HPE NFV Director

On-Boarding Guide Operation: Undeploy of a VNF:Firewall

Release 4.1
Second Edition

Hewlett Packard Enterprise

Notices

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Trademarks

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Preface

About this guide

This Guide is intended to explain and guide the user through the deprovisioning of a Firewall.

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 Firewall.

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 Firewall

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

2.1 TLD STOP MONITOR : Stop Monitor.

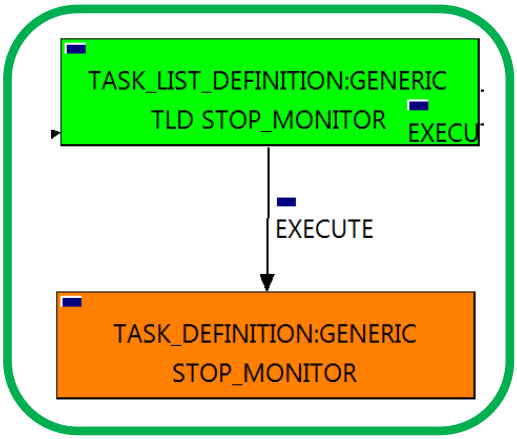


Figure 1: Stop monitor.

The TDs that have present in the their names "Stop", are Task Definitions responsible of the stopping of an specific artifact or element, in this case of the MONITORs, the TLD it is going to stop the MONITOR element given.

Once finished, our VNF should have the MONITOR given in status DEPLOYED, having taken in consideration all the rules for the stopping.

Targets of the TASK DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact ==	MONITOR.
FIND.Condition==	**status==constant:STARTED.**
SET.Running_Status ==	STARTED.
SET.Status ==	DEPLOYED.
EXECUTE.Workflow ==	***"WF_TS_MONITOR_STOP"***
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Number_of_retries ==	0
ROLBACK.Workflow==	***"WF_TS_MONITOR_START"***
DATA.Lock ==	false

The Workflow present in EXECUTE.Workflow it is going to seek a MONITOR in Status STARTED in the DDBB, when the WF find it, it will start. This workflow stop the given MONITOR needed by the VNF to get a successful Undeploy.

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. In this case, the TLD has assigned as rollback workflow "WF_TS_MONITOR_START". When a TD of an Undeploy fails, the way to leave the scenario in the same situation is execute the "opposite" workflow. Due the value of the attribute DATA.Lock is ser as "false", no element will be locked at the end of the execution.

2.2 TLD DEACTIVATE VM : Deactivate VM.

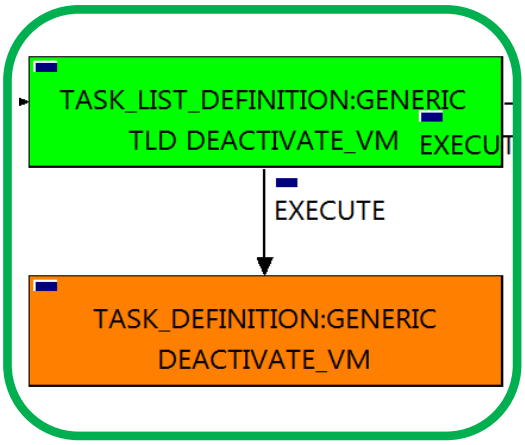


Figure 2: Deactivate Virtual Machine.

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 “VIRTUAL_MACHINE, this means, when this workflow finish, we will have the VIRTUAL_MACNIHE given with a new status INSTANTIATED.

Targets of the TASK DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.mAINArtifact ==
VNF>VNF_COMPONENT>
VIRTUAL_MACHINE@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_VM”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to deactivate a “VIRTUAL_MACHINE” in Status ACTIVE in the DDBB . 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.

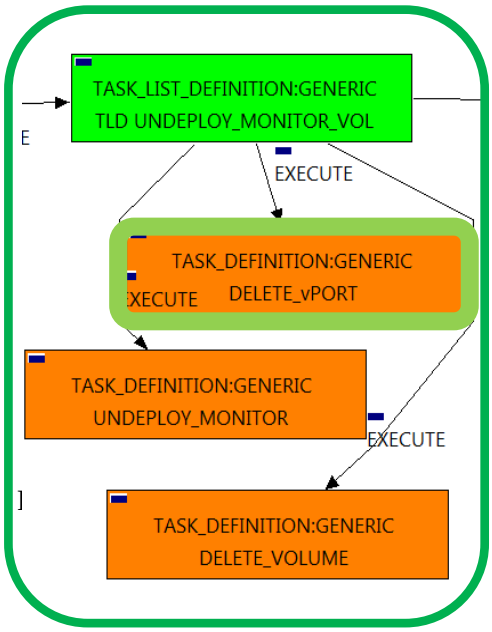
This TD could launch different workflows depending on the type of the VM that it is going to be deactivated, the main kinds of our VIRTUAL_MACHINEs are HELION, thereupon two of the WFs that could be used in this deactivation are: “WF_NFVD_DEACTIVATE_VM_HELION” and “WF_NFVD_DEACTIVATE_VM_OPENSTACK”.

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 a value of “false”, this means no element will be locked at the of the TD’s execution.

2.3 TLD UNDEPLOY MONITOR VOL: Delete vPort.

The TDs that have present in their names “Delete”, are Task Definitions that delete an artifact or element from the DDBB or from the platforms targeted, in this case, the artifact that it is going to be delated is the VIRTUAL_PORT given.



Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact==
VNF>VNF_COMPONENT>VIRTUAL_MACHINE>
VIRTUAL_PORT@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == ENABLED.
EXECUTE.Workflow==
“WF_TS_DEACTIVATE_PORT”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

Figure 3: Delete Virtual Port.

The Workflow present in EXECUTE.Workflow it is going to seek a VIRTUAL_PORT in Status ACTIVE in the DDBB, when the WF find it, it will start. This workflow will start one more, this last one, it is going to be named after the VIRTUAL_PORT that the TD it is trying to delete.

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 a value of “false”, this means no element will be locked at the of the TD’s execution.

2.4 TLD UNDEPLOY MONITOR VOL: Undeploy Monitor

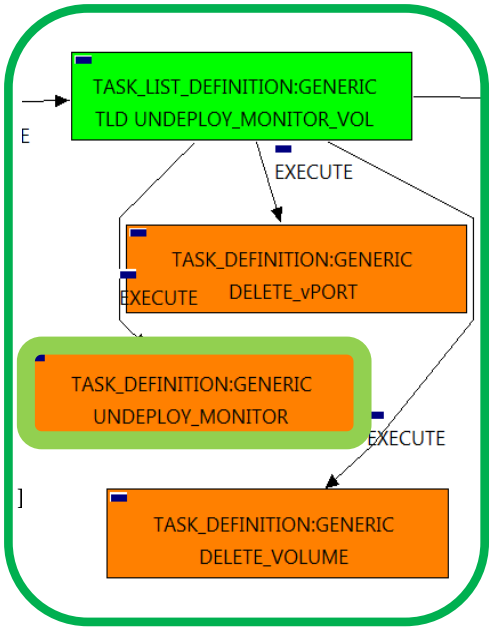


Figure 4: Undeploy Monitor.

