will start the deactivating, if deactivation is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a “STOP” set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.9 TLD DEACTIVATE DCN ZONE: DEACTIVATE_ZONE_DCN.

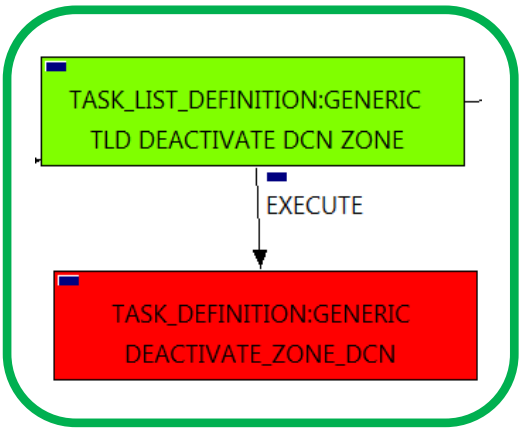

Figure 9: Deactivate Zone DCN.

The TDs that have present in the their names “Deactivate”, are Task Definitions responsible of the deactivation in the platform targeted and the updating of the status in the platform and the DDBB, in this case, the artifact that is going to be deactivated is a “ZONE:DCN”, this means, when this workflow finish, we will have a ZONE:DCN with status INSTANTIATED, still present in the DDBB.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact ==
VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_SDN_ZONE”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “ZONE:DCN” policy with Status ACTIVE, reachable by the Path given,
“VIRTUAL_LINK>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN@*status=ACTIVE*”.

Once found, the WF will start the deactivating, if deactivation is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a “STOP” set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.10 TLD INVENTORY DELETE DCN POLICIES: DELETE EGRESS ENTRY ANY.

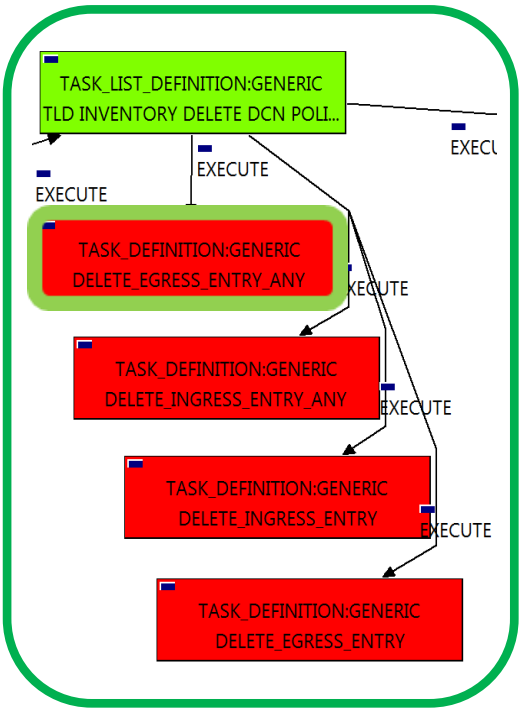

Figure 10: Delete Egress entry any.

This TD it is going to delete our EGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and delete an EGRESSACLENTRY in status INSTANTIATED that fills the conditions present in the TD.

Once finished, we will not have any EGRESSACLENTRY:TEMPLATE:DCN in our platforms or DDBB. The TD should erase all of this kind of policies.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact==
VIRTUAL_LINK>
NETWORK@status=INSTANTIATED#SDN.Access_level=ANY
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_ZONE_ANY_EGRESSACL_ENTRY_UNDO"
ROLLBACK.Behaviour_on_error == ROLLBACK
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "NETWORK" in Status INSTANTIATED in the DDBB, that matches the FIND.MainArtifact:" VIRTUAL_LINK>NETWORK@status=INSTANTIATED#SDN.Access_level=ANY" .

Once found, the WF will start the deprovisioning, if the deprovision it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.11 TLD INVENTORY DELETE DCN POLICIES: DELETE INGRESS ANY.

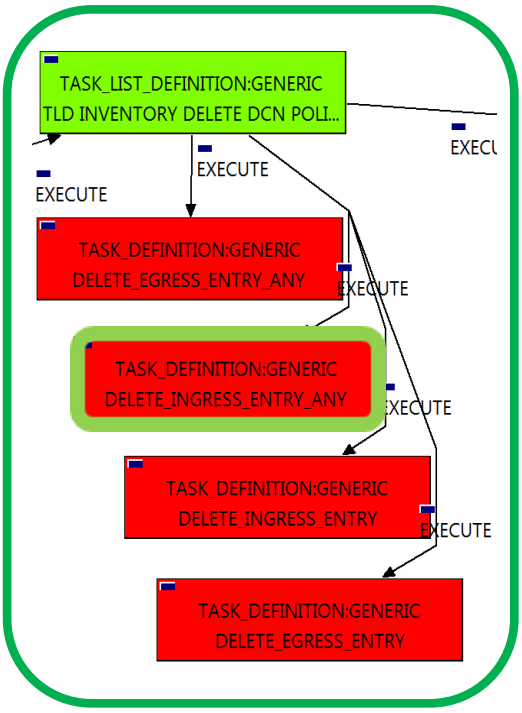

Figure 11: Delete Ingress Any

This TD it is going to delete our INGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and delete an INGRESSACLENTRY in status INSTANTIATED that fills the conditions present in the TD.

