

Confidentiality Class	External Confidentiality Label	Document Type	Page
Ericsson Internal		Method of Procedure	1 (12)
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EDGHHMI Sumit Sharma H	BMASJZMF [Nitin Baranwal]		
Document Number	Revision	Date	Reference
BMAS-20:010846 Uen	A	2020-05-13	



MOP for Huawei DROPRATIO_OVER alarm troubleshooting

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C	Procedure
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A. Introduction

This document outlines the step-by-step process involved in MOP for troubleshooting the DROPRATIO_OVER alarm and verifying the QoS configuration on the Huawei nodes and correcting the parameters. This MOP will help the users to identify the cause and rectify the TC class related issues and DROPRATIO_OVER alarm.

B. PRE-CHECK

- 1. 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.*
- 2. Check the data received from authorized Transmission engineer for correctness & all essential data.*
- 3. If Circle Head/ CR form does not approve the CR is not duly filled, CR should not be taken for execution.*

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4. Every Outage involve activity should be performed in Night Shift Only.

5. Need backup of Node where the activity is performed before any activity.

6. If any Critical/SA alarms, Don't perform activity on the node and ask circle to clear the Alarm.

7. In case of latency, Don't perform activity on the node

FOR DROPRATIO_OVER_identification & Troubleshooting Activity: -

1. This is can be service impacting activity and proper VLAN and port details should be available before carrying out the activity.
2. The changes should be carried out after confirmation from the circle team and always perform query operation before making any changes so that the actual data can be received from the nodes.
3. Need to take the screenshots prior to any changes so that the activity can be reverted if there is any impact.

❖ 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.

Current Alarms before activity

Severity	Name	Occurrence Tim	Alarm Source	Location Information	First Occurred (ST)	Last Occurred (ST)
Minor	DROPRATIO_OVER	065	GJGT4471-BAHELMVASIND	17-EG6-2(TDD NODE B)-COS.AF4	05/07/2020 11:54:35	05/08/2020 20:34:38

Details Location Information: 17-EG6-2(TDD NODE B)-COS.AF4 Additional Information: Alarm Parameter II(hes) 0x01 Remarks:	Troubleshooting Alarm Description: Discarded packets over the threshold for congestion Reason and Advice: [Click here for details] Reason: 1. Service configurations are incorrect. 2. The traffic received or transmitted is larger than the limited port bandwidth or the configured CIR value.
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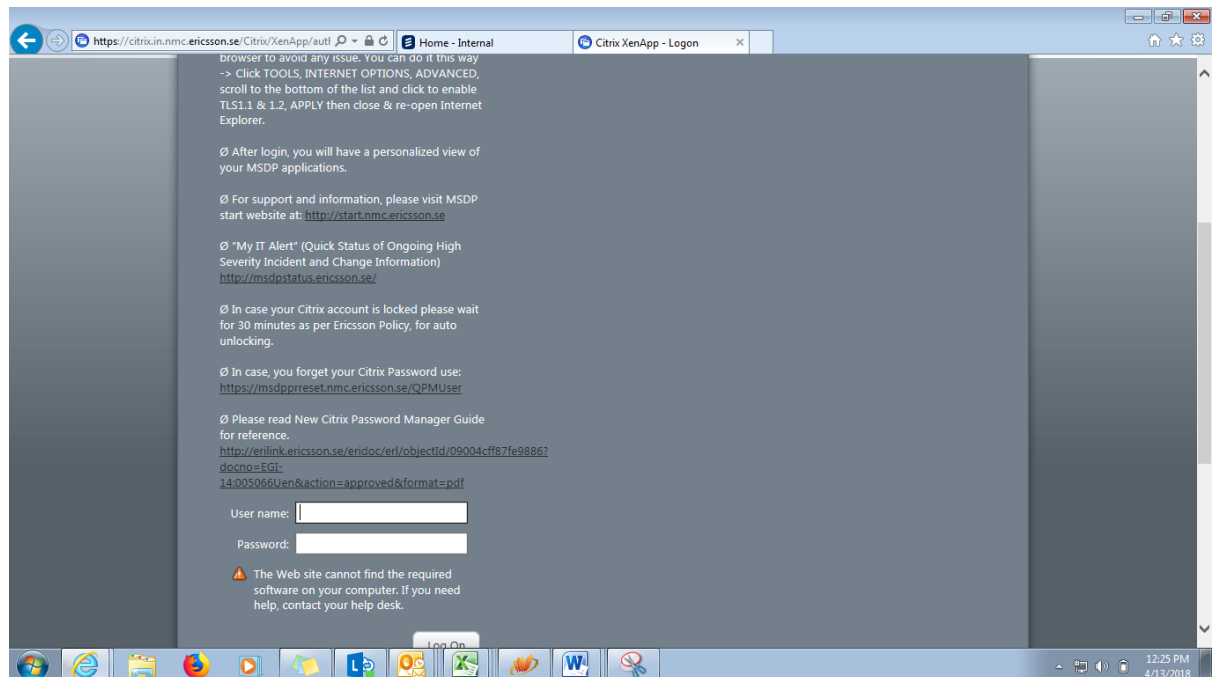