The TDs that have present in the their names "Deploy" are Task Definitions responsible of the deployment in the platform targeted and the updating of the status in the platform and the DDBB , these deployments are slightly different to the ones we launch for our entities, as a rule, they are small components as the MONITORs. In this case, the artifact that is going to be deployed is a "MONITOR", this means, when this workflow finish, we will have a MONITOR deployed with status DEPLOYED.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact == MONITOR.
FIND.Condition== **status==constant:DEPLOYED**
SET.Running_Status == DEPLOYED.
SET.Status == INSTANTIATED
EXECUTE.Workflow ==
"WF_TS_MONITOR_UNDEPLOY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

The Workflow present in EXECUTE.Workflow attribute it is going to seek a MONITOR in Status DEPLOYED in the DDBB . Once found , the WF will start the deployment, if the deployment 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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.5 TLD UNDEPLOY MONITOR VOL: Delete Volume

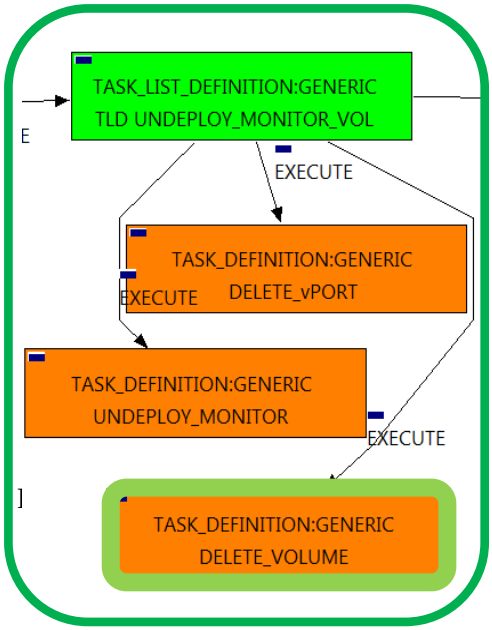


Figure 5: Delete Volume.

The TDs that have present in the their names "Delete", are Task Definitions responsible of the deletion of an artifact 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 deleted is a "VOLUME", this means, when this workflow finish, we are going to have a volume less.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact==
VNF>VNF_COMPONENT>
VIRTUAL_MACHINE>VIRTUAL_LUN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED
EXECUTE.Workflow ==
"WF_TS_DELETE_VOLUME"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VIRTUAL_LUN in the DDBB . Once found , the WF will start the deleting, if the deletion 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, in this case it will be "WF_TS_CREATE_VOLUME". But in this case the behavior is set as CONTINUE, this means, that the execution is going to continue no matter which error could be.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.6 TLD DEACTIVATE POLICIES: Deactivate Ingress Mixed.

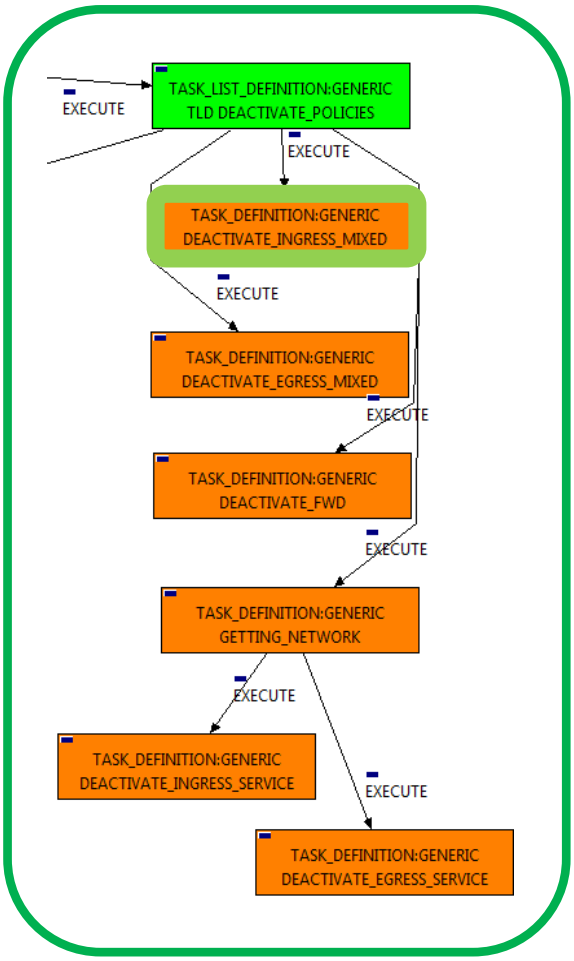


Figure 6: Deactivate Ingress Mixed.

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 a INGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have a INGRESSACLENTRY POLICY deactivated with status INSTANTIATED 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 ==
VNF:FW>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>INGRESSACL>INGRESSACLENTRY@status=ACTIVE
FIND.Condition ==
ACLENTRY.NetworkType==ACLENTRY.LocationType && ACLENTRY.NetworkID!=ACLENTRY.LocationID
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 == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF:FW that match the FIND.MainArtifact attribute with value **"VNF:FW>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>INGRESSACL>INGRESSACLENTRY@status=ACTIVE"** with Status ACTIVE, also the elemenet should macth the condition present in the attribute FIND.Condition with value "**ACLENTRY.NetworkType==ACLENTRY.LocationType&&ACLENTRY.NetworkID!=ACLENTRY.LocationID ".**

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 a value of "false", this means no element will be locked at the of the TD's execution.

2.7 TLD DEACTIVATE POLICIES: Deactivate Egress Mixed.

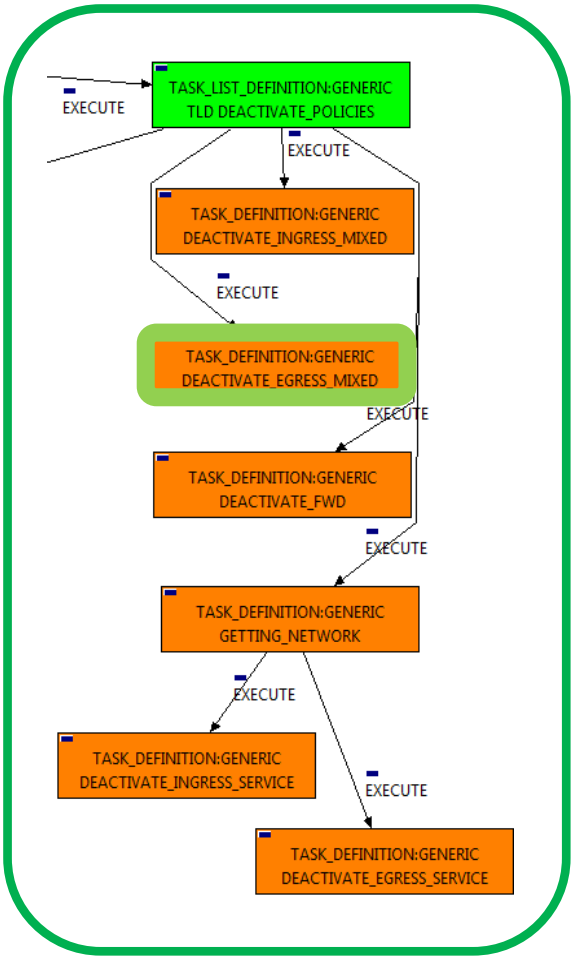


Figure 7: Deactivate Egress Mixed.

