Oracle® Communications Diameter Signaling Router
Diameter Custom Applications

Release 8.5

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ORACLE®

Oracle Communications Diameter Signaling Router Diameter Custom Applications, Release 8.5

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Introduction

This section contains an overview of the available information for the Diameter Custom Applications (DCA) feature. The contents include sections on the organization, scope, and audience of the documentation, as well how to receive customer support assistance.

Revision History

Date	Description
September 2016	Initial release of DCA
October 2020	Replaced USBR with UDR throughout this document.

Understanding DCA

The Diameter Custom Applications (DCA) framework allows for the creation of applications on top of the Diameter Signaling Router (DSR), allowing for a faster development cycle.

DCA requires several elements to function:

- An interface that interprets a scripting language in order to manage the receipt of Diameter messages or UDR query results

- An interface that performs basic routing functions such as selecting an Application Route Table or Peer Route Table, forwarding or dropping a Diameter message, or sending a Diameter Answer

- An infrastructure to manage the DCA's business logic and the DCA application's configuration and to generate the script to be used by the interpreting interface

Intended Scope and Audience

This content is intended for personnel who plan to provision DCA.

This content does not describe how to install or replace software or hardware.

Manual Organization

This document is organized into the following chapters:

- Introduction contains general information about DCA, including overview and logic information, the organization of this content, and how to get technical assistance.

- Activation and Deactivation of DCA provides information about activating and deactivating DCA.

My Oracle Support

My Oracle Support (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request

2. Select **3** for Hardware, Networking and Solaris Operating System Support

3. Select one of the following options:

    • For Technical issues such as creating a new Service Request (SR), select **1**

    • For Non-technical issues such as registration or assistance with My Oracle Support, select **2**

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

2

Activation and Deactivation of DCA

This chapter provides basic descriptions for activating and deactivating the DCA Framework and DCA applications.

DCA Activation

In order to use new applications for **DCA**, the DCA Framework must be activated on the NO. Activation needs to be performed only once.

Once developed, a new application then must be activated on the NO. Activation needs to be performed once per application.

> ✎ **Note:**
>
> There may be limits on the number of DCA applications that can be simultaneously activated. Old DCA applications may need to be deactivated in order to make room for new applications.

Activating the DCA Framework

This procedure is used to activate the DCA Framework.

1. Log out of any active NOAM GUI sessions.

2. Use an SSH client to connect to the server as **admusr**.

   ```
   # ssh <active NOAM XMI IP Address>
   ```

3. Change to the feature activation directory.

   ```
   # cd /usr/TKLC/dsr/prod/maint/loaders/
   ```

4. Execute the feature activation script.

   ```
   # ./featureActivateDeactivate
   ```

   a. Choose the **Activate** and **DCA Framework** options.

   b. There is an option to choose to activate this feature on all SOAMs or on a specific SOAM.

      If a new site is added or if, on some site, framework was not activated, the activation script can be executed again to add the application on new sites. The script won't have any impact on the sites on which the framework is already active.

   c. Verify that the screen output is similar to:

      ```
      [admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
      Tue Feb  2 17:47:18 EST 2016::Starting featureActivateDeactivate
      main...
      ```

```
Start the Automation script , To run the Feature Activation/
DeActivation on Active NO.

You want to Activate or Deactivate the Feature :
1.Activate
2.Deactivate

Enter your choice : 1

List of Feature you can Activate :
1.RBAR
2.FABR
3.Mediation
4.LoadGen
5.GLA
6.MAP Interworking
7.DTLS
8.Dca Framework
9.Dca Application

Enter the choice : 8

Run script to Activate DcaFramework Feature

====================================S-T-A-R-
T==================================


=================================================================
===============
Execution of Activation/Deactivation Process Starts
=================================================================
===============
Starting Activation/Deactivation process....
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/
load.DcaFrameworkActivateAsourced script on HPC07-NO1
=================================================================
===============
Current server is HA ACTIVE
=================================================================
===============
=================================================================
===============
Add Dca Framework KPI group
=================================================================
===============
KPI_Group=Dca Framework
Visibility=VIS_ALL
=================================
=================================================================
===============
Add Dca Framework Measurement groups
=================================================================
===============
Meas_Group=Dca Framework Performance
Visibility=VIS_ALL
```

```
=================================
======================================================================
===============
Add Dca Framework GUI Configuration Permissions.
======================================================================
===============
======================================================================
===============
Set Dca Framework Entry in the DcaFrmEngOption table
======================================================================
===============
   === changed 1 records ===
======================================================================
===============
There is no Standby NOAMP server configured in the Topology
======================================================================
===============
======================================================================
===============
The Active SO server configured in the Topology are
======================================================================
===============
1. HPC07-SO1
2. ALL SOs

Enter your choice on which SO you want to Activate or Deactivate
the Feature :2
Activate/Deactivate DcaFramework on all SOs configured in the
Topology

======================================================================
===============
This is a 3 Tier Setup , So run the B sourced loaders on SO
server : HPC07-SO1
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/
load.DcaFrameworkActivateBsourced script on HPC07-SO1
FIPS integrity verification test failed.
Add Dca Framework GUI Configuration Permissions.
FIPS integrity verification test failed.
======================================================================
===============
Executing the Loaders and Clearing Cache on Standby SO servers.
======================================================================
===============
======================================================================
===============
There is no Standby/Spare SOAMP server configured in the Topology
======================================================================
===============
```