Once finished, we will not have any INGRESSACLENTRY:TEMPLATE:DCN in our platforms or DDBB. The TD should erase all of this kind of policies.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.MainArtifact==
VIRTUAL_LINK>
NETWORK@status=INSTANTIATED#SDN.Access_level=ANY
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_ZONE_ANY_INGRESSACL_ENTRY_UNDO"
ROLLBACK.Behaviour_on_error == ROLLBACK
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "NETWORK" in Status INSTANTIATED in the DDBB, that matches the FIND.MainArtifact:" VIRTUAL_LINK>NETWORK@status=INSTANTIATED#SDN.Access_level=ANY".

Once found, the WF will start the deprovisioning, if the deprovision it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.12 TLD INVENTORY DELETE DCN POLICIES: DELETE INGRESS ENTRY.

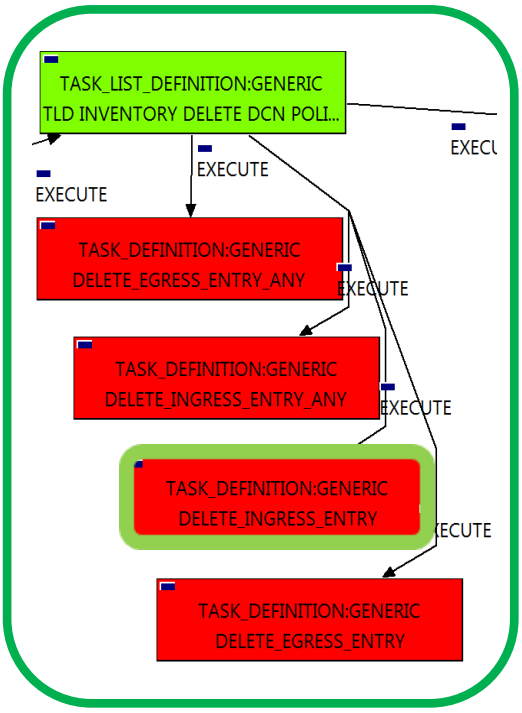

Figure 12: Delete Ingress Entry.

This TD it is going to delete our INGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and delete an INGRESSACLENTRY in status INSTANTIATED that fills the conditions present in the TD.

Once finished, we will not have any INGRESSACLENTRY:TEMPLATE:DCN in our platforms or DDBB. The TD should erase all of this kind of policies.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.Condition ==	**status==constant:ACTIVE**
SET.Running_Status ==	ACTIVE.
SET.Status ==	ACTIVE.
EXECUTE.Workflow ==	
"WF_TS_PROVISION_SDN_INGRESSACLENTRIES_POLICIES_UNDO"	
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Numbre_of_retries ==	0

Notice that the TD is using the VIRTUAL_LINK to locate the policies needed, but the TD will not change the status of the VIRTUAL_LINK.

The Workflow present in EXECUTE.Workflow attribute it is going to seek all the "INGRESSACLENTRY" in Status INSTANTIATED in the DDBB . Once found , the WF will start the deleting, if deletion is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.13 TLD INVENTORY DELETE DCN POLICIES: DELETE EGRESS ENTRY.

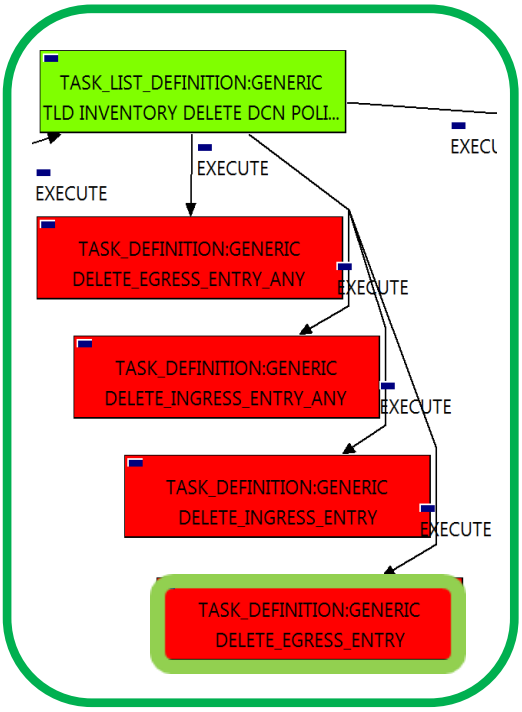

Figure 13: Delete Egress Entry.

