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Prakash Jalandhara				
Approved	Checked	Date	Rev	Reference
		5-02-2020	Ver1.0	

MOP of NTP server reachability fault Alarm for Ericsson Site

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Activity Description

This activity is for E2E troubleshooting and Clearance of NTP server reachability fault in RBS nodes.

Attached are the details to be followed by RAN Team. As this need to be followed as guideline.

Alarm Name	NTP server reachability fault
Alarm Description	NTP server reachability fault alarm due to issue in connectivity towards RNC/clock servers
Possible Causes	1. Issue in MW link for IUB interface. 2. Wrong NTP sync IPs are defined. 3. Wrong Tx Inputs defined at node. 4. High Latency/ packet loss towards NTP server.

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Flow Chart

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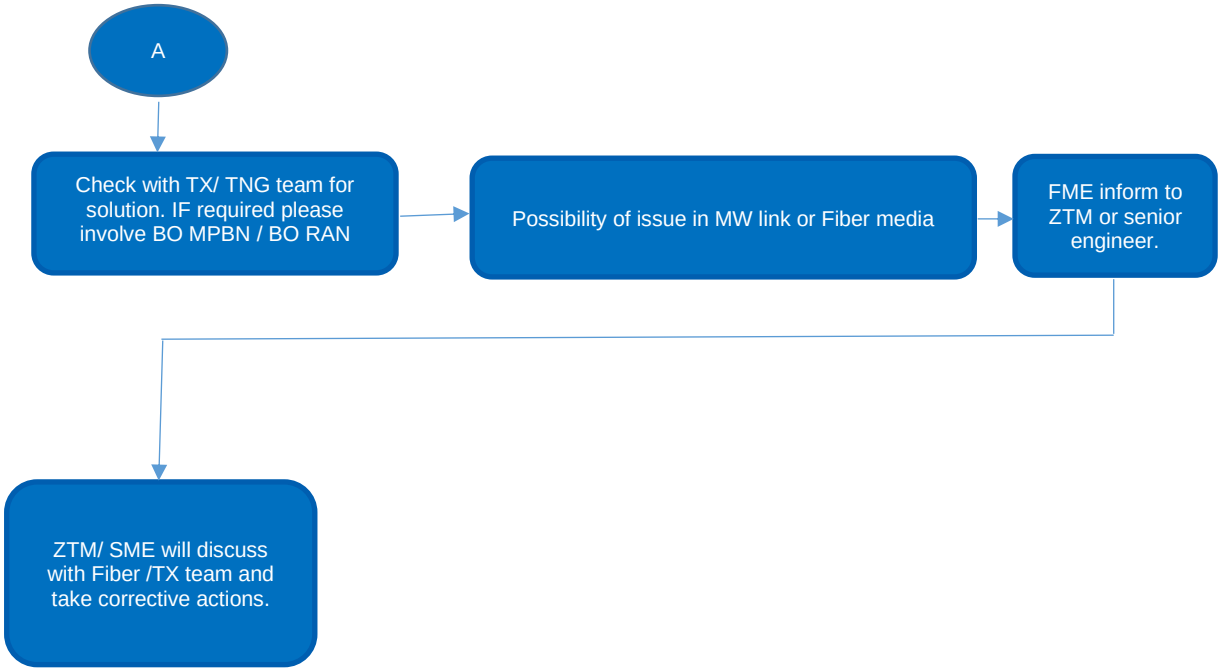

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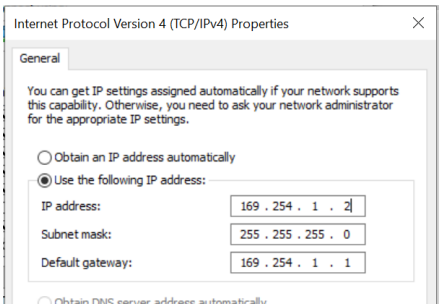
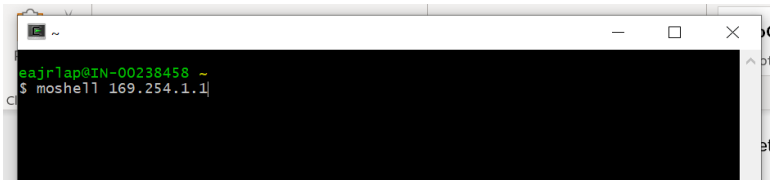
Information of commands used

Need to login node using Cygwin and use configure your ethernet port with below set of Ips





