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MOP-Jitter-buffer-overflow alarm on TDM service

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A. Introduction

This document outlines the step-by-step process involved in Ceragon Jitter-buffer-overflow alarm on TDM service Alarm Fault management.

B. PRE-CHECK

- *If both the nodes are reachable then need to proceed to the next step else need to arrange field support with spare hardware such as LIC CARD and tested login accessories.*
 - *PCM path or end to end media path along with V-LAN & port details should be available.*
 - *Keep configured TDM TRAILS snapshot backup before performing any activity.*
 - *Jitter-buffer-overflow alarm on TDM service 2 reflecting in alarm window*
- ❖ *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:-

#	Alarm ID ▲	Severity	Description	Additional Text
165	2007		Jitter-buffer-overrun alarm on TDM service	

#	Time	Severity ▲	Description	User Text	Origin
1	14-01-2020 13:11:12		Jitter-buffer-overrun alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 34
2	14-01-2020 13:11:05		radio loss on frame		radio: slot 5, port 1
3	10-01-2020 15:55:02		Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 55
4	10-01-2020 15:55:02		Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 34
5	10-01-2020 15:55:02		Loss-of-frames alarm on TDM service		STM-1/OC-3: Slot 10, Port 1, Instance 13
6	10-01-2020 15:53:49		Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 3
7	10-01-2020 15:53:49		Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 2
8	10-01-2020 15:53:49		Loss Of Signal (LOS) on TDM-LIC TDM port		E1/T1: Slot 3, Port 1
9	10-01-2020 15:54:58		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		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		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		RFU RX level out of range		Radio: Slot 5, Port 1
13	10-01-2020 15:53:51		E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 7
14	10-01-2020 15:53:51		E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 6
15	10-01-2020 15:53:51		E1/DS1 Unexpected signal on TDM-LIC TDM port		E1/T1: Slot 3, Port 5

C. Procedure:

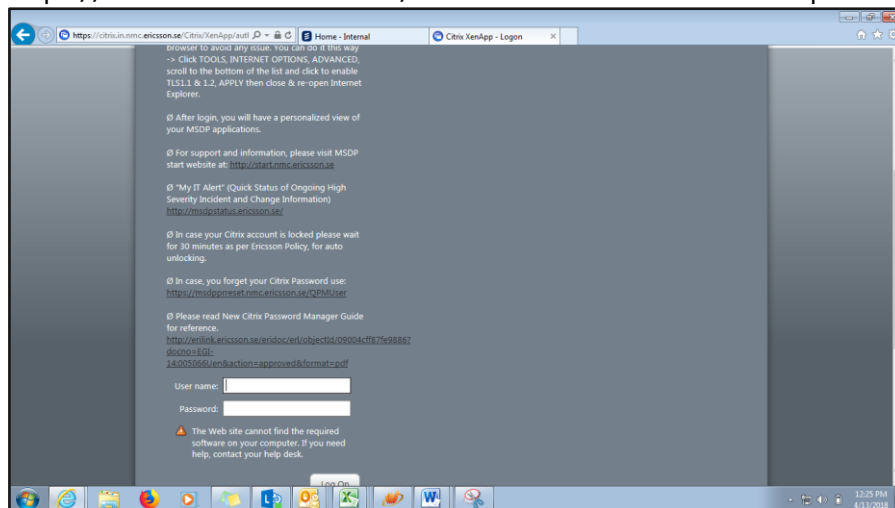
STEPS FOR Ceragon Radio loss of frame alarm clearance

1. Login MSDP through below mentioned link.

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<https://citrix.in.nmc.ericsson.se/> Provide CITRIX username and password.