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 a EGRESSACLENTRY in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have a EGRESSACLENTRY POLICY deactivated with status INSTANTIATED 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 == **VNF:FW>NETWORK:GENERIC>ZONE:TEMPLATE> ZONE:DCN<L3DOMAIN:DCN>EGRESSACL> EGRESSACLENTRY@status=ACTIVE**
FIND.Condition == **ACLENTRY.NetworkType==ACLENTRY.LocationType && ACLENTRY.NetworkID!=ACLENTRY.LocationID**
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 == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF:FW that match the FIND.MainArtifact attribute with value **"VNF:FW>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>EGRESSACLENTRY@status=ACTIVE"** with Status ACTIVE, also the elemenet should macth the condition present in the attribute FIND.Condition with value "**ACLENTRY.NetworkType==ACLENTRY.LocationType&&ACLENTRY.NetworkID!=ACLENTRY.LocationID ".**

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 a value of "false", this means no element will be locked at the of the TD's execution.

2.8 TLD DEACTIVATE POLICIES: Deactivate FWD.

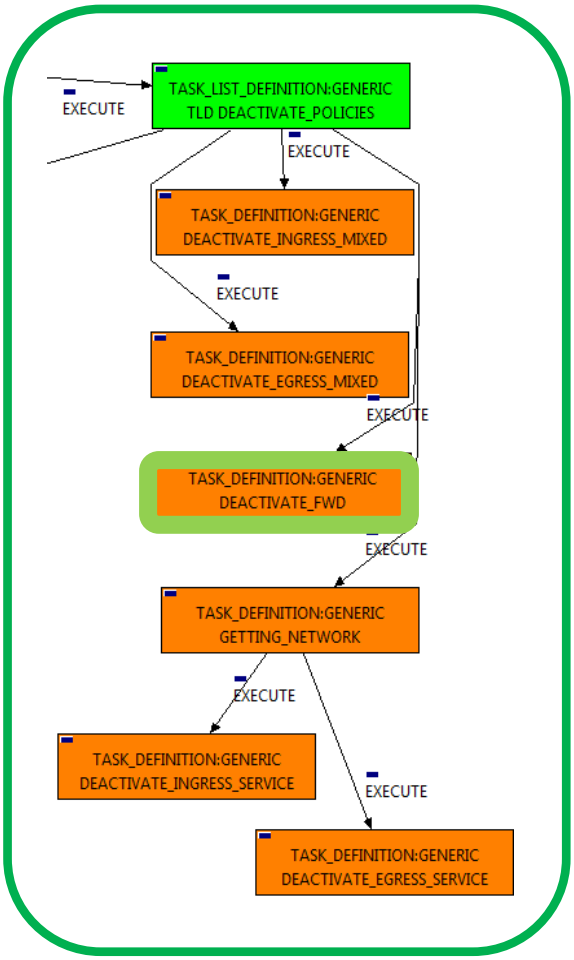


Figure 8: Deactivate Forwarding policies.

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

Once finished, we will have a INGRESSADVFWDENTRY POLICY deactivated with status TERMINATED.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact == **VIRTUAL_MACHINE>VIRTUAL_PORT <REDIRECTION_TARGET> INGRESSADVFORWARDENTRY@status=ACTIVE**
FIND.Condition == **INGRESSADVFWDENTRY.NetworkType==INGRESSADVFWDENTRY.LocationType&&INGRESSADVFWDENTRY.NetworkID!=INGRESSADVFWDENTRY.LocationID**
SET.Running_Status == ACTIVE
SET.Status == INSTANTIATED.
EXECUTE.Workflow == ***"WF_TS_DEACTIVATE_SDN_INGRESS_ADVANCED_FORWARDING_ENTRY"***
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF:FW that match the FIND.MainArtifact attribute with value : **"VIRTUAL_MACHINE>VIRTUAL_PORT<REDIRECTION_TARGET>INGRESSADVFORWARDENTRY@status=ACTIVE"** with Status ACTIVE, by the Path given**,"** ***INGRESSADVFWDENTRY.NetworkType==INGRESSADVFWDENTRY.LocationType && INGRESSADVFWDENTRY.NetworkID!=INGRESSADVFWDENTRY.LocationID* ".**

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 a value of "false", this means no element will be locked at the of the TD's execution.

2.9 TLD DEACTIVATE POLICIES: Getting Networks.

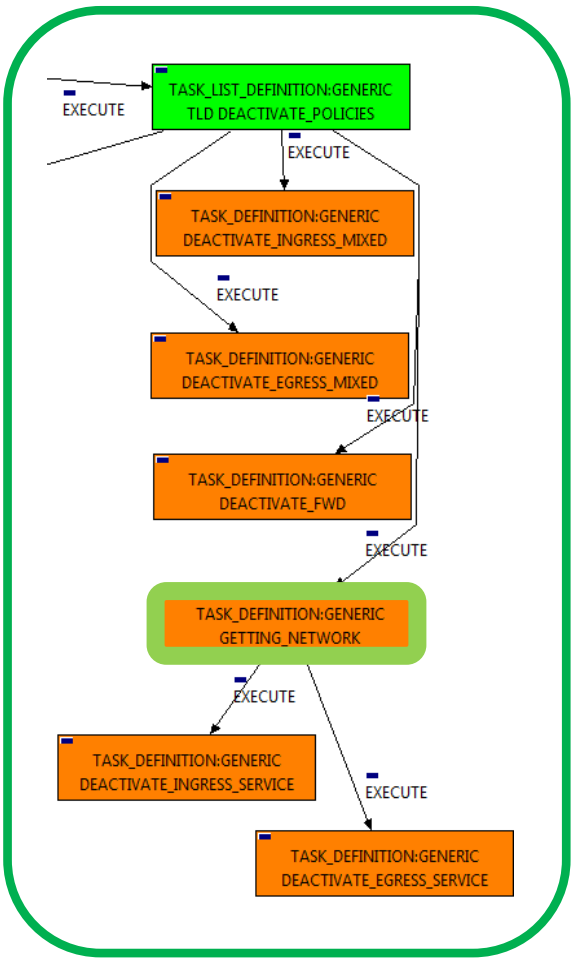


Figure 9: getting Network.

This TD it is going to assure the selection of the correct artifact that later on will be used by the workflow executed.

Once finished, we will have assured that all ENTRY policies below the level of the VNF:FW will be accessible from our a NETWORK:GENERIC and only this kind of artifact.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact ==	**VNF:FW>NETWORK:GENERIC@status=INSTANTIATED**
SET.Running_Status ==	INSTANTIATED.
SET.Status ==	INSTANTIATED.
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Number_of_retries ==	0
DATA.Lock ==	false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF:FW that match the FIND.MainArtifact attribute with value "**VNF:FW>NETWORK:GENERIC@status=INSTANTIATED**" in the DDBB.