This TD it is going to delete our EGRESSACLENTRY:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and delete an EGRESSACLENTRY in status INSTANTIATED that fills the conditions present in the TD.

Once finished, we will not have any EGRESSACLENTRY:TEMPLATE:DCN in our platforms or DDBB. The TD should erase all of this kind of policies.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.Condition ==	**status==constant:ACTIVE**
SET.Running_Status ==	ACTIVE.
SET.Status ==	ACTIVE.
EXECUTE.Workflow ==	
"WF_TS_PROVISION_SDN_EGRESSACLENTRIES_POLICIES_UNDO"	
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Numbre_of_retries ==	0

Notice that the TD is using the VIRTUAL_LINK to locate the policies needed, but the TD will not change the status of the VIRTUAL_LINK.

The Workflow present in EXECUTE.Workflow attribute it is going to seek all the "EGRESSACLENTRY" in Status INSTANTIATED in the DDBB . Once found , the WF will start the deleting, if deletion is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the "Behaviour_on_error" attribute its set on "ROLLBACK" the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a "STOP" set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.

2.14 TLD INVENTORY DELETE NETWORKS: DELETE NETWORK.

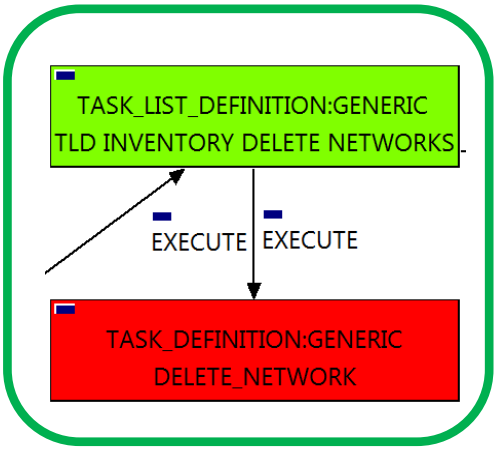

Figure 14: Delete Network.

The TDs that have present in the their names “Delete”, are Task Definitions responsible of the deletion in the platform targeted and in the DDBB, in this case, the artifacts that are going to be deleted are NETWORKs.

Once finished, the TD should have been deleted the NETWORKs artifacts mentioned above, this means, all NETWORKs both DCN and OPENSTACK from the DDBB.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.Condition ==	**status==constant:ACTIVE**
SET.Running_Status ==	ACTIVE.
SET.Status ==	INSTANTIATED.
EXECUTE.Workflow ==	***“WF_TS_DEPROVISION_NETWORK”***
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Numbre_of_retries ==	0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VIRTUAL_LINK in Status ACTIVE in the DDBB . Once found , the WF will start the deleting, if deletion is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that comes from SET.Status. Notice that the TD is not going to change the status of the entity used for the deletion.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, the attribute “number_of_retries” set the number of rollback attempts.

2.15 TLD INVENTORY DELETE VIRTUAL LINK: VIRTUAL LINK INVENTORY DELETE.

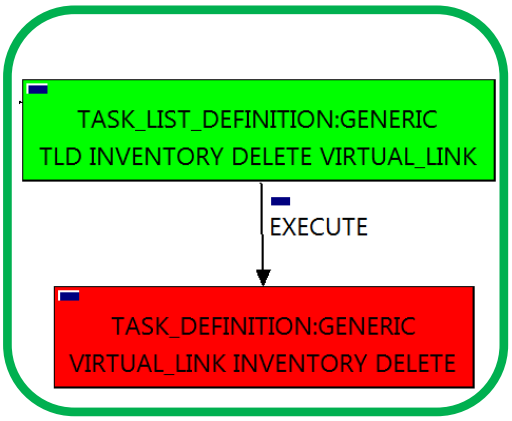

Figure 15: Delete VL inventory.

The TDs that have present in their names “Delete Inventory”, are Task Definitions responsible of the deletion of the artifact given, in this case, this TD it is going to delete a VNF:FW, notice the workflow used in this TD, “WF_TS_DELETE_INSTANCE_TREE”, all the components and elements below the entity that it is going to be deleted , are going to be eliminated as well.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:

FIND.ArtifactType == VIRTUAL_LINK.
EXECUTE.Workflow ==
“WF_TS_DELETE_INSTANCE_TREE”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VIRTUAL_LINK in the DDBB . Once found, the WF will start the deleting.

In case of error during the execution, the workflow jump to the ROLLBACK category, If the “Behaviour_on_error” attribute its set on “ROLLBACK” the WF will start the execution of the Workflow present in the attribute with the same name in the category ROLLBACK, but in this case, we have a “STOP” set as behavior, so no Rollback it is going to be initiated, so the execution it is going to end here in case of error.