C. Procedure:

STEPS FOR Huawei DROPTRATIO OVER identification & Troubleshooting Activity

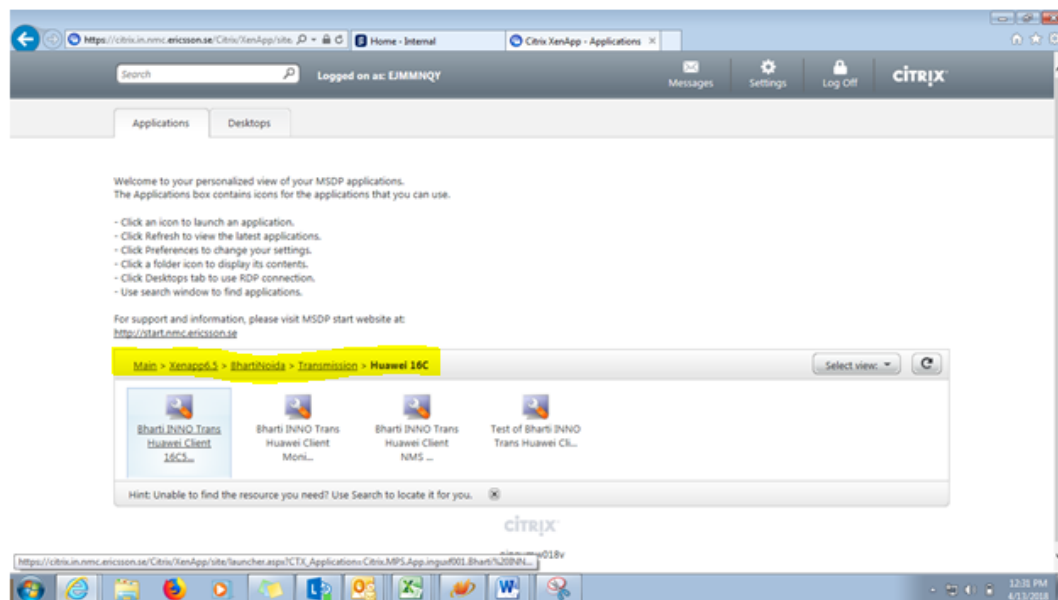
**1. Login MSDP through below mentioned link.
<https://citrix.in.nmc.ericsson.se/>**

