HPE NFV Director

On-Boarding Guide Operation: Undeploy of a Tenant

Release 4.1

Second Edition

Hewlett Packard Enterprise

Notices

Legal notice

Printed in the US

Trademarks

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Preface

About this guide

This Guide is intended to explain and guide the user through the Undeployment of a Tenant.

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 Tenant.

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 Tenant.

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

2.1 TLD DEACTIVATE ENTRIES: Undeploy_Check.

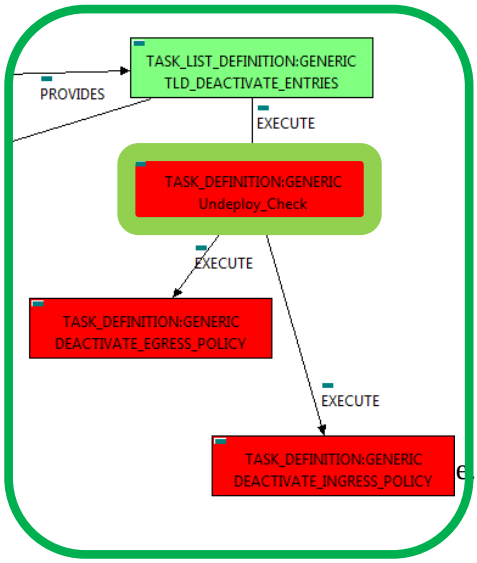


Figure 1: Checking for the undeployment of a firewall.

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

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

FIND.Condition == status==constant:ACTIVE
FIND.Status== ACTIVE.
EXECUTE.Workflow==
"WF_TS_UNDEPLOY_CHECK_CHILDREN"
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 for the children entities of the Tenant, in case the TD find some the execution of the TD will fail, the goal of this TD is to guarantee that the Organization 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 DEACTIVATE ENTRIES: DEACTIVATE_EGRESS_POLICY.

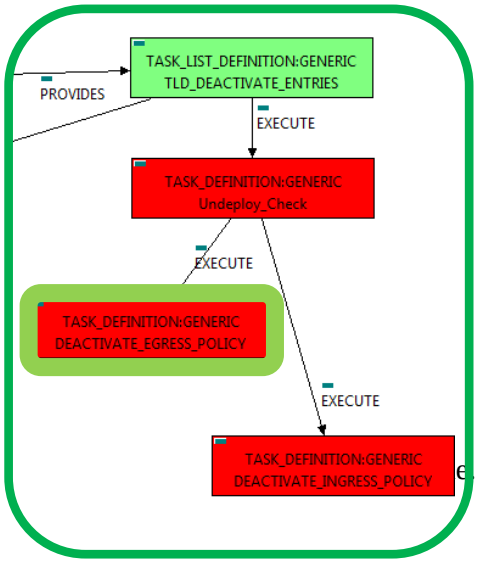


Figure 2: Deactivating Egress Entry policies for the Tenant.

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==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>
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 " EGRESSACLENTRY"with Status ACTIVE, by the Path given in the attribute FIND.MainArtifact: **"TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE :DCN<L3DOMAIN:DCN>EGRESSACL>EGRESSACLENTRY".**

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 TLD DEACTIVATE ENTRIES: DEACTIVATE INGRESS POLICY.

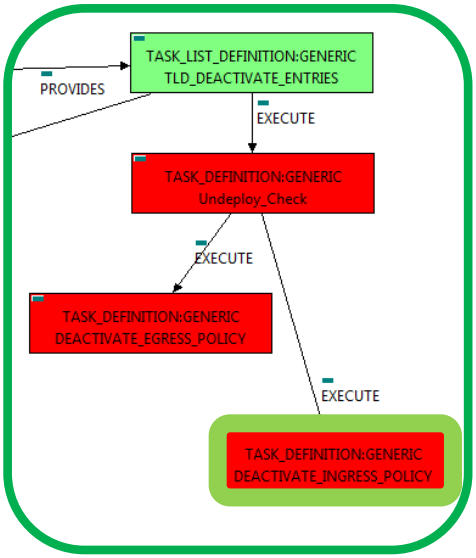


Figure 3: Deactivating Ingress Entry policies for the Tenant.

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==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>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 with Status ACTIVE, by the Path given in the attribute FIND.MainArtifact: **"TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE:DCN<L3DOMAIN:DCN>EGRESSACL>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 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 DELETE POLICIES: Deactivate Egress Policy.

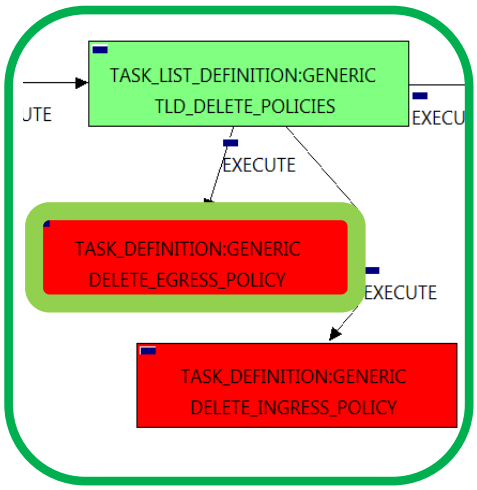


Figure 4: Deactivating Egress policies for the Tenant.

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 ==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT@status=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
DATA.Lock== true

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

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.

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.

