Technical Poster

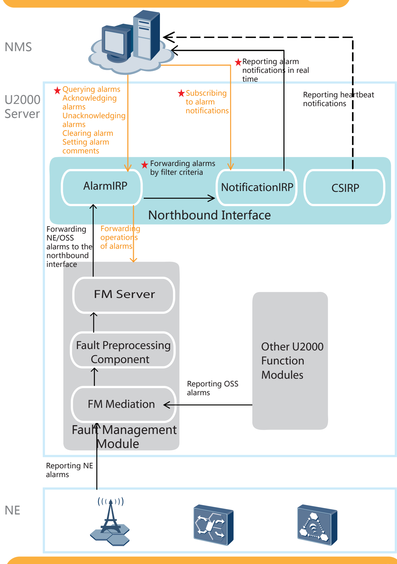
# U2000 Northbound Interface Series

## CORBA Interface

## 01 Why Is the Northbound CORBA Interface Required?

The U2000 northbound interfaces serve as management information interaction channels for the EMS and NMS. The CORBA interface is a type of the northbound interface and provides the real-time alarm reporting, alarm filtering, and alarm query functions.

### Functions of the CORBA Interface




### Description of the Functions of the CORBA Interface

The following modules in the northbound CORBA interface provide the alarm management, alarm notification, and heartbeat link function, and are named AlarmIRP, NotificationIRP, and CSIRP according to 3GPP specifications.


Functions supported by the northbound CORBA interface are as follows:

*** Subscribing to alarm notifications**

The NotificationIRP provides the alarm notification subscription function so that the NMS can subscribe to alarm notifications, and cancel, query, and modify alarm notification subscription.
The CORBA interface reports alarm notifications to the NMS in real time only after the NMS subscribes to alarm notifications.
When the U2000 is interconnected with multiple NMSs, the NotificationIRP supports a maximum of eight alarm notification subscriptions.

*** Reporting alarm notifications in real time**

The NotificationIRP provides the real-time alarm notification reporting function. After the NMS subscribes to alarm notifications, the NotificationIRP reports to the NMS alarms forwarded by the AlarmIRP in real time.

*** Filtering alarms**

The AlarmIRP provides the alarm filtering function and forwards alarms to the NotificationIRP based on the filtering policy.

*** Querying alarms**

The AlarmIRP provides the alarm list and quantity query function. After the NMS reconnects to the U2000, the NMS can query the alarm list and quantity from the AlarmIPR so that active alarms on the U2000 can be synchronized.

**Acknowledging, unacknowledging, and clearing alarms**

The AlarmIRP allows users to acknowledge, unacknowledge, and clear alarms to change the alarm status on the NMS and U2000 at the same time.

**Setting alarm comments**

The AlarmIRP supports setting alarm comments. After alarm comments are set on the NMS, the AlarmIRP notifies the U2000 alarm module to write comments to the database.

## 02 How Does the NMS Interconnect to the CORBA Alarm Interface?

| | NMS | EMS |
|---|---|---|
| 1 | | Install the CORBA interface. |
| 2 | | Load the license for the CORBA alarm function.<br>Install the CORBA interface in "NBI Management > Centralized Management > Interface Status" page of OSMU. |
| 3 | Obtain the IP address and hostname of the EMS, FTP user/password, and NE configuration model for interconnecting to the EMS and obtaining the entry point file. | Obtain the IP address and hostname of the NMS for configuring the NAT translation function. |
| 4 | Obtain the IDL file of the EMS.<br>(Only for overseas)<br>The NMS obtains required information through the open API provided by the IDL.<br>Contact Huawei engineers to obtain the IDL file at support.huawei.com websites.<br><br>The path is as follows:<br>Support > Software > Wireless Network > Wireless Network Management > M2000 > M2000-Common > iManager U2000-M > iManager U2000 Release Documents > 07.Northbound File > CORBA Interface > NBIvxx > IDL | |
| 5 | Obtain the entry point file of the EMS.<br>/opt/oss/server/var/itf_n/EPIRP/1.ior<br><br>The NMS invokes the CORBA interface using the entry point file.<br>The CORBA interface automatically generates an entry point file, which is then automatically obtained by the NMS in SFTP mode. | OR<br>The engineer of EMS sends the 1.ior file to NMS.<br><br>Download the 1.ior file on "NBI Management>Category Management> CORBA Interface>EPIRP" page of OSMU (https://U2000 IP:31123/). |
| 6 | The engineer of EMS sends 1.ior file to NMS. | Set the alarm filtering policy. Three types of filtering policies are supported.<br>● For MBTSs, repeated command resource alarms reported by base stations in different RATs are filtered.<br>● Filtering is performed when the U2000 alarm module reports alarms to the CORBA interface. Filtering is performed when the<br>● CORBA interface reports alarms to the NMS. |
| 7 | Subscribe to alarm notifications. | |
| 8 | Check whether the interconnection is successful. Check the log on the "NBI Management>Category Management> CORBA Interface>AlarmIRP" page of OSMU (https://U2000 IP:31123/). | |

For details, see the following documents:

U2000 Northbound CORBA Interface Alarm Filter Guide
U2000 Northbound CORBA Interface Installation and Maintenance Guide
U2000 Northbound CORBA Interface Developer Guide

Contact Huawei engineers to obtain the preceding documents at support.huawei.com.


HUAWEI