2. Provide CITRIX username and password.

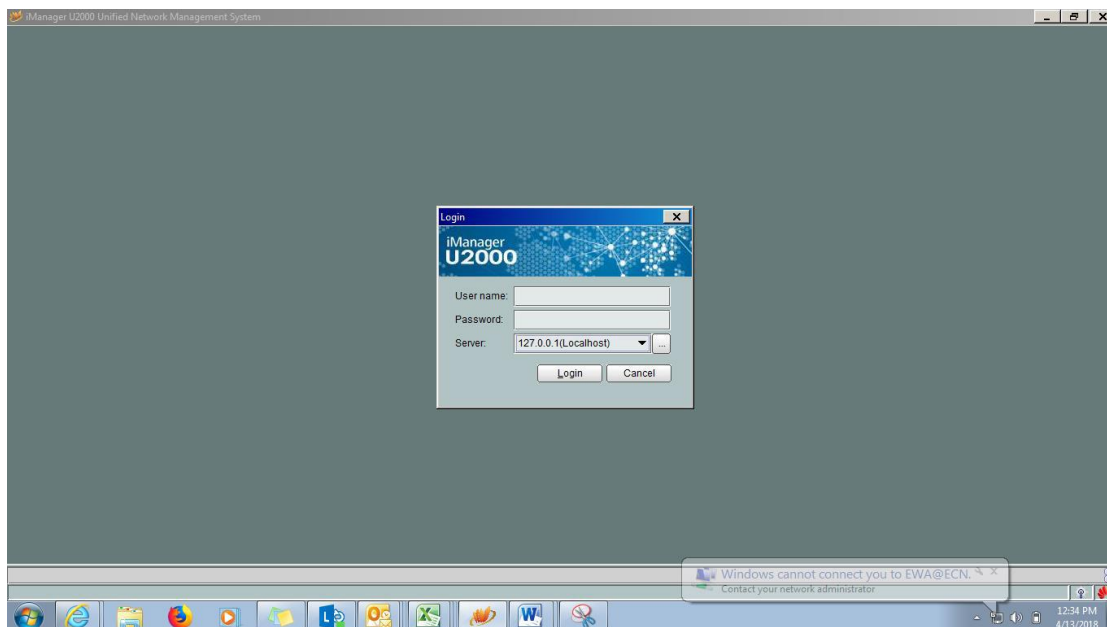


3. Click on "Xenapp6.5 >> BhartiNoida >> Transmission >> Huawei 16C/17C/18C >> Bharti INNO Trans Huawei client."

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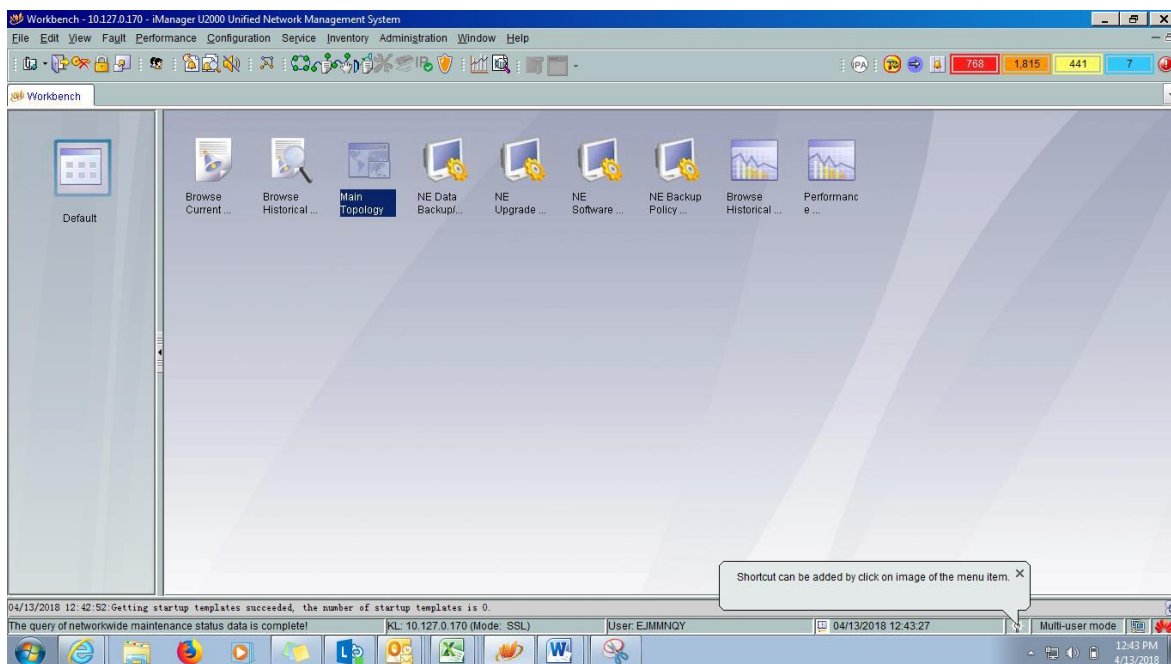
4. Now Huawei is launched enter the credentials and server IP of the circle must log in.



