

Configuration Guide for SAPC Application in UDC

Ericsson Service-Aware Policy Controller

User Guide

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1 Configuration Guide for SAPC Application in UDC Introduction

The purpose of this document is to provide a guideline for configuring SAPC Application in UDC.



2 SAPC Application in UDC Configuration

In a SAPC deployment with UDC consider the following points.

2.1 Configuring SAPC Application Counters in External Database (CUDB)

Do!

It is mandatory to configure the application counters on the CUDB. When this activity is performed as part of a SAPC application installation into a live deployed UDC system, it must be done during a maintenance window to minimize potential traffic impacts.

The *CUDB Performance Guide*, describes the configuration procedure to install both CUDB counters and application counters.

To facilitate the implementation, the UDC Application Counters Script is used to apply the specific counters. The same implementation method is used as described in the generic *CUDB Performance Guide*.

Both script and SAPC application counter can be obtained from here:

- *UDC SAPC Application Counters Installation*

Note: Download and rename to **app_counters_sapc.pl** file.

- *SAPC Application Counters for CUDB*

Note: Refer to the Release Information applicable to the SAPC software level to be installed for the specific revisions of the SAPC documents to use. Release Information is available through SAPC PLM.

Copy both files to the installation directory of the CUDB nodes and uncompress the SAPC application counter file. The counters must be applied on all CUDB nodes.

Steps

1. Execute the application counter script in interactive mode by running the command:

```
./app_counters_sapc.pl -i
```

The user is prompted for SAPC application counters installation.



2. To print the content of MySQL tables, indices and stored procedures related to the application counters in the local CUDB node, execute the following:

```
./app_counters_sapc.pl -p
```

The script creates a log file in the directory where the script is executed.

2.2 Configuring SAPC Notifications

2.2.1 UDC Maiden Installation

Notifications are used for notifying applications after specific attributes are modified in CUDB (for example owing to a provisioning order).

The following inputs are required:

- SAPC Node VIP address of the SAPCs available in the UDC system and port number 8080 for SOAP over HTTP. SAPC uses the same VIP address for LDAP traffic and SOAP traffic.

- *SOAP notifications configuration in UDC* file.

Note: Download and rename to *sapc_notifications.txt* file.

- *SAPC SOAP notifications installation in UDC* script.

Note: Download and rename to *sapc_notifications_gen.sh* file.

- *SAPC input for SOAP notifications installation in UDC* file.

Note: Download and rename to *sapc_notifications_conf.conf* file.

Note: Refer to the Release Information applicable to the SAPC software level to be installed for the specific revisions of the SAPC documents to use. Release Information is available through SAPC PLM.

SAPC notifications configuration requires update of the CUDB configuration model. The document *Integration in User Data Consolidation* contains the general information about attributes that CUDB monitors to trigger SOAP notifications. Check the document *SOAP notifications configuration in UDC*, for detailed information about the attributes to monitor.

Perform the following steps to configure the SAPC SOAP notifications in CUDB:

Steps

1. Ensure that CUDB has the port 8080 open to allow exchange of SOAP notifications with SAPC including SOAP notifications replies from SAPC to CUDB. Check the chapter *Network and IP Traffic Hardening* described in the *CUDB Hardening Guideline and Instruction*.



2. Download and transfer *SOAP notifications configuration in UDC* file to the CUDB control node. Execute the command:

```
scp sapc_notifications.txt  
root@<CUDB_Node_OAM_IP_Address>:/tmp/
```

3. Download and transfer *Script for SOAP notifications configuration in UDC* file to the CUDB control node. Execute the command:

```
scp sapc_notifications_gen.sh  
root@<CUDB_Node_OAM_IP_Address>:/tmp/
```

4. Download and transfer *Input for SOAP notifications configuration in UDC* file to the CUDB control node. Execute the command:

```
scp sapc_notifications_conf.conf  
root@<CUDB_Node_OAM_IP_Address>:/tmp/
```

5. Establish a CUDB CLI session towards the CUDB node by executing command:

```
ssh -l root <CUDB_Node_OAM_IP_Address>
```

6. Change to the tmp directory and check the files downloaded previously. Execute the commands:

```
cd /tmp/  
ls -lrt /tmp/
```

Note: If the files are not in the /tmp/ directory of the current system controller, change to the other system controller and check the downloaded files. To change the system controller, execute the command `ssh SC_2_1` or `ssh SC_2_2` depending on the current system controller.

7. Edit the `sapc_notifications_conf.conf` file by executing command: `vi sapc_notifications_conf.conf` and include the following information according to the instructions in the file:

- **SAPC_name.** Identify each SAPC in the network with a name.
- **SAPC_Node_VIP_Address.** Identify the IP address of each SAPC in the network for the SOAP interface (it is the same IP address that is used for LDAP interface in SAPC).
- **GroupId.** If CUDB supports Portable Operating System Interface (POSIX) extended regular expressions to configure the DN in the notifications, skip this step. Refer to *CUDB Node Configuration Data Model Description* for **CudbNotificationObjectClass** definition. Otherwise: To notify changes in the SAPC attributes **Gprio**, **StartD** and **EndD**, include the list of groups configured in the SAPC's available in the UDC system.

Note: Save the changes to the file.