2.5 TLD DELETE POLICIES: Deactivate Ingress Policy.

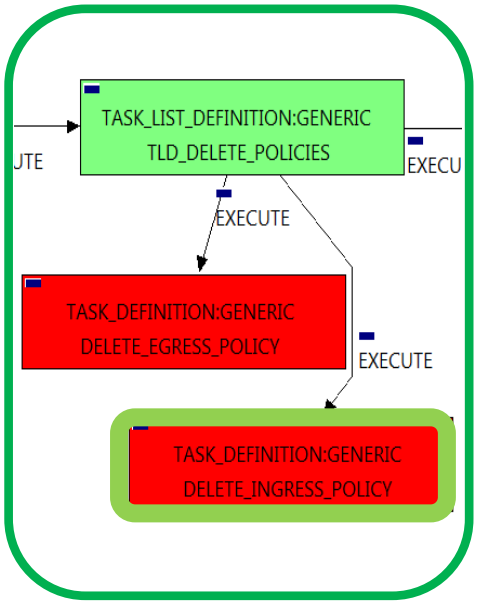


Figure 5: Deactivating Ingress Entry policies for the Tenant.

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 ==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT@status=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
DATA.Lock== true

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

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.

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.

2.6 TLD DEACTIVATE OPENSTACK SUBNET: DEACTIVATE_SUBNETWORK_OPENSTACK.

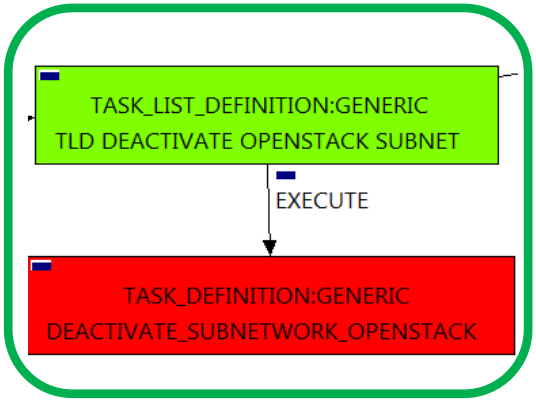


Figure 6: Deactivate Subnetwork OS

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.ArtifactType == TENANT:GENERIC
FIND.Status== ACTIVE.
FIND.Path==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>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
DATA.Lock == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a “SUBNETWORK:OPENSTACK” with Status ACTIVE, reachable by the Path given, ***“TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>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 is going to have during the execution.

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.

2.7 TLD DEACTIVATE OPENSTACK NET: DEACTIVATE_NETWORK_OPENSTACK

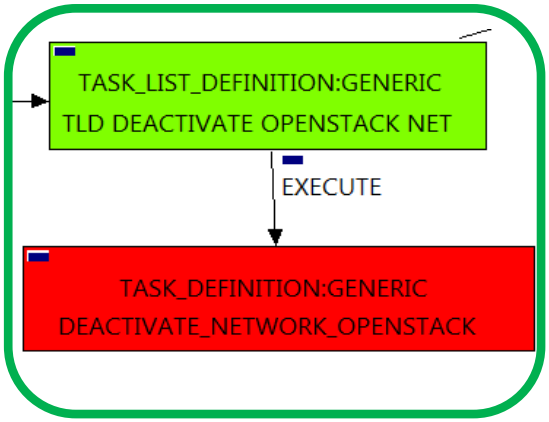


Figure 7: Deactivate Network Openstack.

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 ==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>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
DATA.Lock == true

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

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.

2.8 TLD DEACTIVATE DCN SUBNET: DEACTIVATE _SUBNETWORK_DCN

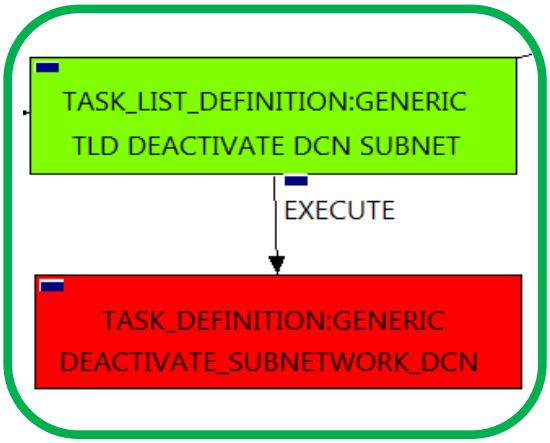


Figure 8: Deactivating Subnetwork DCN.

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 ==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>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
DATA.Lock == true

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

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.

2.9 TLD DEACTIVATE DCN ZONE: DEACTIVATE_ZONE_DCN.

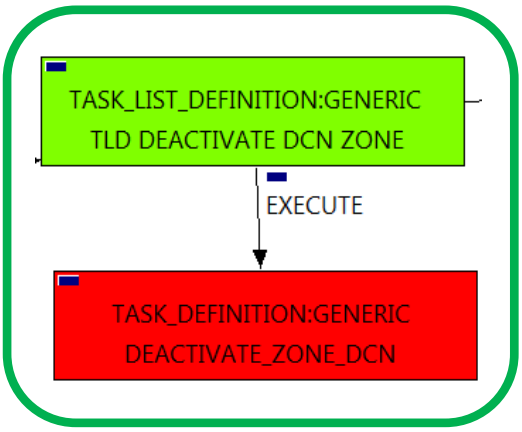


Figure 9: Deactivate Zone DCN.