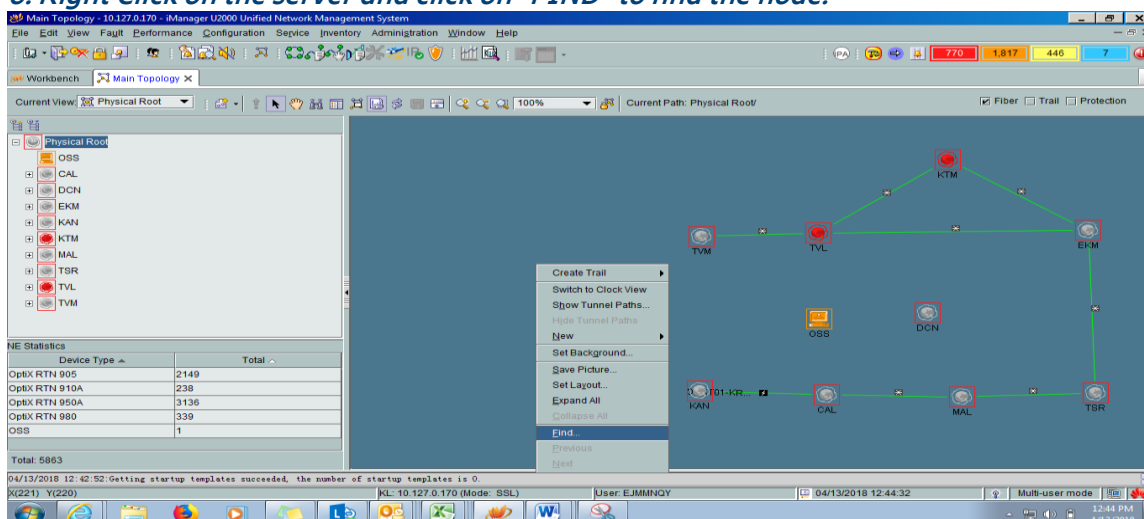
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5. Click on "Main Topology" to open the Topology.



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



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7. Check the current alarms and parameters for the TC class for which the alarm is getting reported.

Identify the TC class and check the utilization of the port on which the alarm is getting reported.

8. Limits:

IF WAN traffic and Mobility traffic should not have the same VLAN ID in one NE.

IF port Layer-2 default attributes must be "tag aware".

If the link is running on ISU2 then need to replace ISU2 with ISV3 board.

IF BTS/FNP HO ports are connected to EM6T, shift same to EG* boards or replace EM6T.

Configuration Analysis & Verification with MOP:

Verified QoS Profile definition & found as per MOP only. Correct QoS profile configuration mentioned below for reference & verification.

IF Policy Parameters:

The screenshot shows the Ericsson MOP interface for QoS configuration. On the left, a function tree lists various management tasks, with 'Port Policy' selected. The main area displays a table of WRR Scheduling Policies and a table of CoS Configuration.

Policy ID	Policy Name	WRR Scheduling Policy
1	IF-Port-Policy	2-WRR-IF-PLOCY
2	WAN-Traffic-Ingress-Policy	1-WRR Default Scheduling
3	Mobility-Traffic-Ingress-Policy	1-WRR Default Scheduling

No. 1, Total: 3, Selected: 1, Update at: 12/04/2019 11:32:08

Buttons: Query, New, Copy, Delete

CoS	Grooming Policy After Reloading	Bandwidth Limitation	CIR (kbit/s)	PIR (kbit/s)	CBS (bytes)	PBS (bytes)
CS7	SP	Disabled	-	-	-	-
CS6	SP	Disabled	-	-	-	-
EF	WRR	Disabled	-	-	-	-
AF4	WRR	Disabled	-	-	-	-
AF3	WRR	Disabled	-	-	-	-
AF2	WRR	Disabled	-	-	-	-
AF1	WRR	Disabled	-	-	-	-
BE	WRR	Disabled	-	-	-	-