5. Log into the Active NOAM and SOAM GUI.

6. Verify that DCA Framework appears as a menu item on the NOAM and SOAM.

7. Log out of the NOAM login shells using the `# exit` command and close the SSH connections.

Post Framework Activation

Once the DCA Framework is activated, the **DCA Framework** folder and **Configuration** file becomes visible on the left hand menu as shown in Figure 2-1.

Figure 2-1   DCA Framework Menu
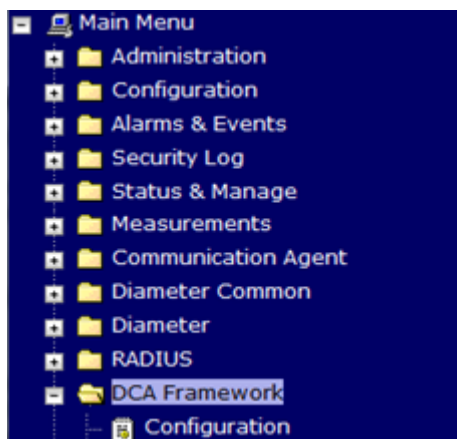
All the KPIs and measurements associated with the DCA Framework also become visible as shown in Figure 2-2 and Figure 2-3 respectively.

Figure 2-2   DCA KPIs

Figure 2-3   DCA Measurements

Activating a DCA Application

This procedure is used to activate a DCA application.

1. Log out of any active NOAM GUI sessions.

2. Use an SSH client to connect to the server as **admusr**.

    ```
    # ssh <active NOAM XMI IP Address>
    ```

3. Change to the feature activation directory.

    ```
    # cd /usr/TKLC/dsr/prod/maint/loaders/
    ```

4. Execute the feature activation script.

    ```
    # ./featureActivateDeactivate
    ```

    a. Choose **Activate** and **DCA Application**.

    b. Enter a long name for the new application when prompted.

    > **Note:**
    >
    > The DCA application long name consists of a combination of letters, numbers, and spaces. It can't begin with a space and has a maximum of 32 characters.

    c. Enter a short name for the application when prompted.

    > **Note:**
    >
    > The DCA application short name consists of a combination of letters and numbers. It has a maximum of 6 characters.

    d. Verify that the screen output is similar to:

    ```
    [admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
    Tue Feb  2 17:52:59 EST 2016::Starting featureActivateDeactivate
    main...
    Start the Automation script , To run the Feature Activation/
    DeActivation on Active NO.

    You want to Activate or Deactivate the Feature :
    1.Activate
    2.Deactivate

    Enter your choice : 1

    List of Feature you can Activate :
    1.RBAR
    2.FABR
    3.Mediation
    4.LoadGen
    5.GLA
    ```

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```
6.MAP Interworking
7.DTLS
8.Dca Framework
9.Dca Application

Enter the choice : 9

============= Start of Log Data in file /var/TKLC/log/
DcaActivationTopLevel.log ===============


====================================S-T-A-R-
T====================================

Log file location: /var/TKLC/log/DcaActivationTopLevel.log

Note:-
In case of any failure please execute /usr/TKLC/dsr/prod/maint/
loaders/deactivate/load.DcaDeactivationTopLevel script to revert
the changes.

