MOP FOR MW_BER_EXCESSIVE ALARM RECTIFCATION

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A. Introduction

The MW_BER_EXC is an alarm indicating that excessive bit errors occur on the radio link. This alarm is reported when the bit errors on the radio link exceed the specified threshold (10^{-3} by default).

B. PRECHECK

1. *Node should be managed in NMS and having no ping delay.*
2. *Need to check latest node backup availability in server.*
3. *Check for the mandatory fields in Standard CR Template for if any of the mandatory fields is not duly filled, CR should not be taken for execution.*
4. *Check the data received from authorized Transmission engineer for correctness & all essential data.*
5. *If Circle Head/ CR form does not approve the CR is not duly filled, CR should not be taken for execution.*
6. *Every Outage involve activity should be performed in Night Shift Only.*
7. *Need backup of Node where the activity is performed before any activity.*
8. *If any Critical/SA alarms, don't perform activity on the node and ask circle to clear the Alarm.*
9. *In case of latency, don't perform activity on the node*

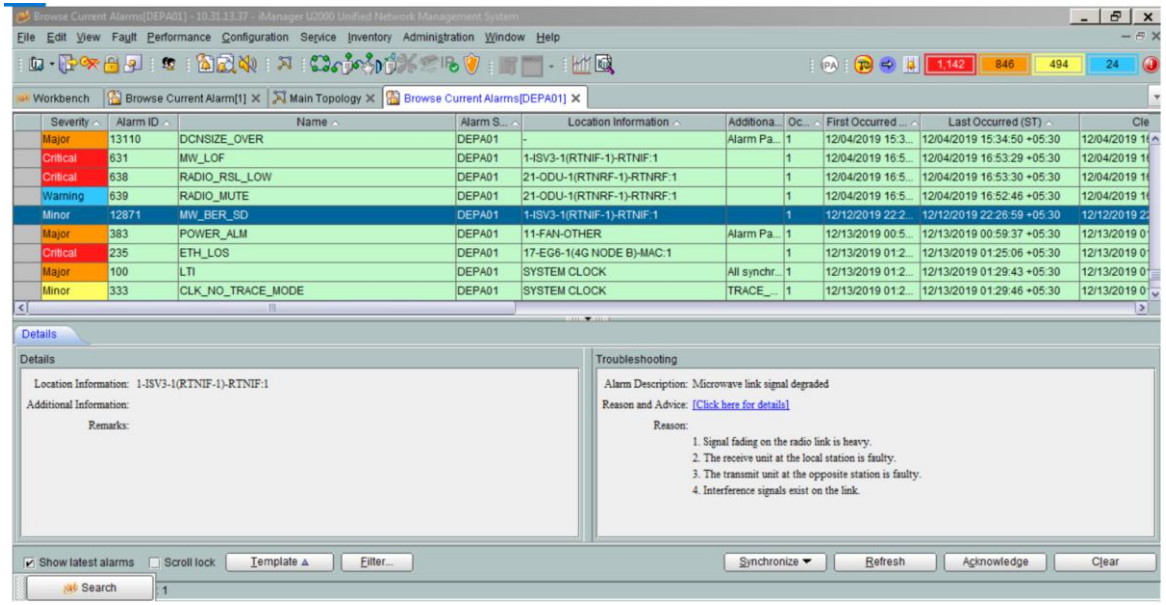
❖ *Please note that the method of procedure is prepared as the current scenario, available devices, and deployed software version. So activity steps and impact can vary depending upon the scenario.*

FOR MW_BER_EXC alarm clearance Activity: -

This is service impacting activity and node backup should be available of same SW version before carrying out the activity.

We must perform this activity in SA CR window with all required approval during partial outage.