Buttons: Full Screen, Close Full Screen

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***** there should be no configuration in Traffic classification configuration of IF-Port-Policy.**

MOBILITY Policy Parameters:

Policy ID | Policy Name | WRR Scheduling Policy

1	IF-Port-Policy	2-WRR-IF-PLOCY
2	IWAN-Traffic-Ingress-Policy	1-WRR Default Scheduling
3	Mobility-Traffic-Ingress-Policy	1-WRR Default Scheduling

No. 3, Total: 3, Selected: 1, Update at: 12/04/2019 11:32:08

Query New Copy Del

CoS Configuration Traffic Classification Configuration Application Object

CoS	Grooming Policy After Reloading	Bandwidth Limitation	CIR (kbit/s)	PIR (kbit/s)	CBS (bytes)	PBS
CS7	SP	Disabled	-	-	-	-
CS6	SP	Disabled	-	-	-	-
EF	SP	Disabled	-	-	-	-
AF4	WRR	Disabled	-	-	-	-
AF3	WRR	Disabled	-	-	-	-
AF2	WRR	Disabled	-	-	-	-
AF1	WRR	Disabled	-	-	-	-
BE	SP	Disabled	-	-	-	-

Full Screen Close Full Screen

Mobility policy Classifier configuration:

Policy ID | Policy Name | WRR Scheduling Policy

1	IF-Port-Policy	2-WRR-IF-PLOCY
2	IWAN-Traffic-Ingress-Policy	1-WRR Default Scheduling
3	Mobility-Traffic-Ingress-Policy	1-WRR Default Scheduling

No. 3, Total: 3, Selected: 1, Update at: 12/04/2019 11:32:08

Query New

CoS Configuration Traffic Classification Configuration Application Object

Traffic Classification ID	Traffic Classification Rules	ACL Action	CoS	Bandwidth Limitation	CIR (kbit/s)
1	{DSCP Value:46:0}	Permit	CS7	Disabled	-
2	{DSCP Value:34:0}	Permit	CS6	Disabled	-
3	{DSCP Value:28:0}	Permit	EF	Disabled	-
4	{DSCP Value:26:0}	Permit	AF4	Disabled	-
5	{DSCP Value:25:0}	Permit	AF4	Disabled	-
6	{DSCP Value:24:0}	Permit	AF4	Disabled	-
7	{DSCP Value:23:0}	Permit	AF4	Disabled	-
8	{DSCP Value:22:0}	Permit	AF4	Disabled	-
9	{C-Vlan ID:0:0}	Permit	AF3	Disabled	-

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IWAN Policy Parameters:

Policy ID	Policy Name	WRR Scheduling Policy
1	IF-Port-Policy	2-WRR-IF-PLOCY
2	IWAN-Traffic-Ingress-Policy	1-WRR Default Scheduling
3	Mobility-Traffic-Ingress-Policy	1-WRR Default Scheduling

No. 2, Total: 3, Selected: 1, Update at: 12/04/2019 11:32:08

CoS	Grooming Policy After Reloading	Bandwidth Limitation	CIR (kbit/s)	PIR (kbit/s)	CBS (bytes)	PBS (bytes)
CS7	SP	Disabled	-	-	-	-
CS6	SP	Disabled	-	-	-	-
EF	SP	Disabled	-	-	-	-
AF4	WRR	Disabled	-	-	-	-
AF3	WRR	Disabled	-	-	-	-
AF2	WRR	Disabled	-	-	-	-
AF1	WRR	Disabled	-	-	-	-
BE	SP	Disabled	-	-	-	-

IWAN policy Classifier configuration:

Policy ID	Policy Name	WRR Scheduling Policy
1	IF-Port-Policy	2-WRR-IF-PLOCY
2	IWAN-Traffic-Ingress-Policy	1-WRR Default Scheduling
3	Mobility-Traffic-Ingress-Policy	1-WRR Default Scheduling

No. 2, Total: 3, Selected: 1, Update at: 12/04/2019 11:32:08

Traffic Classification ID	Traffic Classification Rules	ACL Action	CoS	Bandwidth Limitation	CIR (kbit/s)	PIR (kbit/s)
1	(C-Vlan ID:0:0)	Permit	AF2	Disabled	-	-

Next step: Verify "Diffserv Domain Management" profile & found all parameters Ok, correct profile setting snap mentioned below for reference.

