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MOP for Ceragon E1/DS1 excessive BER on port Fault management

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A. Introduction

This document outlines the step-by-step process involved in Ceragon E1/DS1 excessive BER on port Fault management

B. PRE-CHECK

- Node must be reachable then need to proceed to the next step else need to arrange filed support with local login accessories & spare hardware such LIC-T16 ACR.
- PCM path or end to end media path along with port details should be available.

❖ *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.*

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Current Alarms before activity

IP20:-

#	Time	Severity	Description	User Text	Origin
1	14-01-2020 13:11:12	Red	Remote communication failure		Radio: Slot 5, Port 1
2	14-01-2020 13:11:05	Red	Radio loss of frame		Radio: Slot 5, Port 1
3	10-01-2020 15:55:02	Red	Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 55
4	10-01-2020 15:55:02	Red	Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 34
5	10-01-2020 15:55:02	Red	Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 13
6	10-01-2020 15:53:49	Red	Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 3
7	10-01-2020 15:53:49	Red	Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 2
8	10-01-2020 15:53:49	Red	Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 1
9	10-01-2020 15:54:58	Yellow	Remote Defect Indication (RDI) received on TDM-LIC VC12VC11		STM-1/OC-3: Slot 10, Port 1, Instance 55
10	10-01-2020 15:54:58	Yellow	Remote Defect Indication (RDI) received on TDM-LIC VC12VC11		STM-1/OC-3: Slot 10, Port 1, Instance 34
11	10-01-2020 15:54:57	Yellow	Remote Defect Indication (RDI) received on TDM-LIC VC12VC11		STM-1/OC-3: Slot 10, Port 1, Instance 13
12	15-01-2020 09:50:34	Yellow	RFU RX level out of range		Radio: Slot 5, Port 1
13	10-01-2020 15:53:51	Yellow	E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 7
14	10-01-2020 15:53:51	Yellow	E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 6
15	10-01-2020 15:53:51	Yellow	E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 5

IP10:-

Date & Time	Severity	Module	Description
03-Jan-20 01:47:50	Red	IDU	Radio loss of frame
14-Dec-19 16:44:01	Red	IDU	Remote communication failure
03-Jan-20 01:47:50	Red	IDU	Gigabit Ethernet loss of carrier on port #1
30-Oct-19 11:57:41	Yellow	IDU	Fan failure
14-Dec-19 16:43:49	Yellow	RFU	Tx mute
14-Jan-20 08:10:10	Yellow	RFU	Rx level out of range
15-Jan-20 09:20:12	Yellow	IDU	IDU extreme temperature conditions

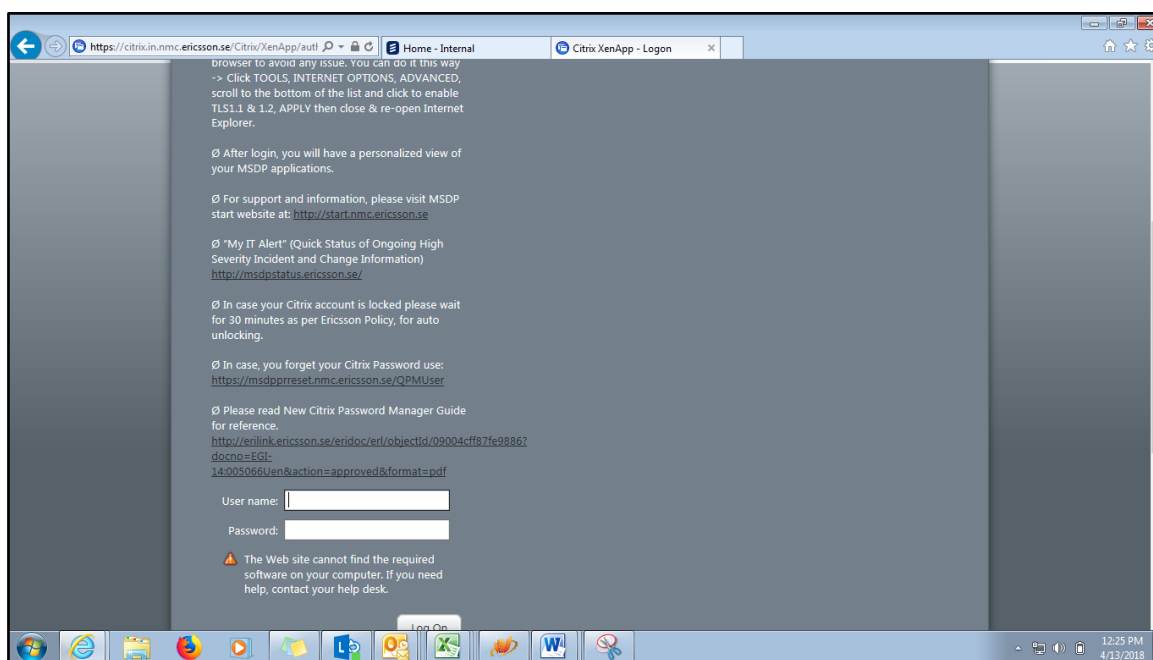
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C. Procedure:

STEPS FOR Ceragon E1/DS1 excessive BER on port alarm clearance

- **Login MSDP through below mentioned link.**
<https://citrix.in.nmc.ericsson.se/>
- **Provide CITRIX username and password.**



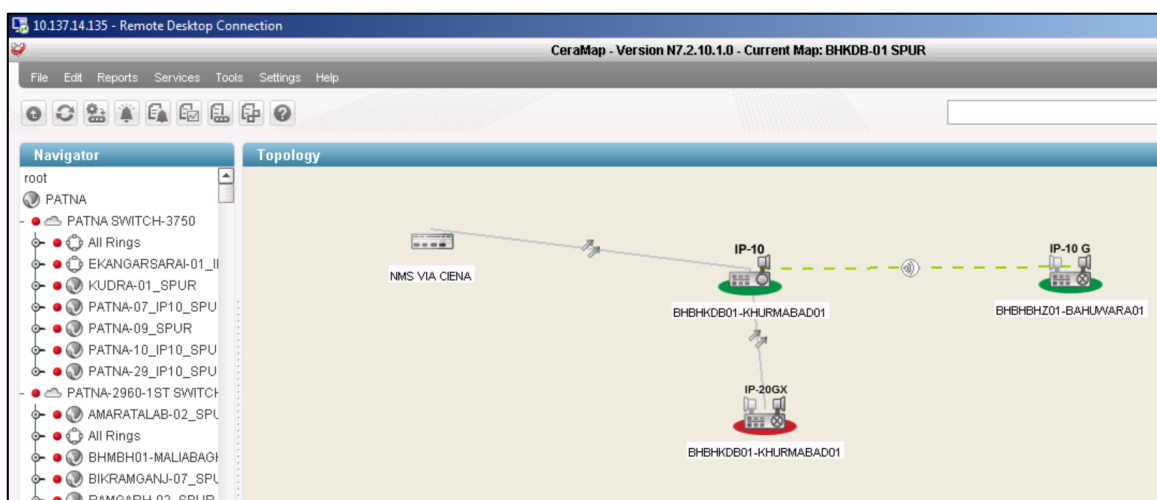
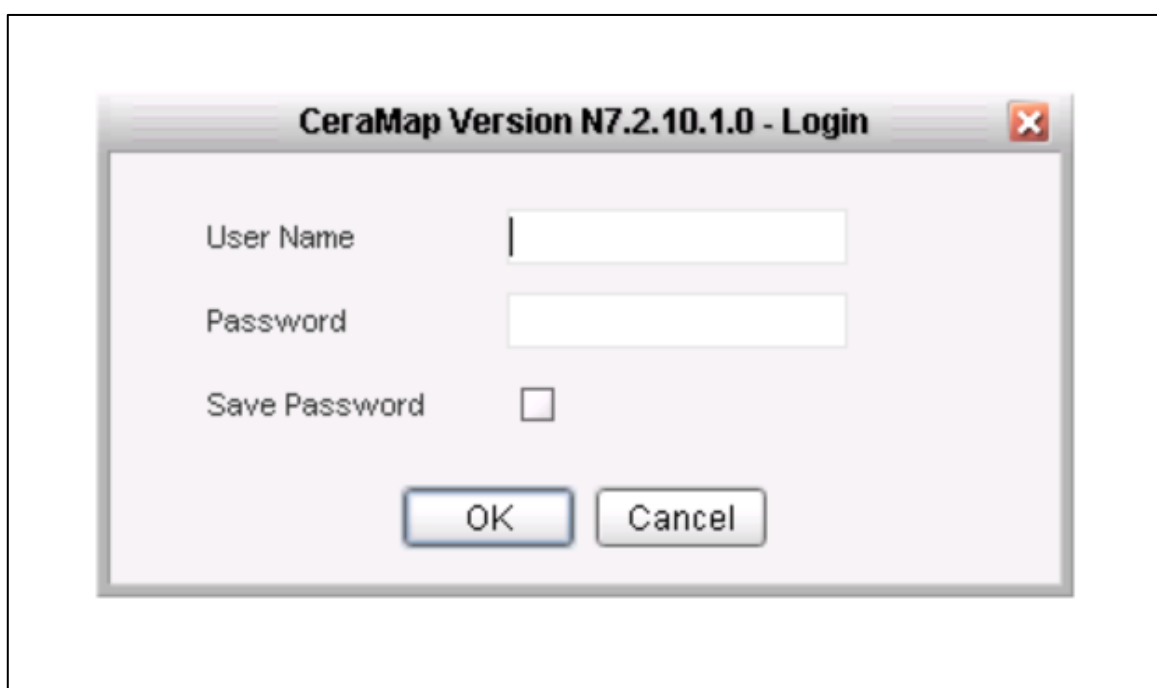
- **Click on Main > Xenapp6.5 > Bharti Noida > Bharti INNO Remote Desktop Client.**



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- ***Now login the RDP with RDP IP & credentials.***
- ***Launch the Cera map & login with credentials.***



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- ***Search the required Node ID in Cera Map & open the node by clicking on Open Node GUI.***
- ***Login Ceragon NODE locally via web browser through IP.***
- ***Provide IDU username and password.***

Principle:

The E1/DS1 excessive BER on port alarm indicates Electrical port is down.