8. Give execution permission to the file `sapc_notifications_gen.sh` and execute it. Execute the following commands:

```
chmod +x sapc_notifications_gen.sh

./sapc_notifications_gen.sh sapc_notifications.txt
sapc_notifications_conf.conf <my_sapc_notifications_file>
```

9. Establish a CUDB configuration CLI session in the active controller. Following are the commands with their output to find the active controller blade:

```
immfind -c SaAmfSU | grep -i comsa | grep Cmw1 | xargs immlist
| grep CurrActive
```

```
saAmfSUNumCurrActiveSIs SA_UINT32_T 1 (0x1)
```

```
immfind -c SaAmfSU | grep -i comsa | grep Cmw2 | xargs immlist
| grep CurrActive
```

```
saAmfSUNumCurrActiveSIs SA_UINT32_T 0 (0x0)
```

The output of above two commands contains the status of controller 1 and 2 respectively. The one containing value 1 is the Active Controller, (SC-1 in the example above) which must be used for accessing the COM CLI. Execute the following command:

```
/opt/com/bin/cliss < <my_sapc_notifications_file>
```

10. Repeat for all CUDB nodes.

2.2.2 Introduction of SAPC to UDC

The following section contains instructions for the installation of a SAPC application into a deployed UDC system not including a SAPC.

2.2.3 Adding New SAPC

SAPC notifications configuration requires update of the CUDB configuration model with a new instance of the **CudbNotificationEndPoint** class for the SAPC that is added in the UDC system. This class defines an endpoint receiving the notification event. Refer to *CUDB Node Configuration Data Model Description* for **CudbNotificationEndPoint** attribute details.

Follow the Configuration Modification Procedure in CUDB Node Configuration Data Model Description to define the SAPC as a notification endpoint. This must be done for each notification event that is applicable to SAPC.

The following configuration model specifics are:

— SAPC_Provisioning event:

```
> ManagedElement=1, CudbSystem=1,
CudbNotifications=1,CudbNotificationEvent="SAPC_Provisioning",
```



```
CudbNotificationEndPoint=<cudbNotificationEndPointId>
>name="<SAPC_name>"
>URI="http://<SAPC_Node_VIP_Address>:<Port_Number>"
>webService="/sap/v1/notifications"
>weight="0"
```

— SAPC Group event:

If CUDB supports Portable Operating System Interface (POSIX) extended regular expressions to configure the DN in the notifications, skip this step. Refer to *CUDB Node Configuration Data Model Description* for **CudbNotificationObjectClass** definition.

```
ManagedElement=1,CudbSystem=1,CudbNotifications=1,
CudbNotificationEvent="SAPC_Provisioning_Group",
CudbNotificationEndPoint="cudbNotificationEndPointId"
>name="<SAPC_name>"
>URI="https://<SAPC_Node_VIP_Address>:<Port_Number>"
>webService="/sap/v1/notifications"
>weight="0"
```

If CUDB does not support Portable Operating System Interface (POSIX) extended regular expressions to configure the DN in the notifications, follow this step. For each existing group in SAPC, the endpoint has to be added.

```
>top ManagedElement=1,CudbSystem=1,CudbNotifications=1,
CudbNotificationEvent="SAPC_<Group_Id>",
CudbNotificationEndPoint="cudbNotificationEndPointId"
>name="<SAPC_name>"
>URI="http://<SAPC_Node_VIP_Address>:<Port_Number>"
>webService="/sap/v1/notifications"
>weight="0"
```

Note: **<SAPC_name>** identifies each SAPC in the network with a name.

<SAPC_Node_VIP_Address> is the IP of the SAPCs available in the UDC system. SAPC uses the same VIP address for LDAP traffic and SOAP traffic.

<Port_Number> is 8080 for SOAP over HTTP.

The value of the index **cudbNotificationEndPointId** shall be an index not used by any of the existing SAPCs.

The value of each GroupId in **SAPC_<GroupId>** shall be each one of the existing groups in SAPC.

Refer to for further details about SAPC notifications configuration.

Take into account that these parameters can be modified at runtime, but they need disabling and then enabling the notifications again in order to take effect.

2.3 SAPC Entities

After successful SAPC SW installation, SAPC needs to know the CUDB nodes to connect and the data to retrieve to map each attribute to its internal data model.



the SAPC provides a mechanism based on configuration entities for this purpose. There are Entity Data Sources (EDS's) to configure the data to retrieve from CUDB and update in CUDB. Configure the EDS's in SAPC according to the details in Configure Database Access section in *Integration in User Data Consolidation*.



3 Reference List

SAPC Non-Document References

1. UDC SAPC Application Counters Installation - 1/190 55-CXP 904 0293/5 Uen
2. SAPC Application Counters for CUDB - 190 89-CXC 173 5720/2 Uen
3. SOAP notifications configuration in UDC - 1/1553-CXP 904 0613/3 Uen
4. SAPC SOAP notifications installation in UDC - 1/190 89-CXP 904 0613/3 Uen
5. SAPC input for SOAP notifications installation in UDC - 1/1531-CXP 904 0613/3 Uen

CUDB Documents

1. CUDB Performance Guide - 4/1553-HDA 104 03/10 Uen
2. CUDB Hardening Guideline and Instruction - 2/1553-HDA 104 03/10 Uen
3. CUDB Node Configuration Data Model Description - 1/19202-CSH 109 067/10 Uen