P.S.: "Diffserv Domain Management" always have only one profile named as "default Map" and "Inbound" & "Outband" mapping relation parameters must be same as mentioned below.

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Inbound Map:

2-EM6T

3-ISV3

5-ISV3

6-ISV3

7-SP3S

8-ISV3

9-ISV3

11-ISV3

12-ISM6

13-ISV3

Diff

Function Tree

Configuration

QoS Management

Diffserv Domain Management

Diffserv Domain Managem

ATM CoS Mapping Configu

Egress DSCP Mapping

Mapping Relationship ID

Mapping Relationship Name

1

Default Map

No. 1, Total: 1, Selected: 1, Update at: 12/04/2019 11:41:04

Query

New

Inbound Mapping Relationship

Outbound Mapping Relationship

Application Object

C-VLAN	S-VLAN	IP DSCP	MPLS EXP	PHB
0	0	0-7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41-45,47,49-55,57-63	0	BE
1	1	8,10	1	AF11
		12		AF12
		14		AF13
2	2	16,18	2	AF21
		20		AF22
		22		AF23
3	3	24,26	3	AF31
		28		AF32
		30		AF33
4	4	32,34	4	AF41
		36		AF42
		38		AF43
5	5	40,46	5	EF
6	6	48	6	CS6
7	7	56	7	CS7

Outband Map:

- 2-EM6T
- 3-ISV3
- 5-ISV3
- 6-ISV3
- 7-SP3S
- 8-ISV3
- 9-ISV3
- 11-ISV3
- 12-ISM6
- 13-ISV3

Diff

Function Tree

- Configuration
 - QoS Management
 - Diffserv Domain Management
 - Diffserv Domain Managem
 - ATM CoS Mapping Configu
 - Egress DSCP Mapping

Mapping Relationship ID ^	Mapping Relationship Name ^
1	Default Map

No. 1, Total: 1, Selected: 1, Update at: 12/04/2019 11:41:04

Query

New

De

Inbound Mapping Relationship	Outbound Mapping Relationship	Application Object		
PHB	C-VLAN	S-VLAN	IP DSCP	MPLS EXP
BE	0	0	0	0
AF11	1	1	8	1
AF12	1	1	12	1
AF13	1	1	14	1
AF21	2	2	16	2
AF22	2	2	20	2
AF23	2	2	22	2
AF31	3	3	24	3
AF32	3	3	28	3
AF33	3	3	30	3
AF41	4	4	32	4
AF42	4	4	36	4
AF43	4	4	38	4
EF	5	5	40	5
CS6	6	6	48	6
CS7	7	7	56	7

Full Screen
Close Full Screen

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Diffserv domain profile “Application object”: by-default all ports will be added and also need to verify that no CIR or PIR value is configured and bandwidth limitation is disabled in IF, Mobility and IWAN policy.

Mapping Relationship ID	Mapping Relationship Name
1	Default Map

No. 1, Total: 1, Selected: 1, Update at: 12/04/2019 11:41:04

Inbound Mapping Relationship	Outbound Mapping Relationship	Application
Port	Packet Type	
2-EM6T-3(iwan)	cvlan	
2-EM6T-4(iwan-77)	cvlan	
2-EM6T-5(PORT-5)	cvlan	
2-EM6T-6(PORT-6)	cvlan	
3-ISV3-1(RTNIF-1)	cvlan	
5-ISV3-1(RTNIF-1)	cvlan	
6-ISV3-1(RTNIF-1)	cvlan	
8-ISV3-1(RTNIF-1)	cvlan	
9-ISV3-1(RTNIF-1)	cvlan	
11-ISV3-1(RTNIF-1)	cvlan	
12-ISM6-1(RTNIF-1)	cvlan	
12-ISM6-2(SMRWD2)	cvlan	
13-ISV3-1(RTNIF-1)	cvlan	
14-ISV3-1(RTNIF-1)	cvlan	
17-EG2D-1(CO-UMPT)	cvlan	
22-EG2D-1(E52735 TS7-1 NPT 4G)	cvlan	
22-EG2D-2(PORT-2)	cvlan	