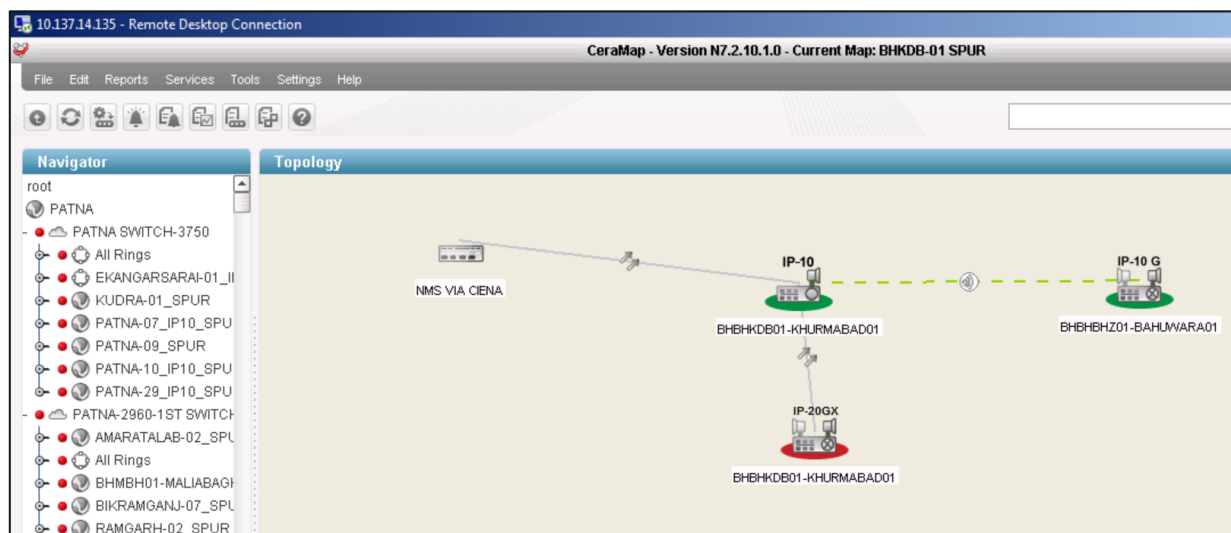
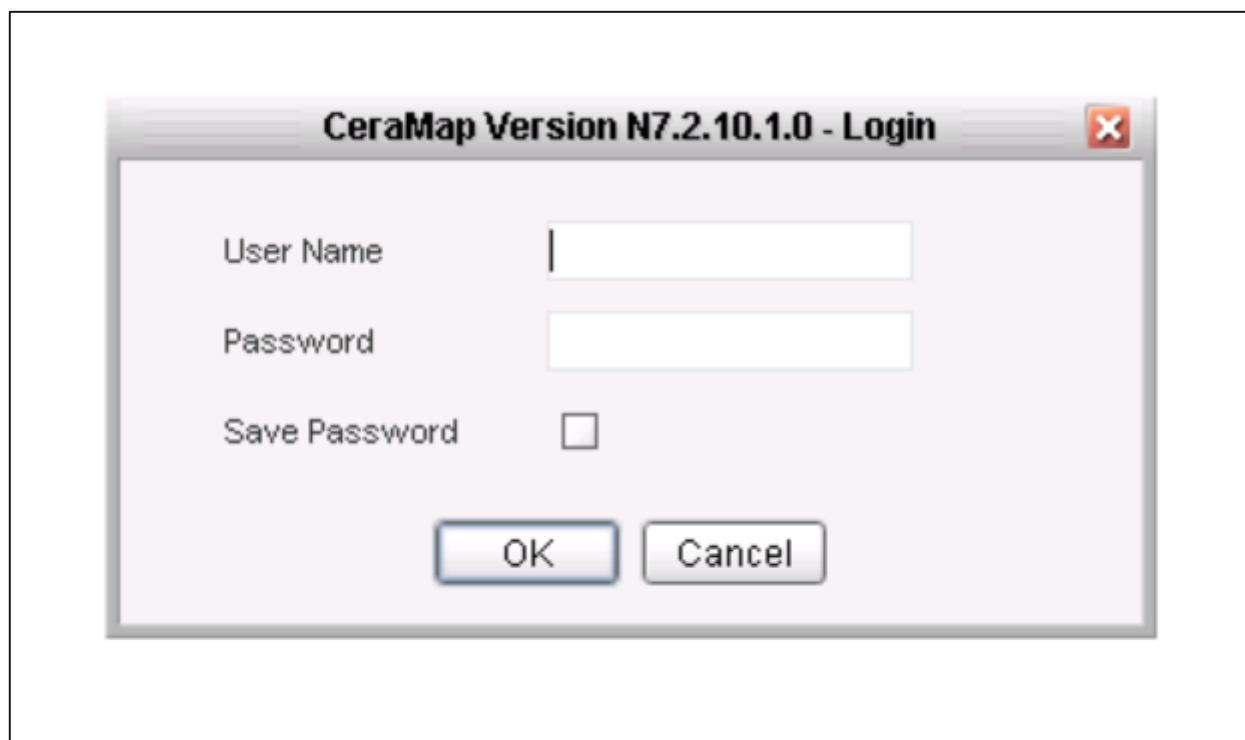
2. Click on Main > Xenapp6.5 > Bharti Noida > Bharti INNO Remote Desktop Client.