================================================================
===============
Execution of Activation Process Starts
================================================================
===============
Dca framework is activated on the setup..Continuing
Following Dca apps are activated on the system:
First Dca App
Enter the long name for the Dca application:Second DCA App
Entered dca name Second DCA App consist of valid characters
Entered Name is Second DCA App
next available dal id is 129
Enter the short name for the Dca application:sda
length of shortName is 3.continuing..
Entered dca name sda consist of valid characters
Entered Name is sda
==============================================
Verify that Dca Application is in the DalId table
==============================================
dalId=129
birthTime=02/02/2016 17:53:22.000
name=Second DCA App
shortName=sda
activated=No
=================================
==============================================
Verify that Dca Application is in the DcaDalId table
==============================================
dalId=129
name=Second DCA App
shortName=sda
=================================
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/
load.DcaActivateAscoped script on HPC07-NO1
```

```
============= Start of Log Data in file /var/TKLC/log/
DcaActivateAscoped.log ===============

Server Name  : HPC07-NO1
Server Role  : NETWORK_OAMP
Node Id      : HPC07-NO1
HA State     : Active
Cluster Role : Primary
=======================================================
Add Dca application entry to the DsrApplication table.
=======================================================
==============================================
Verify that Dca Application is in the table
==============================================
id=129
name=sda
unavailableAction=ContinueRouting
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=Dca Application Unavailable Or Degraded
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=Dca Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
=================================
=================================
Add Dca Application KPI group
=================================
==========================================
Add Dca Application Measurement groups
==========================================
==================================================
Add Permission Group headers for Dca Application
==================================================
==================================================
Add network configuration parameters for Dca
==================================================

=======================================E-N-
D====================================

Execution status of activation script on HPC07-NO1: PASSED
Please check /var/TKLC/log/DcaActivateAscoped.log for more
details.

================================================================
===============
Starting Activation on StandBy NOAMP Server if it exists in the
```

topology.

HPC07-NO1 is Active and Primary NOAMP Server. So, proceeding
with next NOAMP Server.
======= Activation done on all Network OAMP Servers =======

======= Starting Activation on System OAM servers =======

==
===============
HPC07-SO1 is Active. So, proceeding with Activation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/activate/
load.DcaActivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

============= Start of Log Data in file /var/TKLC/log/
DcaActivateBscoped.log ===============

Server Name : HPC07-SO1
Server Role: SYSTEM_OAM
Node Id   : HPC07-SO1
HA State   : Active
==
======
Add Dca application to DsrApplication. If already present then
skip.
==
======
==
Verify that Dca application is in the table
==
id=129
name=sda
unavailableAction=ContinueRouting
avpInsertion=Yes
shutdownMode=Graceful
shutdownTimer=5
resultCode=3002
vendorId=0
errorString=
resExhResultCode=3004
resExhVendorId=0
resExhErrorString=Dca Resource Exhausted
routeListId=-1
realm=
fqdn=
mcl=0
=================================
==
Add Permission Group headers for Dca app on SOAM server
==
==
Add system configuration parameters for Dca
==