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 ==
TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>NETWORK:GENERIC>ZONE:TEMPLATE>ZONE: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
DATA.Lock == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "ZONE:DCN" policy with Status ACTIVE, reachable by the Path given, "**TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT>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.

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.

2.10 TLD INVENTORY DELETE VIRTUAL LINK: DELETE NETWORK.

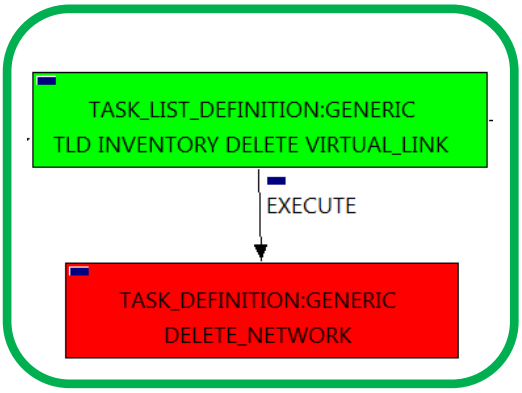


Figure 10: Delete Network.

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.MainArtifact ==
TENANT:GENERIC>
VIRTUAL_LINK:MANAGEMENT@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 == true

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "VIRTUAL_LINK:MANAGEMENT" with Status ACTIVE, reachable by the Path given, ***"TENANT:GENERIC>VIRTUAL_LINK:MANAGEMENT@status=ACTIVE".***

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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.11 TLD UNDEPLOY POLICY GROUPS: Getting L3Domain.

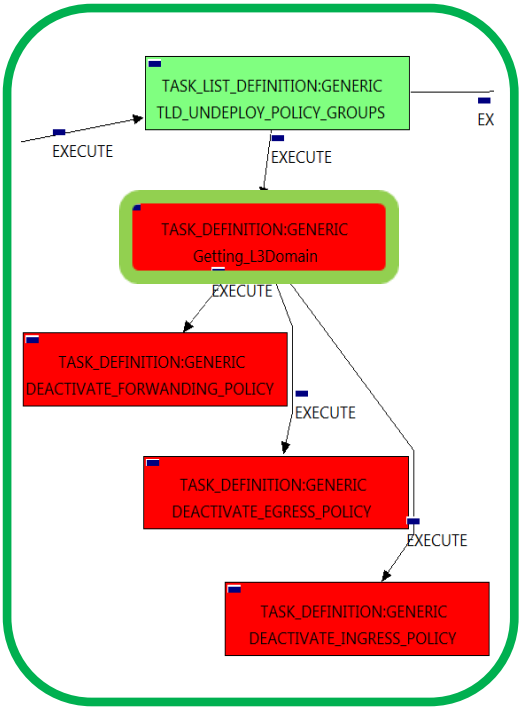


Figure 11: Getting L3Domain

This TD it is going to assure the selection of the correct artifact that later on will be deactivated by the workflow executed. Once finished, we will have assured that all the policies of types INGRESSACL, EGRESSACL and INGRESSADVFORWARD are prepared to be deleted when required.

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

FIND.Condition==***GENERAL.VDC_id==%Id%***

FIND.Path==

TENANT:GENERIC>RESOURCE_POOL>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE>L3DOMAIN:DCN @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>LOCATION>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE>L3DOMAIN:DCN @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>DATACENTER>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE>L3DOMAIN:DCN @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>SERVER<HYPERVISOR<VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE>L3DOMAIN:DCN@status=ACTIVE

SET.Running_Status == ACTIVE.
SET.Status == ACTIVE.
EXECUTE.Workflow ==
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

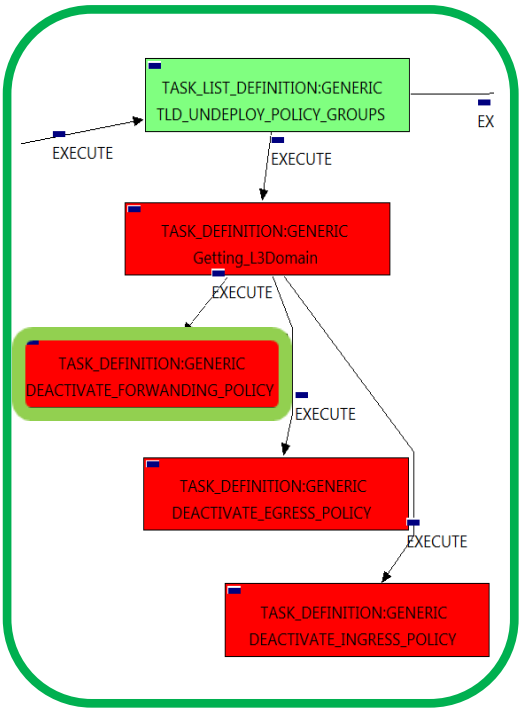
The Workflow present in EXECUTE.Workflow attribute it is going to seek a “L3DOMAIN:DCN” that matches the value of the attribute FIND.Condition, and reachable from some of the paths in the Multiple Path given with Status ACTIVE in the DDBB . Notice that we are not trying to get a TENANT:GENERIC in status ACTIVE. The query it is going to use the Path present in the category FIND.Path.

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 the value “true”, this means once the TD ends its execution the element which is being used by the TD will be locked.