Once found, the TD would execute the WF present in EXECUTE.Workflow, in this case, the Wf is "WF_TS_DO_NOTHING_STATUS_CHANGE", this one is identified as a dummy workflow with no changes associated to its execution, neither exists change in the status of the artifact targeted by the TD, remains as "ENABLED".

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 a value of "false", this means no element will be locked at the of the TD's execution.

2.10 TLD DEACTIVATE POLICIES: Deactivate Ingress Service

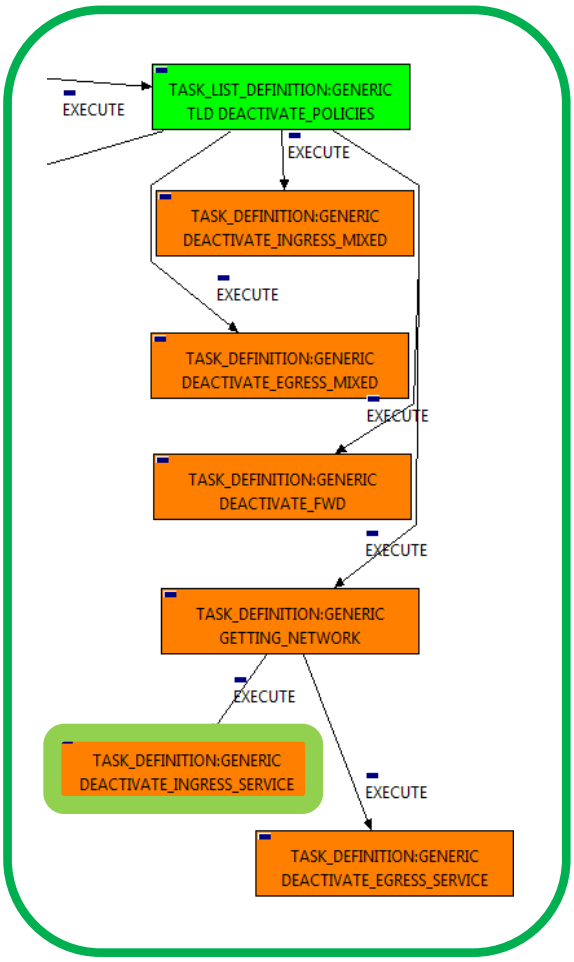


Figure 10: Deactivate Ingress Service.

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 a in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have a INGRESSADVFWDENTRY POLICY deactivated with status INSTANTIATED.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact == NETWORK:GENERIC
FIND.Condition == **GENERAL.Name==INGRESSACL_%GENERAL.Name%_ANY&&ACLENTRY.LocationType==constant:ZONE**
FIND.Path == **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 == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a INGRESSACLENTRY that match the FIND.Condition attribute with value : ***"GENERAL.Name==INGRESSACL_%GENERAL.Name%_ANY&ACLENTRY.LocationType==constant:ZONE"*** with Status ACTIVE, acesiblle by the path given in the attribute FIND.Path with value : "**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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.11 TLD DEACTIVATE POLICIES: Deactivate Egress Service

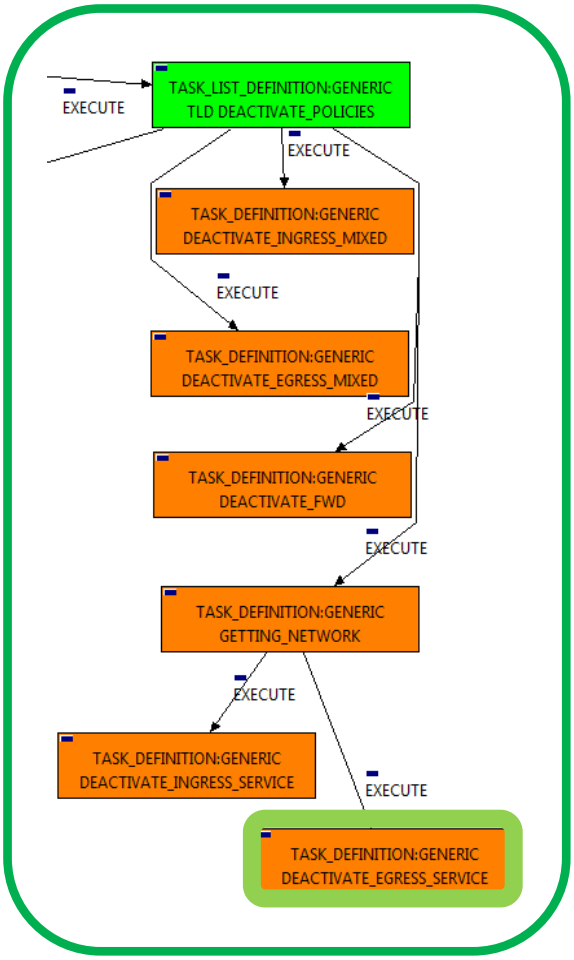


Figure 11: Deactivate Egress Service.

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 a in status ACTIVE that fills the conditions present in the TD.

Once finished, we will have a EGRESSADVFWDENTRY POLICY deactivated with status INSTANTIATED.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact == NETWORK:GENERIC
FIND.Condition == **GENERAL.Name==EGRESSACL_%GENERAL.Name%_ANY&&ACLENTRY.LocationType==constant:ZONE**
FIND.Path == **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 == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a EGRESSACLENTRY that match the FIND.Condition attribute with value : ***"GENERAL.Name==EGRESSACL_%GENERAL.Name%_ANY&ACLENTRY.LocationType==constant:ZONE"*** with Status ACTIVE, acesiblle by the path given in the attribute FIND.Path with value : "**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 a value of "false", this means no element will be locked at the of the TD's execution.

2.12 TLD DEACTIVATE RT: Deactivate Redirection Target.

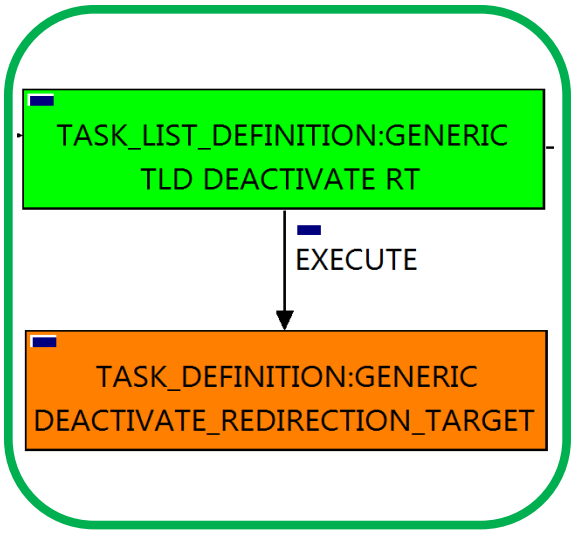


Figure 12: Deactivate Redirection Target.

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 the “REDIRECTION_TARGET:DCN”, this means, when this workflow finish, we will have our instance of the artifact REDIRECTION_TARGET with status TERMINATED.