```
==================================================END==============
===============

Execution status of activation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaActivateBscoped.log.HPC07-SO1 for
more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
==================================================================
===============
  === changed 1 records ===
=============================================
Verify that activated field is udpated for Dca Application in
the DalId table
=============================================
dalId=129
birthTime=02/02/2016 17:53:22.000
name=Second DCA App
shortName=sda
activated=Yes
===============================
==================================================================
===============
Execution of Dca Applicaion Activation Script complete.
==================================================================
===============
====================================E-N-
D====================================
```

    e. Restart the DSR MP from **Main Menu**, and then **Status & Manage**, and then **Server**.

5. Log into an Active NOAM and SOAM GUI.

6. Verify that DCA Application folder appears under the DCA Framework menu item on an NOAM and SOAM.

    a. Verify that the folder for the new DCA application appears under DCA Framework on an NOAM. Under the application folder has General Options, Trial MP assignment, and Application Control sub-options.

    b. Verify that the folder for the new DCA application appears under DCA Framework on an SOAM. Under the application folder has General Options, Trial MP assignment, and Application Controll, and System Options sub-options.

7. Log out of the NOAM login shells using the `# exit` command and close the SSH connections.

Post Application Activation

When the new DCA application is activated, the application subfolder with the name provided by the user during the activation procedure becomes visible on the left side menu as shown in Figure 2-4. The application subfolder includes the pages for enabling the business logic and provisioning configuration data. The application becomes visible across DSR. For further details on a specific application, refer to the user's guide for that specific application.

Figure 2-4   DCA Application Menu
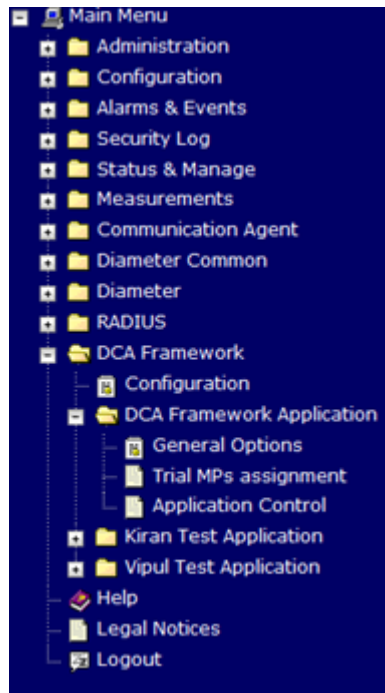
Post-Activation DCA Application State

After activation, a DCA application is in the disabled state. While in the disabled state, Diameter traffic is not delivered to the application. The application must be enabled from **Diameter**, and then **Maintenance**, and then **Applications**. The application is identified by the name configured by the user during the activation of the application.

Regardless of whether or not a DCA application is enabled or disabled, no version of the application is provisioned. No version is in the production or trial state. As long as no production or trial version is available for a **DA-MP** to run, the application's operational status is unavailable (see **Diameter**, and then **Maintenance**, and then **Applications** on the SO). An Application Route Table (**ART**) must also be defined for the new application (see **Diameter**, and then **Configuration**, and then **Application Route Tables**.

Afterward, the configuration and business logic for the DCA application are provisioned.

DCA Deactivation

To deactivate DCA, an application and the DCA Framework must be removed.

Deactivating a DCA Application

This procedure is used to deactivate a DCA application.

1. Log out of any active NOAM GUI sessions.
2. Use an SSH client to connect to the server as **admusr**.

```
# ssh <active NO XMI IP Address>
```

3. Change to the feature deactivation directory.

```
# cd /usr/TKLC/dsr/prod/maint/loaders/
```

4. Execute the feature activation script.

```
# ./featureActivateDeactivate
```

   a. Choose **Deactivate** and **DCA Application**.

   b. Enter the name for the application to be deactivated when prompted.

   c. Verify that the screen output is similar to:

```
[admusr@HPC07-NO1 loaders]$ pwd
/usr/TKLC/dsr/prod/maint/loaders
[admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
Tue Feb  2 17:59:21 EST 2016::Starting featureActivateDeactivate
main...
Start the Automation script , To run the Feature Activation/
DeActivation on Active NO.

You want to Activate or Deactivate the Feature :
1.Activate
2.Deactivate

Enter your choice : 2

Which Feature you want to Deactivate :
1.RBAR
2.FABR
3.Mediation
4.LoadGen
5.GLA
6.MAP Interworking
7.DTLS
8.Dca Framework
9.Dca Application

Enter your choice : 9


================================  S-T-A-R-T of log
DcaDeactivationTopLevel.log ===========
Log file location: /var/TKLC/log/DcaDeactivationTopLevel.log
==================================================================
===============Execution of Deactivation Process Starts
==================================================================
===============Following Dca apps are activated on the system
1. FDA
2. sda
Enter the name for the Dca application to be deactivated:sda
The name of application selected to deactivate is: sda
  === changed 1 records ===
======================================================
DalId Table successfully updated with deactivated status.
======================================================
```

```
======================================================================
===============
HPC07-SO1 is Active. So, proceeding with Deactivation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/
load.DcaDeactivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

============= Start of Log Data in file /var/TKLC/log/
DcaDeactivateBscoped.log ===============