2.12 TLD UNDEPLOY POLICY GROUPS: Deactivate Forwarding Policy.



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

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

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

FIND.MainArtifact ==
L3DOMAIN:DCN>
INGRESSADVFORWARD:TEMPLATE:DCN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_SDN_INGRESS_ADVANCED_FORWARDING"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

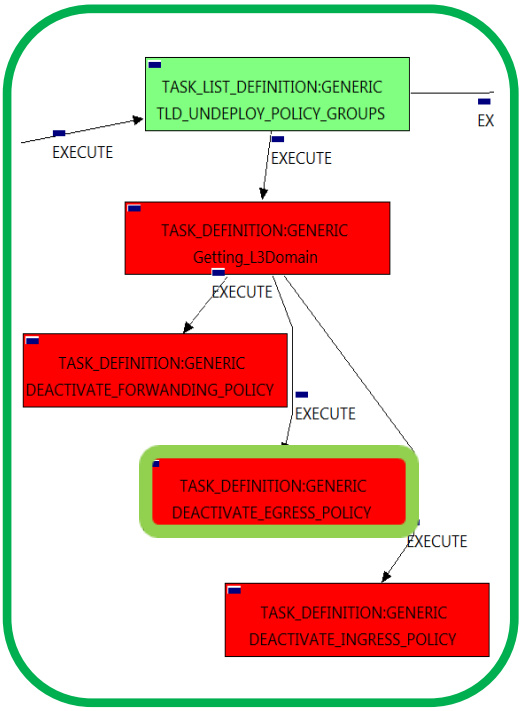
Figure 12: Delete Forwarding policy.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a INGRESSADVFORWARD:TEMPLATE:DCN with 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.

2.13 TLD UNDEPLOY POLICY GROUPS: Deactivate Egress Policy.



This TD it is going to deactivate our EGRESSACL:TEMPLATE:DCN, this means, the WF implied in this TLD is going to find and deactivate a EGRESSACL:TEMPLATE:DCN policy 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 ==
L3DOMAIN:DCN>
EGRESSACL:TEMPLATE:DCN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_SDN_EGRESSACL_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

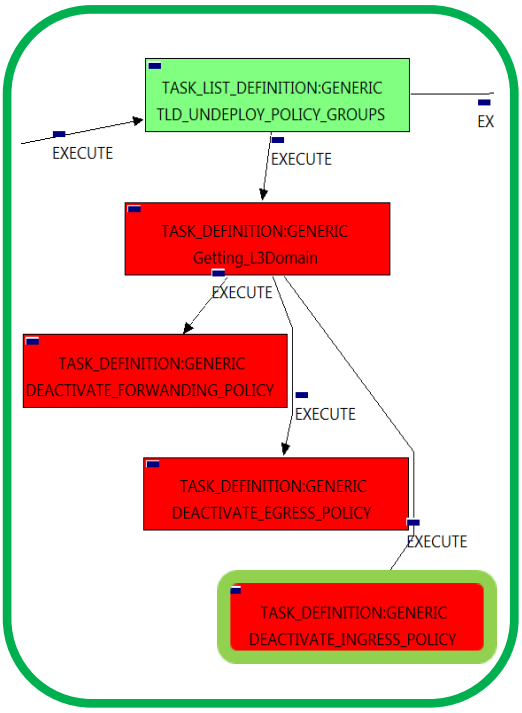
Figure 13: Deactivate Egress policy.

The Workflow present in EXECUTE.Workflow attribute it is going to seek an EGRESSACL:TEMPLATE:DCN with 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.

2.14 TLD UNDEPLOY POLICY GROUPS: Deactivate Ingress Policy.



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

Once finished, we will have a INGRESSACL:TEMPLATE:DCN deactivated with status INSTANTIATED.

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

FIND.MainArtifact ==
L3DOMAIN:DCN>
INGRESSACL:TEMPLATE:DCN@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_SDN_INGRESSACL_POLICY"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

Figure 14: Deactivate Ingress policy

The Workflow present in EXECUTE.Workflow attribute it is going to seek an INGRESSACL:TEMPLATE:DCN with 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.

2.15 TLD DEACTIVATE: DEACTIVATE L3DOMAIN

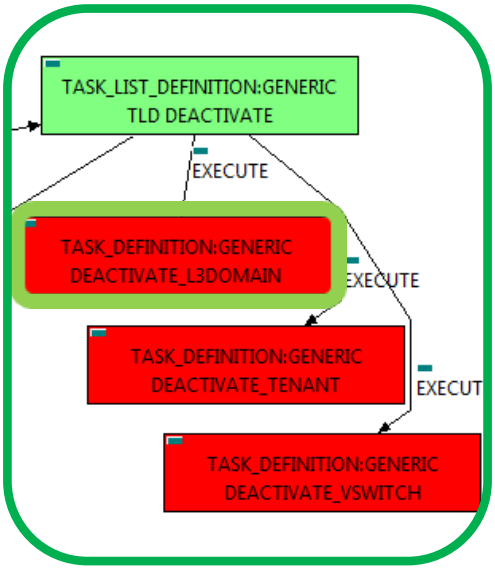


Figure 15: Deactivate L3Domain.

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

Once finished, we will have the L3DOMAIN:DCN given deactivated with status INSTANTIATED.