3. Now login the RDP with RDP IP & credentials.

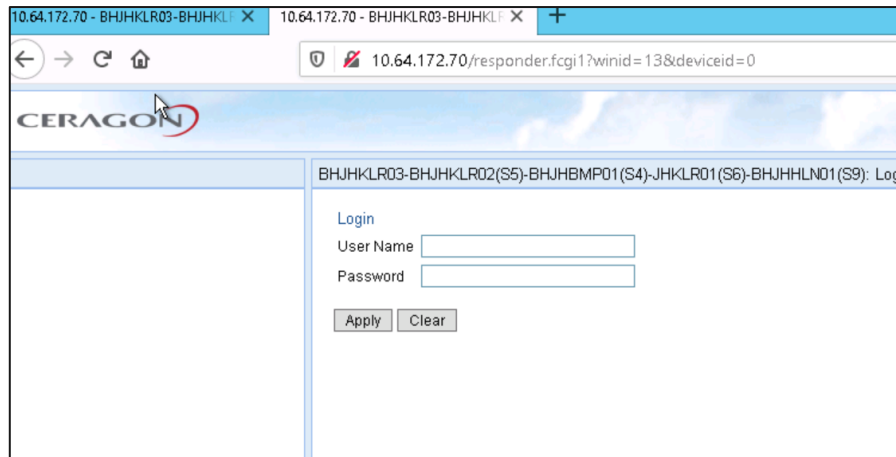
4. Launch the Cera map & login with credentials.

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5. Search the required Node ID in Cera Map & open the node by clicking on Open Node GUI.
6. Login Ceragon IP20 NODE locally via web browser through IP.
7. Provide IDU username and password.

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Principle:

The Jitter-buffer-overflow alarm on TDM service alarm indicates TDM Service is down.

Traffic Impact:

When Jitter-buffer-overflow alarm on TDM service alarm occurs, the services that travel along this path interrupted.

- Steps for troubleshooting
 - Below alarm must be reflecting in alarm window

Alarm Configuration				
#	Alarm ID ▲	Severity	Description	Additional Text
165	2007		Jitter-buffer-overflow alarm on TDM service	
Probable Cause				

1. Probable Cause

- a. QoS definition
- b. Link utilization (100%)
- c. TDM trail configuration and service synchronization
- d. Hardware issue or backend Media issue

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2. Corrective Actions

- QoS correction
- link enhancement
- Check TDM service configuration
- backend media issue
- Raise care case to CERAGON and perform activity as per their suggesatio.

1. QoS Correction.

In the case of PSEUDO-WIRE trail, if trail Passing through IP20C/IP20S.

Connected port b/w IP20N/IP20OG/IP20F and IP20S/IP20C

Example:-ETH S1P2 of IP20 IDU Connected with IP20C

▼ Physical Interfaces				
Interface location ▲	Description	Operational Status	Admin status	Media
Ethernet: Slot 1, Port 1	LOCAL FDD	Up	Up	RJ45
Ethernet: Slot 1, Port 2	XPIC 10.206.89.181	Up	Up	RJ45
Ethernet: Slot 1, Port 3	TO E91841 ETY-1	Up	Up	RJ45

Logical QoS Must as below snaps.

For IP20 IDU

Interface location ▲	Trust VLAN UP bits	Trust DSCP	Trust MPLS	Default port CoS	Ingress byte compensation	Egress byte compensation	Interface
Ethernet Slot 1, Port 1	Un-Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 2	Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 3	Un-Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 4	Un-Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 5	Un-Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 6	Un-Trust	Trust	Un-Trust	2	20	0	None
Radio: Slot 1, Port 1	Trust	Trust	Trust	0	20	0	None
Radio: Slot 1, Port 2	Trust	Trust	Trust	0	20	0	None
TDM: Slot 1, Port 1	Trust	Trust	Trust	0	20	0	None

For IP20C/S ODU- always connected with ETH S1P1

Interface location ▲	Trust VLAN UP bits	Trust DSCP	Trust MPLS	Default port CoS	Ingress byte compensation	Egress byte compensation	Interface Mode
Ethernet Slot 1, Port 1	Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 2	Un-Trust	Trust	Un-Trust	2	20	0	None
Ethernet Slot 1, Port 3	Un-Trust	Trust	Un-Trust	2	20	0	None
Radio: Slot 2, Port 1	Trust	Trust	Trust	0	20	0	None



2. link Utilization M/w link not be 100% utilized as per below snaps.