Current Alarms before activity

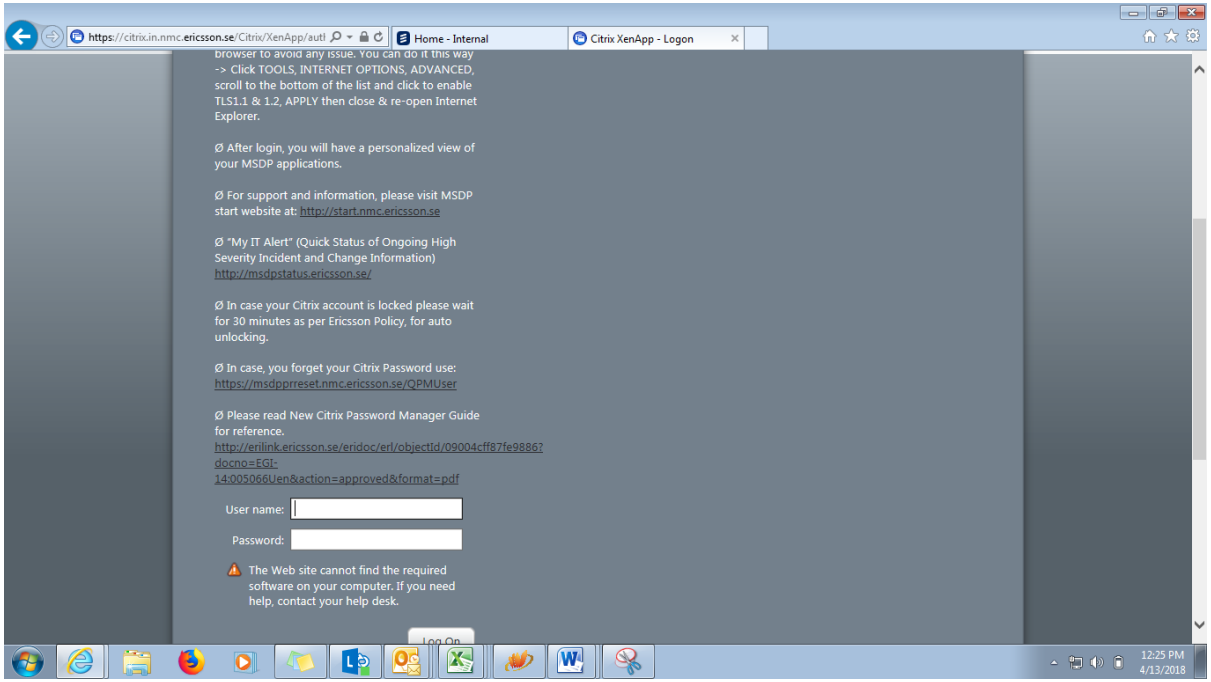


C. Procedure:

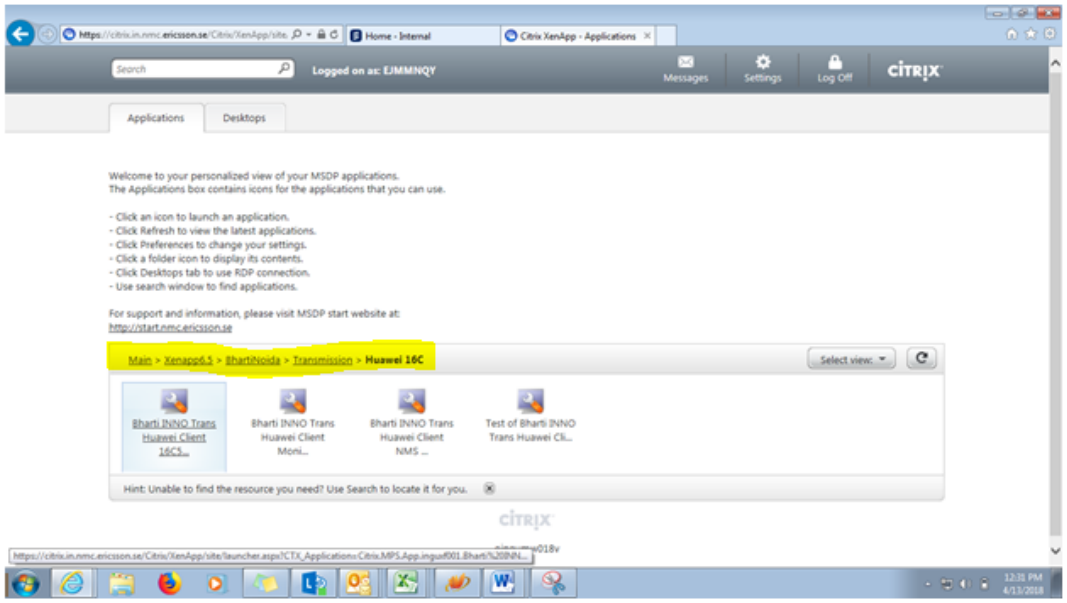
Steps for BUS_ERR Alarm Clearance: -

1. Login MSDP through below mentioned link.
https://citrix.in.nmc.ericsson.se/