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

FIND.Condition==
GENERAL.VDC_id==%Id%
FIND.Path==
TENANT:GENERIC>RESOURCE_POOL>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>LOCATION>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>DATACENTER>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>SERVER<HYPERVISOR<VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN@status=ACTIVE

SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_SDN_L3DOMAIN"
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 an L3DOMAIN:DCN with status ACTIVE, that matches the condition present in the attribute "FIND.Condition", and reachable from the some of the paths present in the multiple Path.

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.

At the end of the execution of this TD, we should have the L3DOMAIN:DCN given with status INSTANTIATED, with all the relationship needed for a correct behavior of the artifact still present.

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.

2.16 TLD DEACTIVATE: DEACTIVATE TENANT

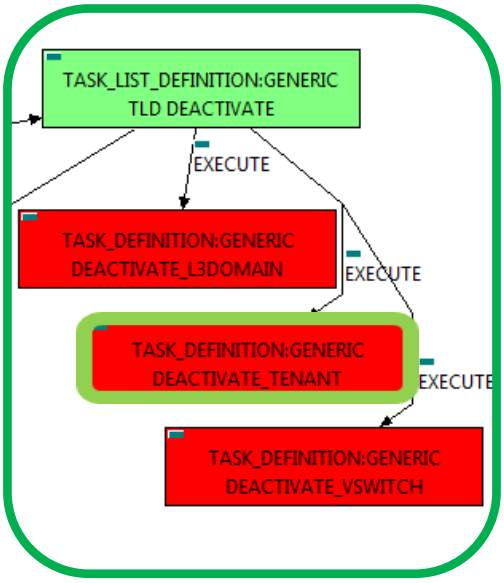


Figure 16: Deactivate Tenant.

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

Once finished, we will have the TENANT:OPENSTACK given deactivated with status INSTANTIATED.

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

FIND.Condition==
GENERAL.VDC_id==%Id%
FIND.Path==
TENANT:GENERIC>RESOURCE_POOL>VIM>
TENANT:OPENSTACK@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>LOCATION>VIM>
TENANT:OPENSTACK@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>DATACENTER>VIM>
TENANT:OPENSTACK@status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>SERVER<HYPERVISOR<VIM>
TENANT:OPENSTACK@status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_TENANT"
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 an TENANT:OPENSTACK with status ACTIVE, that matches the condition present in FIND.Condition, and reachable from the some of the paths present in the multiple Path.

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.

At the end of the execution of this TD, we should have the TENANT:OPENSTACK given with status INSTANTIATED, with all the relationship needed for a correct behavior of the artifact still present.

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.

2.17 TLD DEACTIVATE: DEACTIVATE VSWITCH

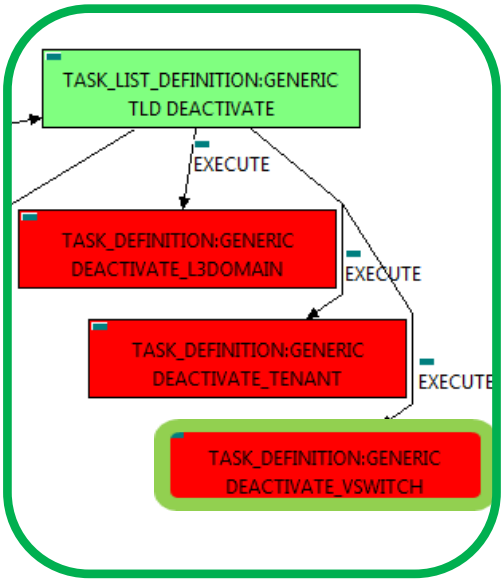


Figure 17: Deactivate Virtual Switch.

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

Once finished, we will have the VSWITCH:VCENTER, given deactivated with status INSTANTIATED.

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

FIND.MainArtifact ==
TENANT>RESOURCE_POOL>DATACENTER>HYPERVISOR>SERVER>VSWITCH:VCENTER#GENERAL.Name=NFVD
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_VSWITCH_VCENTER"
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 VSWITCH:VCENTER with status ACTIVE, that matches the condition present in FIND.MainArtifact, and reachable from the path given in the same attribute.

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.

At the end of the execution of this TD, we should have the VSWITCH:VCENTER given with status INSTANTIATED, with all the relationship needed for a correct behavior of the artifact still present.

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.

2.18 TLD DEACTIVATE OO: DEACTIVATE L3DOMAIN TEMPLATE

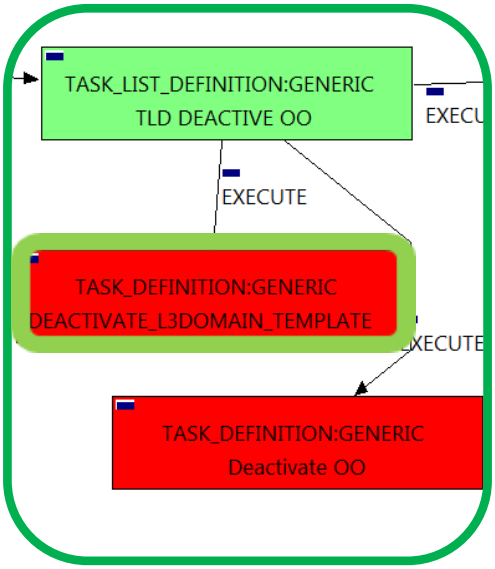


Figure 18: Deactivate L3Domain.

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

Once finished, we will have the L3DOMAIN:DCN given deactivated with status INSTANTIATED.