BHBGH01: Utilization PM report (Radio: Slot 6, Port 1, 15 minutes)

Interface: Radio: Slot 6, Port 1 Interval Type: 15 minutes

PM Table

#	Time interval index	Peak utilization (percent)	Average utilization (percent)	Seconds exceeding threshold	Integrity
10	22-Mar-20 11:00	100	83	0	✓
11	22-Mar-20 11:45	100	83	0	✓
12	22-Mar-20 11:30	99	79	0	✓
13	22-Mar-20 11:15	98	76	0	✓
14	22-Mar-20 11:00	93	74	0	✓
15	22-Mar-20 10:45	100	80	0	✓
16	22-Mar-20 10:30	100	84	0	✓
17	22-Mar-20 10:15	100	80	0	✓
18	22-Mar-20 10:00	100	82	0	✓
19	22-Mar-20 09:45	100	81	0	✓
20	22-Mar-20 09:30	100	85	0	✓
21	22-Mar-20 09:15	100	90	0	✓
22	22-Mar-20 09:00	100	90	0	✓
23	22-Mar-20 08:45	96	81	0	✓
24	22-Mar-20 08:30	94	80	0	✓
25	22-Mar-20 08:15	94	80	0	✓

View Thresholds Graph

IF link is high utilized please enhance the bandwidth oh the LINK. By Upgrading modulation or DC license.

Check TDM service configuration

Clock timing at source end at "LOOP Timing" and at dropping end Must be recovered.

Trail configuration must be as bellow for normal and Pseudo-wire trail.

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SOURCE END

Native TDM Services - Edit

Trail ID: 20

Trail Optimization: Standard

Trail Description: EBHUSHANSTL1

Trail Protection: Unprotected

Local: 1

Remote: 2

Interface #1

Location: Slot 4 (LIC-T155 ACR), STM-1 #1, VC12 #7

Timing: Loop timing

Interface #2

Location: Slot 6 (RMC-B), Radio #1, VC #2

Operational status: Up

Admin status: Up

Apply Refresh Close

DROP END

Native TDM Services - Edit

Trail ID: 20

Trail Optimization: Standard

Trail Description: EBHUSHANSTL1

Trail Protection: Unprotected

Local: 2

Remote: 1

Interface #1

Location: Slot 5 (RMC-B), Radio #1, VC #2

Interface #2

Location: Slot 3 (LIC-T16 ACR), E1/DS1 #6

Timing: Recovered

Operational status: Up

Admin status: Up

Apply Refresh Close

In the term of Pseudo- wire trail

Shelf slot ID: Slot 4: LIC-T155 ACR

Service ID: 3

Admin state: Enable

Service type: SAToP

Tunnel type: Eth

TDM interface: STM-1/OC-3: Slot 4, Port 1, Instance 15

TDM port / Bundle ID: 15

PW profile ID: 1

Tunnel ID or Tunnel Group ID: 3

Clock recovery master: No

Source Tunnel Identifier: 15

Shelf slot ID: Slot 4: LIC-T155 ACR

Service ID: 4

Admin state: Enable

Service type: SAToP

Tunnel type: Eth

TDM interface: STM-1/OC-3: Slot 4, Port 1, Instance 36

TDM port / Bundle ID: 36

PW profile ID: 1

Tunnel ID or Tunnel Group ID: 4

Clock recovery master: Yes

Source Tunnel Identifier: 9

If everything and configuration is ok. Need to perform below activity in SA CR window.

1. Give system loop from dropping end if alarm cleared change dropping port.
2. Give line loop from source end if alarm not clear. raise case to backend media.

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Need to Check alarm will be clear and services also restored after confirmation from all stakeholders. If alarm not cleared and link is still down after following all procedure, raise care case to OEM Ceragon.

E. Fall Back Procedure: -

Upload backup in case of outage if new outage happened.