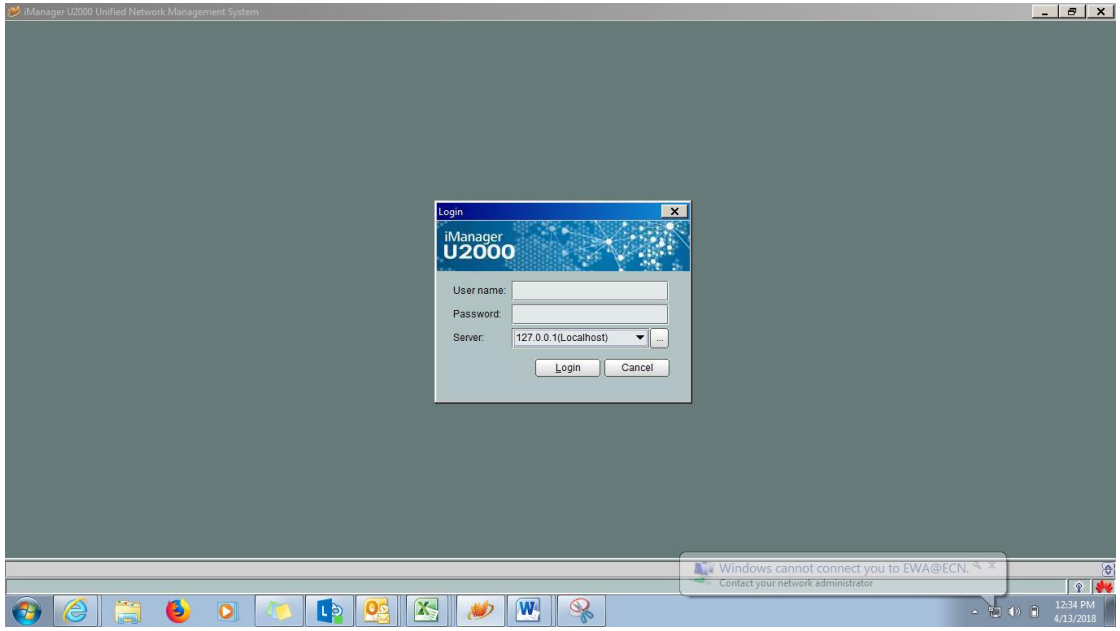
2. Provide CITRIX username and password.



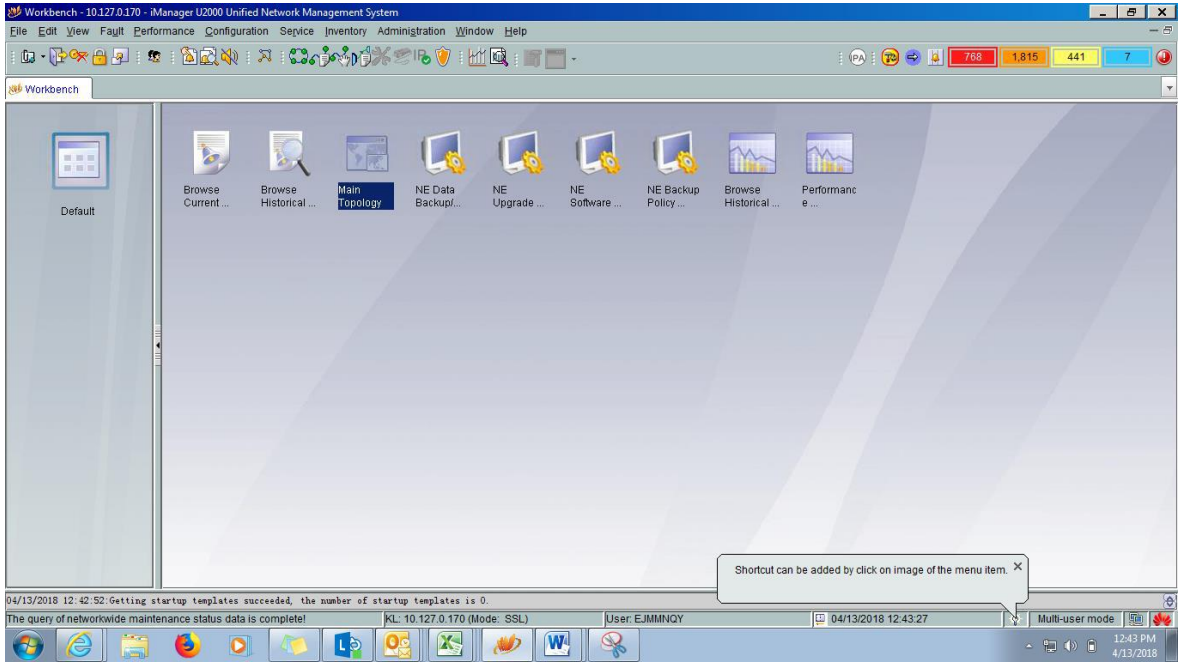
3. Click on "Xenapp6.5 >> BhartiNoida >> Transmission >> Huawei 16C/17C/18C >> Bharti INNO Trans Huawei client.