Server Name : HPC07-SO1
Server Role: SYSTEM_OAM
Node Id     : HPC07-SO1
HA State    : Active
=========================================================
Remove the ART rules corresponding to the DCA
=========================================================
No rules configured for the current application.
========================================================
Remove Dca from DcaAppSystemUserOption table
========================================================
   === deleted 5 records ===
========================================================
Remove Dca Application from DsrApplicationPerMp table
========================================================
   === deleted 0 records ===
========================================================
Remove Dca Application from DsrApplication table
========================================================
   === deleted 1 records ===
==============================================================
====
Remove permission group headers for Dca Application on SOAM
server
==============================================================
====
   === deleted 1 records ===
================================================END================
===============

Execution status of deactivation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaDeactivateBscoped.log.HPC07-SO1
for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
======================================================================
===============

======================================================================
===============
 Starting Deactivation on Standby NOAMP server if present in
topology.
==============================================================
```

```
===============

HPC07-NO1 is Active NOAMP Server. Proceeding with next NOAMP
server in the list.


================================================================
===============
 Starting Deactivation on Active NOAMP server.
================================================================
===============

Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/
load.DcaDeactivateAscoped script on HPC07-NO1

============= Start of Log Data in file /var/TKLC/log/
DcaDeactivateAscoped.log ===============

Server Name  : HPC07-NO1
Server Role  : NETWORK_OAMP
Node Id      : HPC07-NO1
HA State     : Active
Cluster Role : Primary
====================================
Remove Dca Application KPI groups
====================================
  === deleted 1 records ===
============================================
Remove Dca Application Measurement groups
============================================
  === deleted 1 records ===
========================================================
Remove permission group headers for Dca Application
========================================================
  === deleted 1 records ===
==================================================
Remove logical to physical udr db mapping from
DcaLog2PhyUdr and DcaLogicalUdr table
==================================================
==================================================
Remove Dca from DcaLifecycleNoam table
==================================================
  === deleted 0 records ===
==================================================
Remove Dca from DcaAppNetworkUserOption table
==================================================
  === deleted 3 records ===
==================================================
Remove Dca from DcaTrialMp table
==================================================
  === deleted 0 records ===
==================================================
Remove Dca from DsrApplicationPerMp table
==================================================
  === deleted 0 records ===
==================================================
```

```
Remove Dca Application from DsrApplication table
==================================================
  === deleted 1 records ===
  === deleted 1 records ===
  === deleted 1 records ===
======================================END=======================
=============

Execution status of deactivation script on HPC07-NO1: PASSED
================================================================
===============Execution of Dca Application Deactivation Script
complete.
================================================================
===============
====================================E-N-
D====================================
```

    d. Restart the DSR MP from **Main Menu**, and then **Status & Manage**, and then **Server**.

5. Log into an Active NOAM and SOAM GUI.

6. Verify that the specific DCA application folder disappears as a menu item on the NOAM and SOAM..

7. Log out of the NOAM login shells using the # exit command and close the SSH connections.

Post Application Deactivation

Deactivating a DCA application is not allowed as long as versions of the the application are still in the production and/or trial states.

After deactivation, the application's GUI fold under the **DCA Framework** menu item disappears. The application is deregistered from the ART, its KPIs and measurements are no longer displayed, and are no longer reported.

Deactivating the DCA Framework

This procedure is used to deactivate the DCA Framework.

1. Log out of any active NOAM GUI sessions.

2. Use an SSH client to connect to the server as **admusr**.

   # ssh <active NO XMI IP Address>

3. Change to the feature deactivation directory.

   # cd /usr/TKLC/dsr/prod/maint/loaders/

4. Execute the feature activation script.

   # ./featureActivateDeactivate

   a. Choose the **Deactivate** and **DCA Framework** options.

   b. For 3-Tiered Architecture, you can deactivate this feature on all SOAMs or on a specific SOAM

c. Verify that the screen output is similar to:

```
[admusr@HPC07-NO1 loaders]$ pwd
/usr/TKLC/dsr/prod/maint/loaders
[admusr@HPC07-NO1 loaders]$ ./featureActivateDeactivate
Tue Feb  2 17:59:21 EST 2016::Starting featureActivateDeactivate
main...
Start the Automation script , To run the Feature Activation/
DeActivation on Active NO.