Targets of the TASK:DEFINITION:

STATUS of the TD: ENABLED

Categories:

FIND.MainArtifact ==
VNF:FW>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>INGRESSADVFORWARD>INGRESSADVFORWARDENTRY<REDIRECTION_TARGET@status=ACTIVE
SET.Running_Status == ACTIVE
SET.Status == TERMINATED
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_SDN_REDIRECTION_TARGET”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “REDIRECTION_TARGET” in Status ACTIVE in the DDBB . Notice that we are not trying to get a VIRTUAL_MACHINE in status ACTIVE. The query it is going to use the Path present in the category FIND.Path. Once found , the WF will start the deactivating, 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 a value of “false”, this means no element will be locked at the of the TD’s execution.

2.13 TLD DEACTIVATE OS SUBNET: Deactivate Subnetwork.

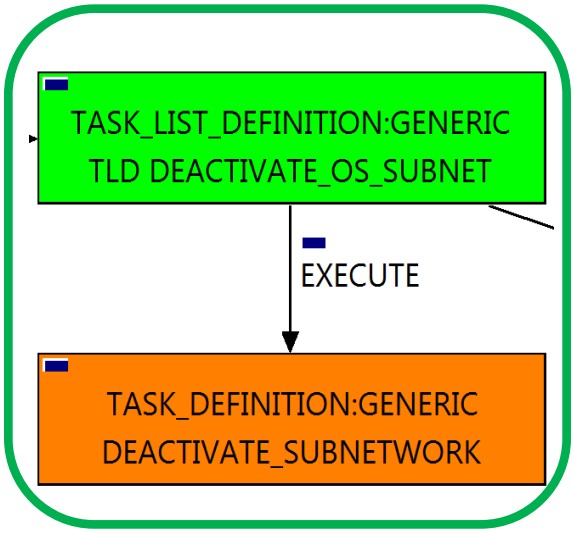


Figure 13: Deactivate Subnetwork.

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 == **VNF:FW>VNF_COMPONENT> VIRTUAL_MACHINE>VIRTUAL_PORT< 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
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “SUBNETWORK:OPENSTACK” that matches with the path and condition present in the attribute FIND.MainArtifact with value “**VNF:FW>VNF_COMPONENT>VIRTUAL_MACHINE>VIRTUAL_PORT<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.

The attribute DATA.Lock is set with a value of “false”, this means no element will be locked at the of the TD’s execution.

2.14 TLD DEACTIVATE OS NET: Deactivate Network

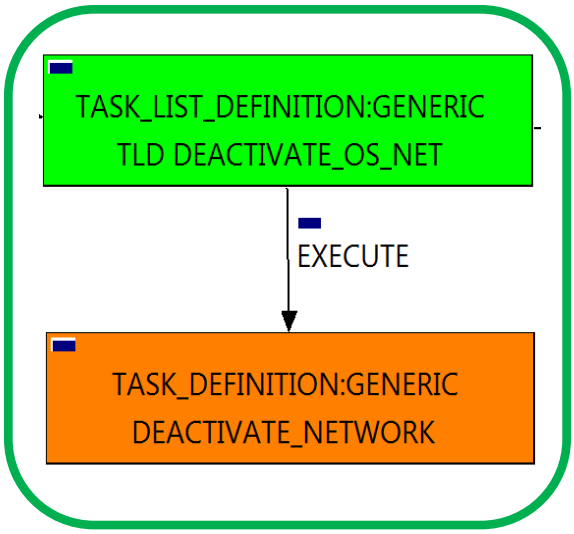


Figure 14: Deactivate Network.

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 ==
VNF:FW>VNF_COMPONENT>
VIRTUAL_MACHINE>VIRTUAL_PORT<
SUBNETWORK:OPENSTACK<
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
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "NETWORK:OPENSTACK" that matches with the path and condition present in the attribute FIND.MainArtifact with value "**VNF:FW>VNF_COMPONENT>VIRTUAL_MACHINE>VIRTUAL_PORT<SUBNETWORK:OPENSTACK<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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.15 TLD DEACTIVATE DCN SUBNET: Deactivate Network

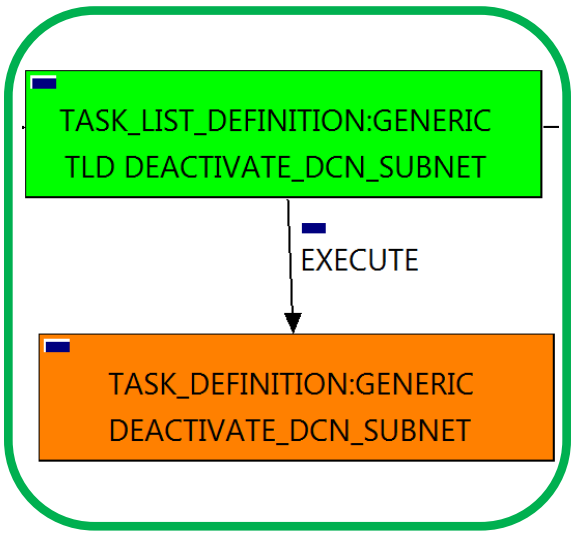


Figure 15: Deactivate DCN Subnetwork.

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 ==
VNF:FW>VNF_COMPONENT>
VIRTUAL_MACHINE>VIRTUAL_PORT<
SUBNETWORK:GENERIC>SUBNETWORK:TEMPLATE>
SUBNETWORK@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
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "SUBENTWORK:GENERIC" that matches with the path and condition present in the attribute FIND.MainArtifact with value "**VNF:FW>VNF_COMPONENT>VIRTUAL_MACHINE>VIRTUAL_PORT<SUBNETWORK:GENERIC>SUBNETWORK:TEMPLATE>SUBNETWORK@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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.16 TLD Activate Flavor ES: Activate Flavor Extra Specs.

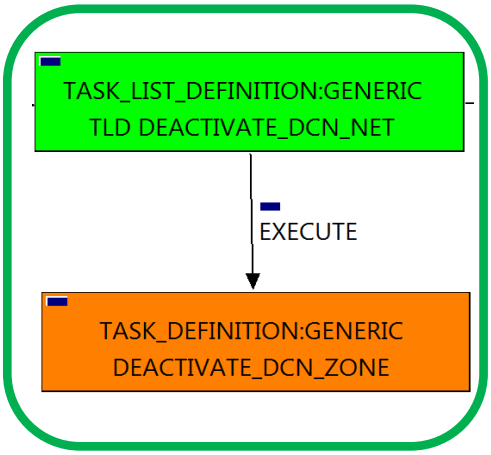


Figure 16: Deactivate DCN Zone.

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(Network) with status INSTANTIATED still present in the DDBB.

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

FIND.MainArtifact ==
VNF:FW>VNF_COMPONENT>VIRTUAL_MACHINE>VIRTUAL_PORT<SUBNETWORK:GENERIC>SUBNETWORK:TEMPLATE>SUBNETWORK<ZONE@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
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “ZONE” that matches with the path and condition present in the attribute FIND.MainArtifact with value “**VNF:FW>VNF_COMPONENT>VIRTUAL_MACHINE>VIRTUAL_PORT<SUBNETWORK:GENERIC>SUBNETWORK:TEMPLATE>SUBNETWORK<ZONE@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.