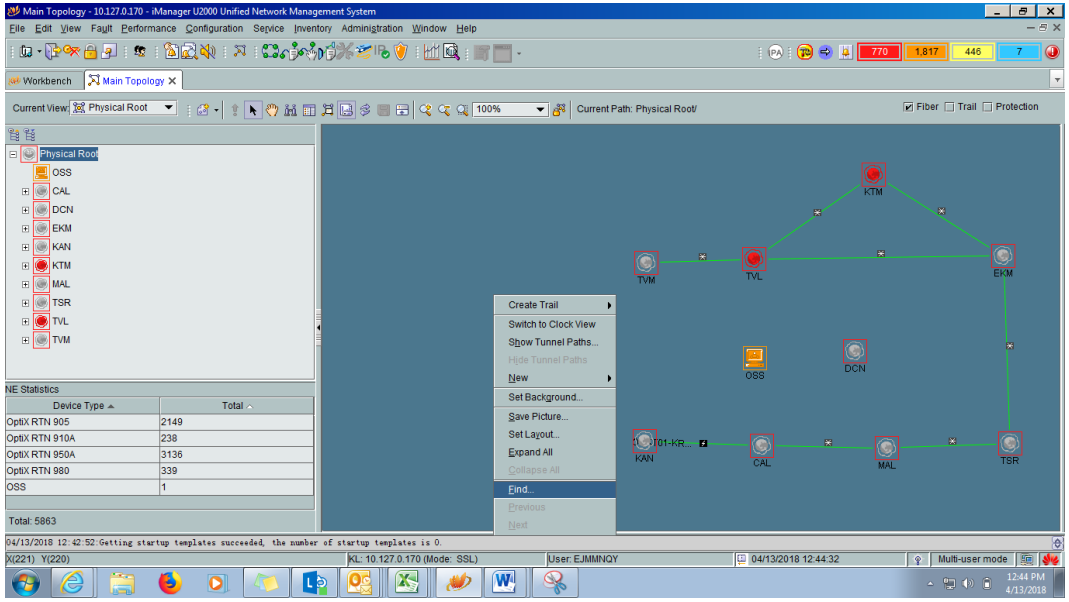
4. Now Huawei is launched enter the credentials and server IP of the circle must log in.



5. Click on "Main Topology" to open the Topology.



6. Right Click on the server and click on "FIND" to find the node.



Alarm Severity	Alarm Type
Minor	Service alarm

1.1 Parameters

None

1.2 Impact on the System

When the MW_BER_EXC alarm occurs, the service on the port is interrupted.

D. Procedure

1.3 Possible Causes

- Cause 1: Signal attenuation on the radio link is very heavy.
- Cause 2: The transmit unit of the opposite station is faulty.
- Cause 3: The receive unit of the local site is faulty.
- Cause 4: An interference event occurs.

Cause 1: Signal attenuation on the radio link is very heavy.

a. At the local end, check whether the receive power of the ODU is normal. If yes, determine the abnormality and take proper measures.