Possible Causes:

- 1) Line is not properly connected.***
- 2) External equipment is faulty.***

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Steps for alarm clearance:

- For IP-10 Go to **Diagnostics and maintenance>Loopback>PDH Line**.
For IP20 Go to **TDM > Diagnostics>PDH Loopback**
- For IP-10 Select **E1** & select **Loopback towards radio** then apply
For IP20 Select **E1**, Click on **edit** & select **Loopback type towards system** then apply

IP-10

The screenshot shows the CERAGON IP-10 web interface. The browser address bar displays '10.204.211.212'. The left sidebar menu is expanded to 'Diagnostics & Maintenance' > 'Loopback' > 'PDH Line'. The main content area is titled 'PDH Line - Slot 1' and shows a table of loopback configurations. The 'Timeout (minutes)' is set to 5. The table lists 16 loopbacks (E1 #1 to E1 #16). E1 #2 is selected, and its state is 'Loopback towards radio'. The 'Apply' button is visible at the bottom.

Name	State
E1 #1 loopback	Off
E1 #2 loopback	Loopback towards radio
E1 #3 loopback	Off
E1 #4 loopback	Off
E1 #5 loopback	Off
E1 #6 loopback	Off
E1 #7 loopback	Off
E1 #8 loopback	Off
E1 #9 loopback	Off
E1 #10 loopback	Off
E1 #11 loopback	Off
E1 #12 loopback	Off
E1 #13 loopback	Off
E1 #14 loopback	Off
E1 #15 loopback	Off
E1 #16 loopback	Off

IP-20

The screenshot shows the CERAGON IP-20 web interface. The browser address bar displays '10.64.93.2/responder.fcgi?winid=13&deviceid=0'. The left sidebar menu is expanded to 'Diagnostics' > 'PDH Loopback'. The main content area is titled 'PDH Loopback' and shows a table of loopback configurations. The 'Loopback type' is set to 'Towards system'. The 'Apply' button is visible at the bottom.

Port number	Loopback type
1	None
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None
11	None
12	None
13	None
14	None
15	None
16	None

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- If alarm cleared then need to check hard loop from field on E1
- If alarm also cleared during hard loop then need to re-patching E1 or check connected equipment.

Current Alarms - Slot 1

Date & Time	Severity	Module	Description
20-Jul-19 15:33:55	Red	IDU	Sync clock source signal failure for Ethernet interface
17-Dec-19 00:36:21	Red	IDU	Remote communication failure
26-Mar-20 15:45:30	Red	IDU	E1/DS1 excessive BER on port #6
28-Mar-20 01:34:49	Red	IDU	E1/DS1 excessive BER on port #2
29-Dec-19 01:33:04	Yellow	IDU	Fan failure
20-Jul-19 15:34:35	Yellow	IDU	E1/DS1 unexpected signal on port #7
20-Jul-19 15:34:35	Yellow	IDU	E1/DS1 unexpected signal on port #8
20-Jul-19 15:34:46	Yellow	IDU	Failure in one or more TDM trails
14-Jan-20 12:01:33	Yellow	IDU	Trails mapped to inexistent interfaces in IDU #2
11-Feb-20 11:24:57	Yellow	IDU	E1/DS1 unexpected signal on port #3
11-Feb-20 11:24:58	Yellow	IDU	E1/DS1 unexpected signal on port #4

Current Alarms - Slot 1

Date & Time	Severity	Module	Description
20-Jul-19 15:33:55	Red	IDU	Sync clock source signal failure for Ethernet interface
17-Dec-19 00:36:21	Red	IDU	Remote communication failure
26-Mar-20 15:45:30	Red	IDU	E1/DS1 excessive BER on port #6
28-Mar-20 01:51:19	Red	IDU	E1/DS1 loopback towards radio on port #2
29-Dec-19 01:33:04	Yellow	IDU	Fan failure
20-Jul-19 15:34:35	Yellow	IDU	E1/DS1 unexpected signal on port #7
20-Jul-19 15:34:35	Yellow	IDU	E1/DS1 unexpected signal on port #8
20-Jul-19 15:34:46	Yellow	IDU	Failure in one or more TDM trails
14-Jan-20 12:01:33	Yellow	IDU	Trails mapped to inexistent interfaces in IDU #2
11-Feb-20 11:24:57	Yellow	IDU	E1/DS1 unexpected signal on port #3
11-Feb-20 11:24:58	Yellow	IDU	E1/DS1 unexpected signal on port #4

- If alarm not cleared during PDH Line/Hard Loop then need to change E1 port



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D. Post Activity Health Check:

Need to check the service status & E1 related alarm.

E. Fall Back Procedure: -

NA