The attribute DATA.Lock is set with a value of “false”, this means no element will be locked at the of the TD’s execution.

2.17 TLD Delete FW Policy Entries: Delete FW Policy Entries.

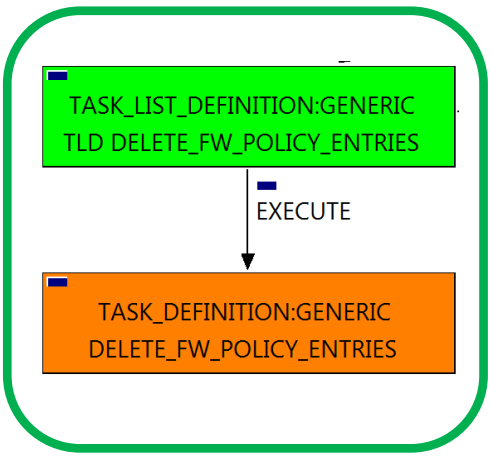


Figure 17: Delete Forwarding entry policies.

The TDs that have present in the their names “Delete”, are Task Definitions responsible of the erased in the platform targeted and the updating of the status in the platform and the DDBB, in this case, the artifacts that are going to be deleted are a “INGRESSADVFORWARDENTRY:TEMPLATE:DCN”, this means, when this workflow finish, we will not have any INGRESSADVFORWARDENTRY: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_DEPROVISION_SDN_FORWARDING_ENTRIES”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

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

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “INGRESSADVFORWARDENTRY” in Status ACTIVE in the DDBB . Once found , the WF will start the deleting, 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.

The attribute DATA.Lock is set with a value of “false”, this means no element will be locked at the of the TD’s execution.

2.18 TLD DELETE POLICIES : Delete Service Ingress.

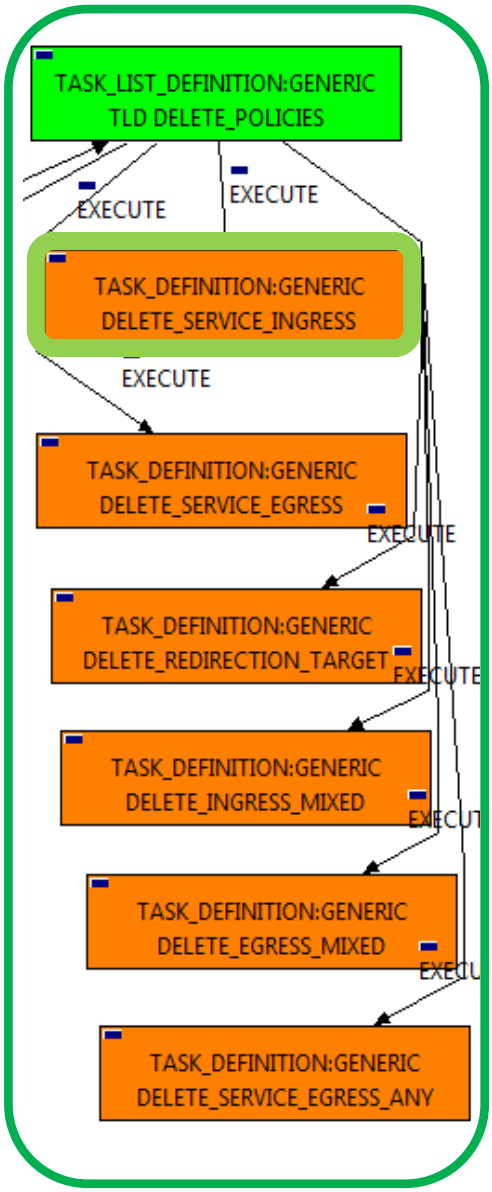


Figure 18: Delete service Ingress

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

Once finished, the INGRESSACLENTRY POLICY given will have been deleted from the inventory.

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

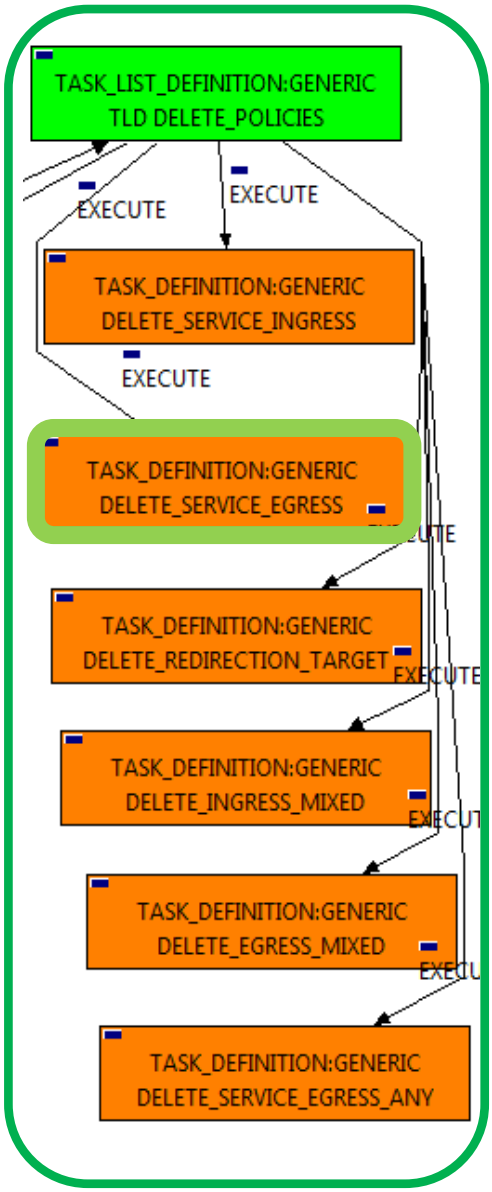
FIND.MainArtifact == **VNF:FW>NETWORK:GENERIC**
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_ZONE_ANY_INGRESSACL_ENTRY_UNDO"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a NETWORK:GENERIC , 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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.19 TLD DELETE POLICIES : Delete Service Egress.



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

Once finished, the EGRESSACLENTRY POLICY given will have been deleted from the inventory.

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

FIND.ArtifactType == **VNF:FW>NETWORK:GENERIC**
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_SERVICE_EGRESSACL_ENTRY_UNDO"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

Figure 19: Delete Service Egress.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a NETWORK:GENERIC , once found , the WF will start the deletingn, 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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.20 TLD DELETE POLICIES : Delete Redirection Target.