If...	Then...
The RSL is lower than the receiver sensitivity	Follow the steps: 1. Check the installation of the antenna to ensure that the azimuth of the antenna meets the requirement. 2. Check the antenna direction. Check whether the received signal is from the main lobe. If the antenna direction does not meet the requirement, adjust the antenna in a wide range. 3. Check whether the setting of the polarization direction of the antenna is correct. Adjust the incorrect polarization direction. 4. Check whether the antenna gain at both the transmit and receive ends meets the specifications. Replace the antennas that do not meet the requirement. 5. Check whether any mountain or building obstacle exists in the transmit direction. If yes, contact the network planning department for proper modification of the planning design, hence preventing the block of the mountain or building obstacle.
The RSL is higher than the specified RSL of the network. The offset value is tens of decibels. The duration is from tens of seconds to several hours.	Slow up fading occurs. Follow the steps: 1. 2. Follow instructions in Scanning Interfering Signals to scan the frequency spectrum around the radio link and check for co-frequency interference and bias-frequency interference. 3. Use a spectrum analyzer to analyze the interference source. 4. Contact the spectrum management department to clear the interference spectrum or change plans to minimize the interference.

The RSL is lower than the specified RSL of the network. The offset value is tens of decibels. The duration is from tens of seconds to several hours.	Slow down fading occurs. Generally, the radio link may be faulty in both directions, because slow fading is imposed by the transmission path. Contact the network planning department to make the following changes: • Increase the installation height of the antenna. • Reduce the transmission distance. • Increase the antenna gain. • Increase the transmit power.
If the RSL is lower than or higher than the specified RSL of the network and if the duration is from several milliseconds to tens of seconds.	Fast fading occurs. Contact the network planning department to make the following changes: • Adjust the position of the antenna to block the reflected wave or make the reflection point fall on the ground that has a small reflection coefficient, therefore reducing the multipath fading. • Adjust the RF configuration to make the links in the 1+1 SD configuration. • If the links are configured with the 1+1 SD protection, adjust the height offset between two antennas to make the receive power of one antenna stronger than the receive power of the other antenna. • Increase the fading margin.

Cause 2: The transmit unit of the opposite station is faulty.

Locate the fault by looping back the opposite station and excluding the position one by one. Follow the steps:

a. Perform an inloop on the IF port at the opposite end. For details, see Setting Loopback for the IF Board. Check whether the fault at the opposite end is rectified after the loopback.

If...	Then...
The fault at the opposite end is not rectified	Replace the IF board.

The fault at the opposite end is rectified	Go to the next step.

b. Check whether the cable connector is prepared according to the requirement. If any cable connector does not meet the requirement, make a new connector.
c. Check whether the IF cable is wet, broken, or pressed. Replace the cable that does not meet the requirement.
d. Then, check whether the fault at the opposite end is rectified.

If...	Then...
The fault at the opposite end is not rectified	Replace the ODU at the opposite end.
The fault at the opposite end is rectified	End the alarm handling.

Cause 3: The receive unit of the local site is faulty.

Locate the fault by looping back the opposite station and excluding the position one by one. Follow the steps:

a. Perform an inloop on the IF port at the local end. For details, see Setting Loopback for the IF Board. Check whether the fault at the local end is rectified after the loopback.

If...	Then...

The fault at the opposite end is not rectified	Replace the IF board.
The fault at the opposite end is rectified	Go to the next step.

b. Check whether the cable connector is prepared according to the requirement. If any cable connector does not meet the requirement, make a new connector.

c. Check whether the IF cable is wet, broken, or pressed. Replace the cable that does not meet the requirement.

d. Then, check whether the fault at the opposite end is rectified.

If...	Then...
The fault at the opposite end is not rectified	Replace the ODU at the local end.
The fault at the opposite end is rectified	End the alarm handling.

Cause 4: An interference event occurs.

a. Follow instructions in Scanning Interfering Signals to scan the frequency spectrum around the radio link and check for co-frequency interference and bias-frequency interference.

b. Use a spectrum analyzer to analyze the interference source.
c. Contact the spectrum management department to clear the interference spectrum or change plans to minimize the interference.

- *Check whether the MW_BER_EXC alarm is cleared. If the alarm persists, contact Huawei technical support engineers to handle the alarm.*

E. Post Activity Health Check:

Please check alarm will be clear and services also restored.

F. Fallback:

In case of configuration lost during troubleshooting we must upload backup for traffic restoration.