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

FIND.Condition==
GENERAL.VDC_id==%Id%
FIND.Path==
TENANT:GENERIC>RESOURCE_POOL>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>LOCATION>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:DCN @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>DATACENTER>VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:TEMPLATE @status=ACTIVE
TENANT:GENERIC>RESOURCE_POOL>SERVER<HYPERVISOR<VIM>AUTHENTICATION>REGION>NETWORKING<SDN_CONTROLLER>ENTERPRISE:DCN>L3DOMAIN:TEMPLATE @status=ACTIVE
SET.Running_Status == ACTIVE.
SET.Status == INSTANTIATED.
EXECUTE.Workflow ==
"WF_TS_DEACTIVATE_SDN_L3DOMAIN_TEMPLATE"
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 an L3DOMAIN:TEMPLATE:DCN with status ACTIVE, that matches the condition present in the attribute "FIND.Condition", and reachable from the some of the paths present in the multiple Path.

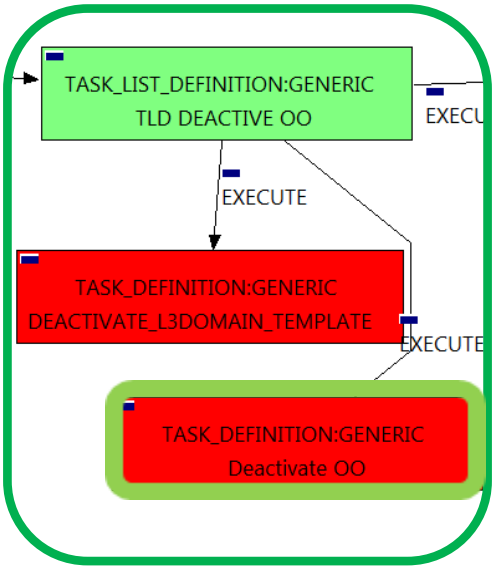
Once found , the WF will start the deactivation, if the deactivation it is successful we set the status of the artifact as the SET.Status attribute dictates. The attribute SET.Running_Status concern about the temporal status that the artifact it is going to maintain until the final change of status that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

At the end of the execution of this TD, we should have the L3DOMAIN:TEMPLATE:DCN given with status INSTANTIATED, with all the relationship needed for a correct behavior of the artifact still present.

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.

2.19 TLD DEACTIVATE OO: Deactivate OO.



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, we are not going to deactivate any artifact, this TD associates the entity given with the LDAP group that it is corresponded to, to make the user’s reference clear between entities.

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

FIND.Condition == **status==constant:ACTIVE**
EXECUTE.Workflow ==
“WF_TS_DEACTIVATE_OO_TENANT”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == true

Figure 19: Deactivate OO.

The WorkFlow present in EXECUTE.Workflow it is going to seek an TENANT:GENERIC in Status ACTIVE in the DDBB, when the TD find it, it will start. This workflow it is going to query and update the entity given, in this case, Tenant, with the values needed for the correct behavior of the users with the specific entity.

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.

2.20 TLD DELETE POLICY GROUPS: Delete Forwarding Policy.

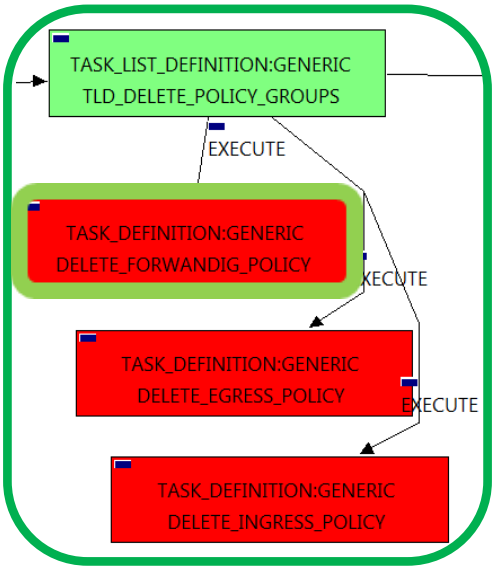


Figure 20: Delete Fwd policy.

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 “INGRESSADVFORWARD:TEMPLATE:DCN”, this means, when this workflow finish, we will not have any INGRESSADVFORWARD: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_FORWARD_POLICIES_UNDO”***
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == true

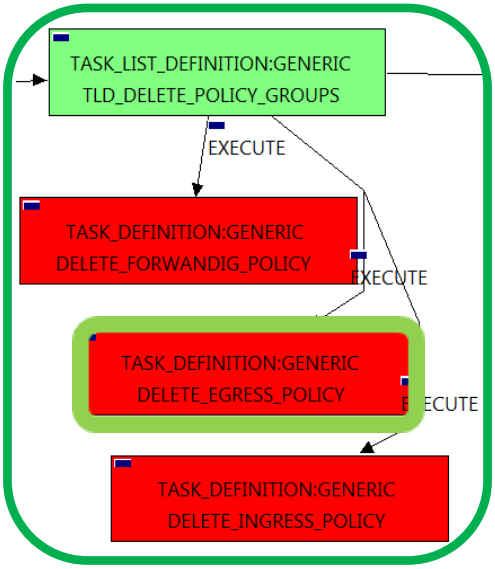
Notice that the TD is using the TENANT:GENERIC to locate the policies needed, but the TD will not change the status of the artifact.

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

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.