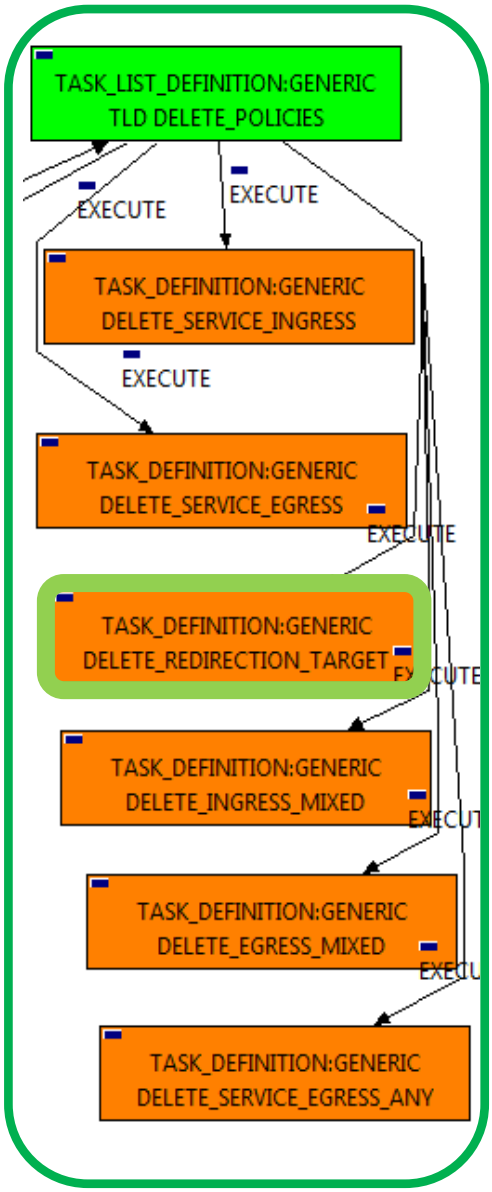


Figure 20: Delete Redirection Target.

This TD it is going to delete our REDIRECTION:TARGET, this means, the WF implied in this TLD is going to find and deactivate a Redirection Targer related to our L3DOMAIN, in status ACTIVE that fills the conditions present in the TD.

Once finished, the EGRESSACLENTRY POLICY given will have been deleted from the inventory.

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_DEPROVISION_SDN_REDIRECTION_TARGET"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "VNF:FW" in Status ACTIVE in the DDBB, notice that the Wf will not modify the status of the artifact.

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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.21 TLD DELETE POLICIES : Delete Ingress Mixed.

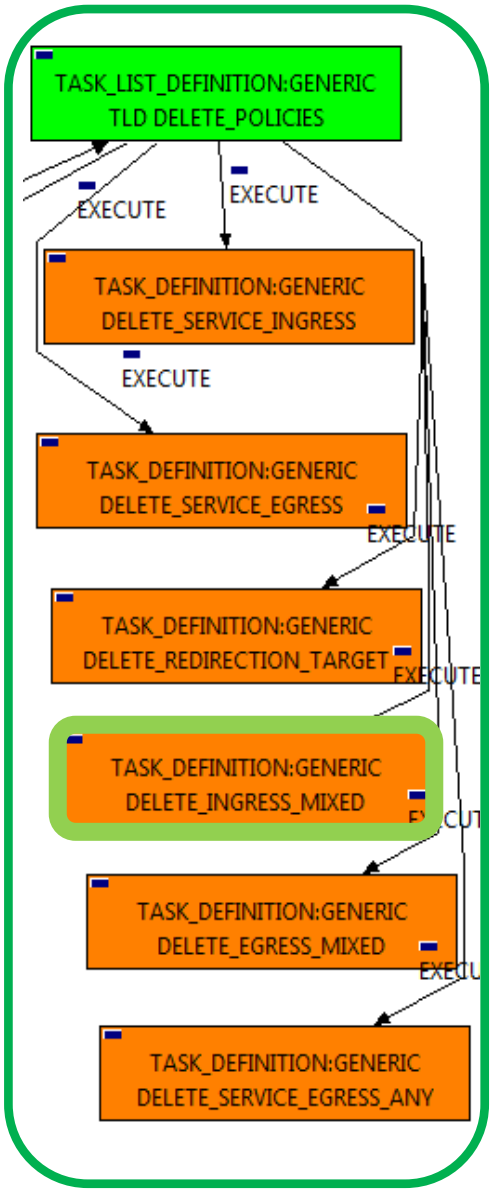


Figure 21: Deletion of the Ingres Mixed Policies.

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

Once finished, the INGRESSACLENTRY POLICY given will have been deleted from the inventory.

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

FIND.MainArtifact == **VNF:FW>FW_ENDPOINT**
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_INGRESSACLENTRIES_POLICIES_MIXED_UNDO"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek the End_Point of the Firewall with the path given by the attribute FIND.MainArtifact, 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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.22 TLD DELETE POLICIES : Delete Egress Mixed.

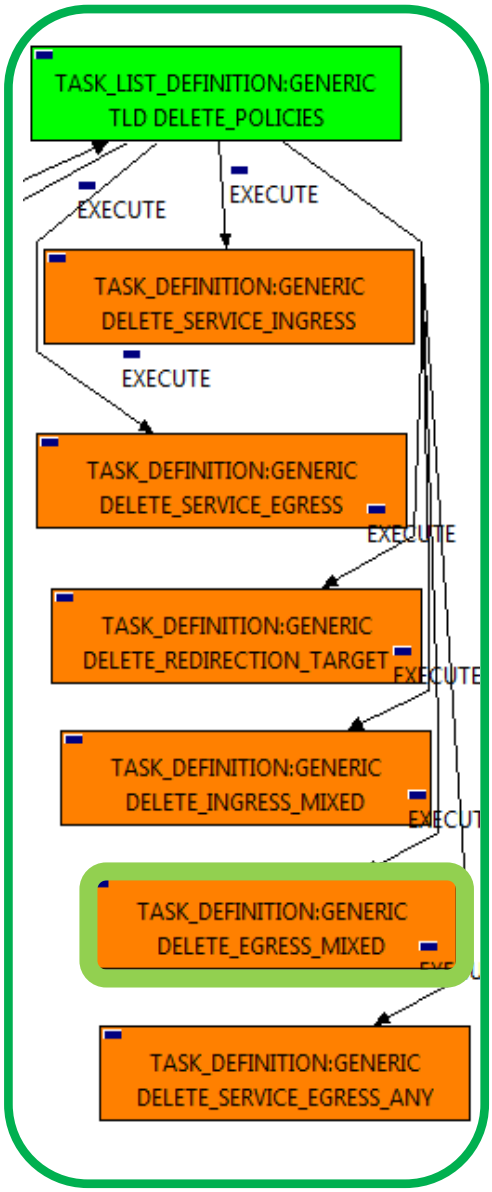


Figure 22: Deletion of the Egress Mixed policies.

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

Once finished, the EGRESSACLENTRY POLICY given will have been deleted from the inventory.

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

FIND.MainArtifact == **VNF:FW>FW_ENDPOINT**
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_PROVISION_SDN_INGRESSACLENTRIES_POLICIES_MIXED_UNDO"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek the End_Point of the Firewall with the path given by the attribute FIND.MainArtifact, 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.

The attribute DATA.Lock is set with a value of "false", this means no element will be locked at the of the TD's execution.