Problem & Rectification:

All the ports should be correctly mapped to the respective policy i.e. ports carrying IWAN traffic should be mapped in IWAN policy, ports carrying mobility traffic should be mapped to Mobility and IF ports should be mapped in IF port policy.

If all found OK then check that no CIR or PIR is configured.

For Ethernet ports: -

If no CIR or PIR is configured, then check the port settings for working in auto-negotiation mode should be working in 1000Mbps and full duplex mode.

Check the accumulative capacity utilization of ethernet board (all ports) should not increase 2.5Gbps.

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The ethernet boards should be installed on high capacity slots such as EG4 or EM6* should be used on lower slots in RTN980.*

LAG should be created in case of port bundling.

Need to ensure that the traffic is getting distributed on all the members of the LINK AGGREGATION GROUP.

For IF ports: -

Check the utilization of the MW link.

If the utilization is found high, then need to check the dependency and increase the bandwidth of the link after consultation with planning team.

The working mode of ISV3 or ISM6 should not be IS2 and bandwidth can also be increased by increasing the modulation scheme or applying DC.

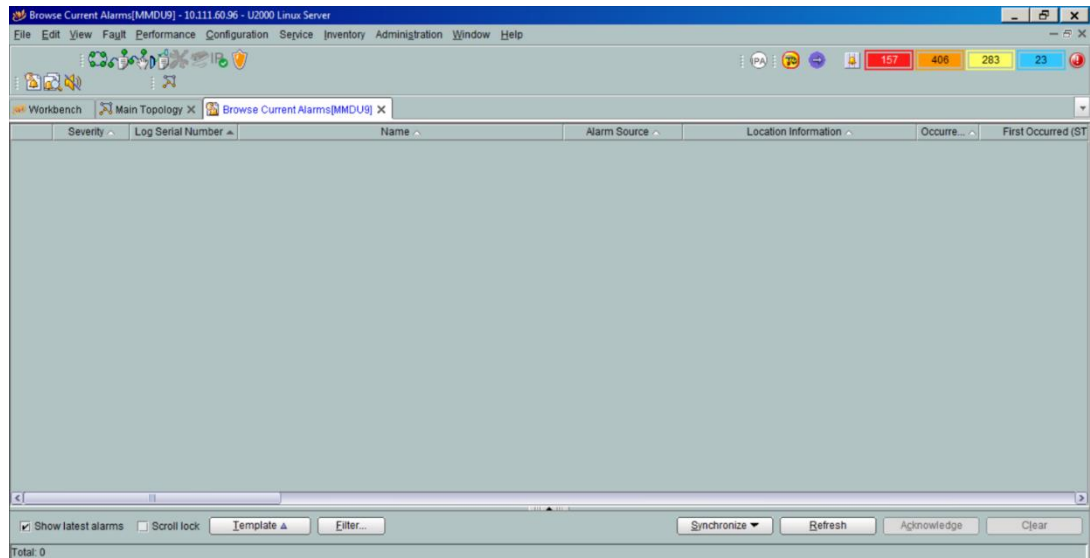
In case of XPIC, DXPIC or MIMO link need to check that PLA, EPLA or LAG is configured.

D. Post Activity Health Check:

After the above-mentioned steps have been performed for verification and changes have been made if any discrepancies found then need to check the traffic status with all the stake holders for the traffic traversing through that node.

Need to the current alarm's status post carrying out the test and there should not be additional alarms.

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E. Fall Back Procedure: -

In case any traffic impact is observed then need to revert the configuration as earlier which was captured in the pre-check process.

If the traffic impact is high and quick restoration is required then need to restore the backup on the NE after confirmation from the circle team.