2.21 TLD DELETE POLICY GROUPS: Delete Egress Policy.



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

Once finished, the EGRESSACL 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_PROVISION_SDN_EGRESSACL_POLICIES_UNDO"***
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Numbre_of_retries ==	0
DATA.Lock==	true

Figure 21: Delete Egress policy.

Notice that the TD is using the TENANT:GENERIC to locate the policies needed, but the TD will not change the status of the artifact.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "TENANT:GENERIC" in Status ACTIVE in the DDBB , in order to delete all the policies related of the type specified. 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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.22 TLD DELETE POLICY GROUPS: Delete Ingress Policy.

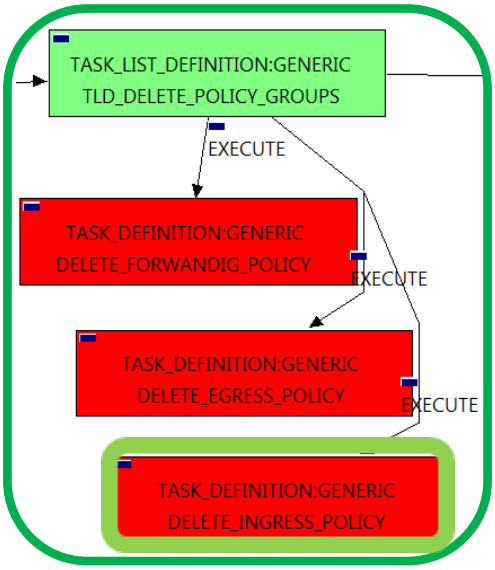


Figure 22: Delete Ingress policy.

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

Once finished, the INGRESSACL 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_PROVISION_SDN_INGRESSACL_POLICIES_UNDO"***
ROLLBACK.Behaviour_on_error ==	STOP
ROLLBACK.Numbre_of_retries ==	0
DATA.Lock==	true

Notice that the TD is using the TENANT:GENERIC to locate the policies needed, but the TD will not change the status of the artifact.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "TENANT:GENERIC" in Status ACTIVE in the DDBB , in order to delete all the policies related of the type specified. 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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.23 TLD DELETE DOMAIN: Delete L3Domain.

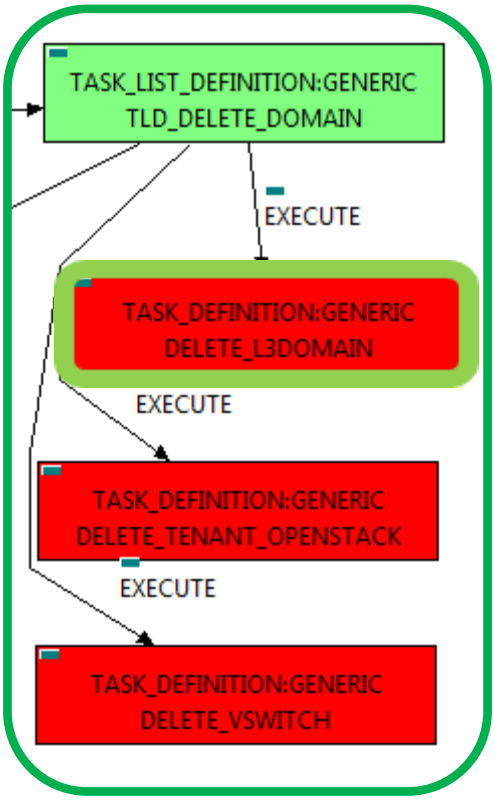


Figure 23 :Deletion L3Domain artifact.

This TD it is going to delete the L3DOMAiN:DCN and L3DOMAIN:TEMPLATE:DCN artifacts previously deactivated, this means, the WF implied in this TLD is going to query from TENANT:GENERIC to the artifacts given to get the proper value of the attributes in order to delete the previously mentioned artifacts.

Once finished, we will have deleted a L3DOMAIN:DCN and L3DOMAIN:TEMPLATE:DCN with all the its relationship.

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_PROVISION_SDN_DOMAIN"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Numbre_of_retries == 0
DATA.Lock == true

Notice that the TD is using the TENANT:GENERIC to locate the policies needed, in this case, the TD will change the status of the artifact to INSTANTIATED.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "TENANT:GENERIC" in Status ACTIVE in the DDBB , in order to delete all the artifacts related of the type specified. 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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.24 TLD DELETE DOMAIN: Delete Tenant Openstack.

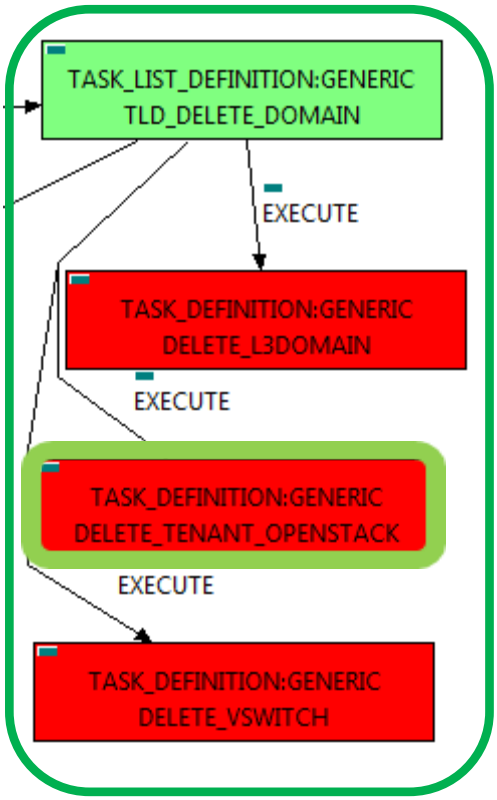


Figure 24: Deleting Openstack tenant.