2.23 TLD DELETE POLICIES : Delete Service Egress To Any.

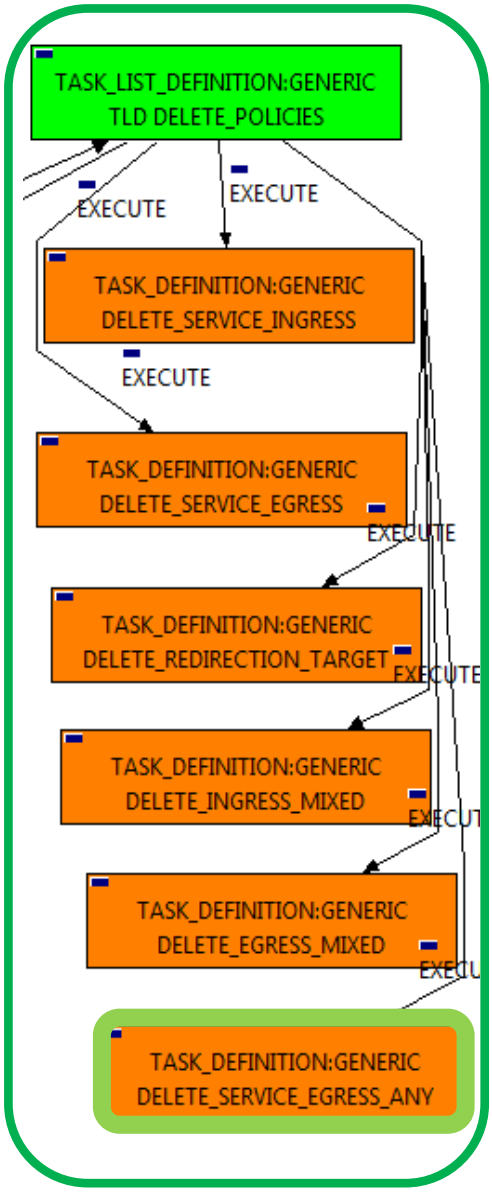


Figure 23: Delete Service Egress to Any.

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 artifact that is going to be deleted is the “”, this means, when this workflow finish, the EGRESSACLENTRY:TEMPLATE:DCN (Any) given will have been deleted from the inventory

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

FIND.MainArtifact == **VNF:FW>NETWORK:GENERIC**
SET.Running_Status == INSTANTIATED.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
“WF_TS_PROVISION_SDN_ZONE_ANY_EGRESSACL_ENTRY_UNDO”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “NETWORK:GENERIC” 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.

The attribute DATA.Lock is set with a value of “false”, this means no element will be locked at the of the TD’s execution.

2.24 TLD DELETE SERVICE NET: Deattach Service Net.

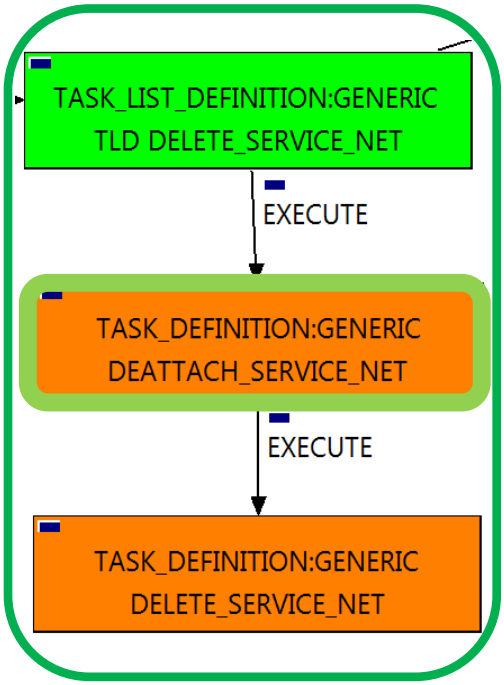


Figure 24: Deattach Service Network.

The TDs that have present in the their names “Deattach”, are Task Definitions responsible of the desconnection between artifacts, this means, this TDs will delete the existent relationship of specific kind between concrete artifacts, in this case, it will delete relationships of type ALLOCATED between a specific VIRTUAL_PORT, and the SUBNETWORKS:DCN (or the subnetworks’s IPADDRESS:GENERIC) related as children of our NETWORK:DCN that belongs to the VIRTUAL_LINK:MANAGEMENT that we are using, and the SUBNETWORK:OS of Management.

Once finished, the TD should have been deleted the relationships of type ALLOCATED between the artifacts mentioned above.

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_DISCONNECT_FW_VPORT”***
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Number_of_retries ==	0
DATA.Lock ==	false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “VNF:FW” 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 detachment.

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 a value of “false”, this means no element will be locked at the of the TD’s execution.

2.25 TLD DELETE SERVICE NET: Delete Service Net.

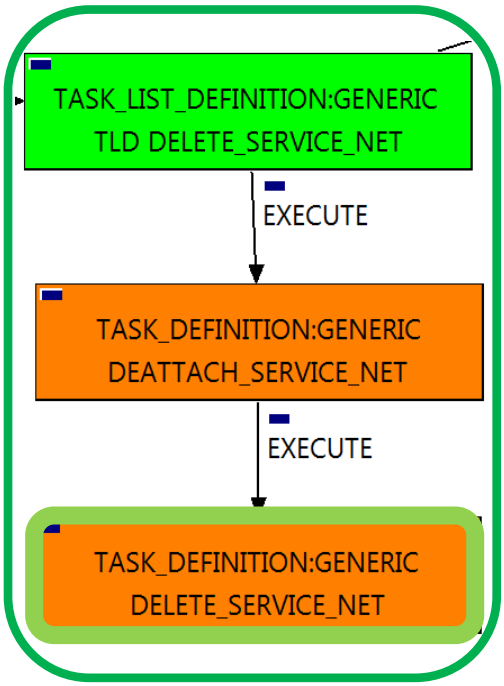


Figure 25: Delete Service Net.

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, part of the Service Network.

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.MainArtifact == **status==constant:ACTIVE**
SET.Running_Status == ACTIVE.
SET.Status == ACTIVE.
EXECUTE.Workflow ==
“WF_TS_DEPROVISION_NETWORK_FW”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == false

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF:FW 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.

The attribute DATA.Lock is set with a value of “false”, this means no element will be locked at the of the TD’s execution.

2.26 TLD VNF Inventory Delete: Delete Inventory

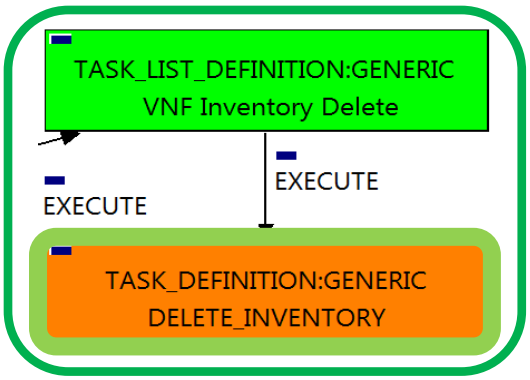


Figure 26: Delete Inventory.

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.

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

Categories:

FIND.Condition == **status==constant:ACTIVE**
EXECUTE.Workflow ==
"WF_TS_DELETE_INSTANCE_TREE"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a VNF 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.

The attribute DATA.Lock is set with a value of "true", this means the artifact used in the execution will be locked at the end of it.