You want to Activate or Deactivate the Feature :
1.Activate
2.Deactivate

Enter your choice : 2

Which Feature you want to Deactivate :
1.RBAR
2.FABR
3.Mediation
4.LoadGen
5.GLA
6.MAP Interworking
7.DTLS
8.Dca Framework
9.Dca Application

Enter your choice : 9

================================  S-T-A-R-T of log
DcaDeactivationTopLevel.log ===========
Log file location: /var/TKLC/log/DcaDeactivationTopLevel.log
================================================================
===============Execution of Deactivation Process Starts
================================================================
===============Following Dca apps are activated on the system
1. FDA
2. sda
Enter the name for the Dca application to be deactivated:sda
The name of application selected to deactivate is: sda
  === changed 1 records ===
======================================================
DalId Table successfully updated with deactivated status.
======================================================

================================================================
===============
HPC07-SO1 is Active. So, proceeding with Deactivation.
FIPS integrity verification test failed.
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/
load.DcaDeactivateBscoped script on HPC07-SO1
FIPS integrity verification test failed.

============= Start of Log Data in file /var/TKLC/log/
DcaDeactivateBscoped.log ===============
```

```
Server Name : HPC07-SO1
Server Role: SYSTEM_OAM
Node Id     : HPC07-SO1
HA State    : Active
========================================================
Remove the ART rules corresponding to the DCA
========================================================
No rules configured for the current application.
=======================================================
Remove Dca from DcaAppSystemUserOption table
=======================================================
   === deleted 5 records ===
========================================================
Remove Dca Application from DsrApplicationPerMp table
========================================================
   === deleted 0 records ===
=======================================================
Remove Dca Application from DsrApplication table
=======================================================
   === deleted 1 records ===
================================================================
====
Remove permission group headers for Dca Application on SOAM
server
================================================================
====
   === deleted 1 records ===
================================================END===============
==============

Execution status of deactivation script on HPC07-SO1: PASSED
Please check /var/TKLC/log/DcaDeactivateBscoped.log.HPC07-SO1
for more details.
FIPS integrity verification test failed.
FIPS integrity verification test failed.
================================================================
==============


================================================================
==============
 Starting Deactivation on Standby NOAMP server if present in
topology.
================================================================
==============


HPC07-NO1 is Active NOAMP Server. Proceeding with next NOAMP
server in the list.


================================================================
==============
 Starting Deactivation on Active NOAMP server.
================================================================
==============
```

```
Executing /usr/TKLC/dsr/prod/maint/loaders/deactivate/
load.DcaDeactivateAscoped script on HPC07-NO1

============ Start of Log Data in file /var/TKLC/log/
DcaDeactivateAscoped.log ===============

Server Name  : HPC07-NO1
Server Role  : NETWORK_OAMP
Node Id      : HPC07-NO1
HA State     : Active
Cluster Role : Primary
===================================
Remove Dca Application KPI groups
===================================
   === deleted 1 records ===
==========================================
Remove Dca Application Measurement groups
==========================================
   === deleted 1 records ===
======================================================
Remove permission group headers for Dca Application
======================================================
   === deleted 1 records ===
==================================================
Remove logical to physical udr db mapping from
DcaLog2PhyUdr and DcaLogicalUdr table
==================================================
==================================================
Remove Dca from DcaLifecycleNoam table
==================================================
   === deleted 0 records ===
==================================================
Remove Dca from DcaAppNetworkUserOption table
==================================================
   === deleted 3 records ===
==================================================
Remove Dca from DcaTrialMp table
==================================================
   === deleted 0 records ===
==================================================
Remove Dca from DsrApplicationPerMp table
==================================================
   === deleted 0 records ===
==================================================
Remove Dca Application from DsrApplication table
==================================================
   === deleted 1 records ===
   === deleted 1 records ===
   === deleted 1 records ===
=====================================END=======================
=============

Execution status of deactivation script on HPC07-NO1: PASSED
================================================================
===============Execution of Dca Application Deactivation Script
```

```
complete.
================================================================
===============
=====================================E-N-
D====================================
```

5.   Log into an Active NOAM and SOAM GUI.

6.   Verify that DCA Framework disappears as a menu item on the NOAM and SOAM.

7.   Log out of the NOAM login shells using the `# exit` command and close the SSH connections.

Post Framework Deactivation

Deactivating the DCA Framework is not allowed as long at least one DCA application is activated in the network.

Following deactivation, the **DCA Framework** GUI folder disappears from the left hand menu.