This TD it is going to delete the TENANT:OPENSTACK artifact previously deactivated, this means, the WF implied in this TLD is going to query from TENANT:GENERIC to the artifacts given to get the proper value of the attributes in order to delete the previously mentioned artifacts.

Once finished, we will have deleted a TENANT:OPENSTACK with all the its relationship.

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

FIND.ArtifactType == TENANT:GENERIC.
FIND.Status== INSTANTIATED.
FIND.Condition==**GENERAL.VDC_id==%Id%**
FIND.Path==
TENANT:GENERIC>RESOURCE_POOL>VIM>
TENANT:OPENSTACK@status=INSTANTIATED,
TENANT:GENERIC>RESOURCE_POOL>LOCATION>VIM>
TENANT:OPENSTACK@status=INSTANTIATED,
TENANT:GENERIC>RESOURCE_POOL>DATACENTER>VIM>
TENANT:OPENSTACK@status=INSTANTIATED,
TENANT:GENERIC>RESOURCE_POOL>SERVER<HYPERVISOR<VIM>
TENANT:OPENSTACK@status=INSTANTIATED,
EXECUTE.Workflow ==
"WF_TS_DEPROVISION_TENANT"
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0
DATA.Lock == true

Notice that the TD is using the TENANT:GENERIC to locate the policies needed, but the TD will not change the status of the artifact to INSTANTIATED.

The Workflow present in EXECUTE.Workflow attribute it is going to seek a "TENANT:GENERIC" in Status ACTIVE in the DDBB , in order to delete all the artifact related "TENANT:OPENSTACK".

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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.25 TLD DELETE DOMAIN: Delete_VSWITCH

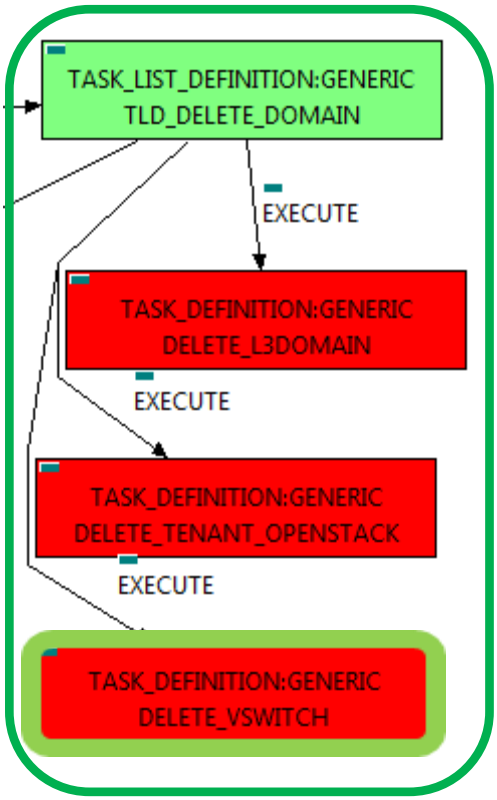


Figure 25: Delete Virtual Switch.

This TD it is going to delete the VSWITCH:VCENTER artifact previously deactivated, this means, the WF implied in this TLD is going to query from VSWITCH:VCENTER to the artifacts given to get the proper value of the attributes in order to delete the previously mentioned artifacts.

Once finished, we will have deleted a VSWITCH:VCENTER with all the its relationship.

Targets of the TASK:DEFINITION:
STATUS of the TD: ENABLED
Categories:
EXECUTE.Workflow ==
"WF_TS_DELETE_VSWITCH"
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 "WF_TS_DELETE_VSWITCH" in Status ACTIVE in the DDBB , in order to delete all the artifact related "WF_TS_DELETE_VSWITCH".

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 the value "true", this means once the TD ends its execution the element which is being used by the TD will be locked.

2.26 TLD DELETE: Delete Tenant.

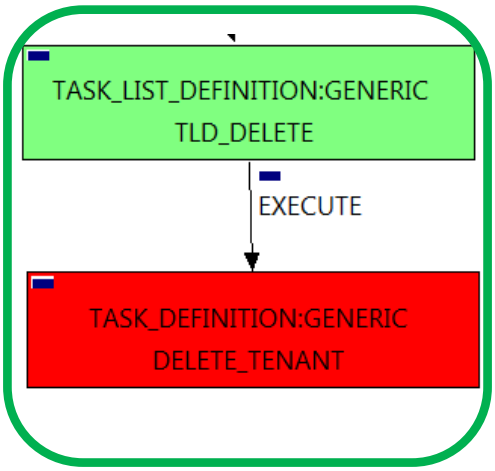


Figure 26: Delete Tenant.

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 TENANT:GENERIC, 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, in other case, this elements will remain unreachable, that is not desirable.

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

FIND.ArtifactType == TENANT:GENERIC.
EXECUTE.Workflow ==
“WF_TS_DELETE_INSTANCE_TREE”
ROLLBACK.Behaviour_on_error == STOP
ROLLBACK.Number_of_retries == 0

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