To check alarms on nodes

```
UKAT01> alt

200221-10:51:35 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
get
 Connecting to 10.231.37.228:56834 (CorbaSecurity=OFF, corba_class=2, java=1.8.0_202, jacoms=R101E06, jacorb=R100A02)
Trying file=/var/tmp/20200221-104341_8414/ior8414
Resolving the alarm service in OMS...
uSimple Alarm Client initialized...
Starting to retrieve active alarms
Nr of active alarms are: 2
================================================================================================================================
Date & Time (Local) S Specific Problem                    MO (Cause/AdditionalInfo)
================================================================================================================================
2020-02-21 10:51:35 M NTP Server Reachability Fault       IpAccessHostEt=1,IpSyncRef=8 (unavailable)
2020-02-21 10:51:36 M NTP Server Reachability Fault       IpAccessHostEt=1,IpSyncRef=7 (unavailable)
>>> Total: 2 Alarms (0 Critical, 2 Major)

UKAT01>
```

To check defined NTP server IP address in node

```
UKAT01> get . ntpserveripaddress

200221-10:45:10 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
================================================================================================================================
MO                                                  Attribute          Value
================================================================================================================================
IpAccessHostEt=1,IpSyncRef=7                        ntpServerIpAddress 10.113.170.6
IpAccessHostEt=1,IpSyncRef=8                        ntpServerIpAddress 10.113.170.8
================================================================================================================================
Total: 2 MOs
```

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To check reachability towards NTP server

```
UKAT01> acc IpSystem=1,IpAccessHostEt=1 ping

200221-10:45:45 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
Call Action ping on following 1 MOs ?
================================================================================
 1795  IpSystem=1,IpAccessHostEt=1
================================================================================
Call action ping on 1 MOs. Are you Sure [y/n] ? y

================================================================================================================
Proxy  MO                                                Action                  Nr of Params
================================================================================================================
 1795  IpAccessHostEt=1                                  ping                    1

Parameter 1 of 1, host (string): 10.113.170.8
 >>> Return value = 10.113.170.8 is alive

================================================================================================================
Total: 1 MOs attempted, 1 MOs actioned
```

Command to check Packet loss towards NTP Server

```
UKAT01> EtHostMo_startPing -d 10.113.170.8 -h 1 -c 5 -s 1500

200221-11:01:12 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
$ EtHostMo_startPing -d 10.113.170.8 -h 1 -c 5 -s 1500
bind result 0
1500 bytes from 10.113.170.8 : icmp_id = 25921 icmp_seq=0 time=6.68 ms

1500 bytes from 10.113.170.8 : icmp_id = 4422 icmp_seq=1 time=6.92 ms

1500 bytes from 10.113.170.8 : icmp_id = 1217 icmp_seq=2 time=6.75 ms

1500 bytes from 10.113.170.8 : icmp_id = 10018 icmp_seq=3 time=6.69 ms

1500 bytes from 10.113.170.8 : icmp_id = 9623 icmp_seq=4 time=6.72 ms

--- 10.113.170.8 ping statistics ---
5 packets transmitted, 5 packets received, 0.0 percent packet loss
round-trip min/avg/max = 6.685/6.752/6.917 ms
```

Process to delete and recreate NTP IP sync

```
gs+

crn IpSystem=1,IpAccessHostEt=1,IpSyncRef=8
administrativeState 1
ntpServerIpAddress 10.113.170.8
userLabel
end
lacc TransportNetwork=1,Synchronization=1$ addSyncRefResource
IpSystem=1,IpAccessHostEt=1,IpSyncRef=8
2

crn IpSystem=1,IpAccessHostEt=1,IpSyncRef=7
administrativeState 1
ntpServerIpAddress 10.113.170.6
userLabel
end
lacc TransportNetwork=1,Synchronization=1$ addSyncRefResource
IpSystem=1,IpAccessHostEt=1,IpSyncRef=7
1
lset IpSystem=1,IpAccessHostEt=1$ administrativeState 1
gs-
```

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Process to check TX inputs in node

```
UKAT01> get ipinterface=1

200221-11:28:00 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
================================================================================
================================
167
Equipment=1,Subrack=1,Slot=1,PlugInUnit=1,ExchangeTerminalIp=1,GigaBitEthernet=1
,IpInterface=1
================================================================================
================================
IpInterfaceId                          1
accessControlListRef
availabilityStatus                     0 (NO_STATUS)
configurationMode                      0 (MANUAL)
defaultRouter0                         10.175.3.225
defaultRouter0State                    1 (ENABLED)
defaultRouter1                         0.0.0.0
defaultRouter1State                    0 (DISABLED)
defaultRouter2                         0.0.0.0
defaultRouter2State                    0 (DISABLED)
defaultRouterPingInterval              4
defaultRouterTraffic                   0 (TRAFFIC_DEF_ROUTER_0)
dhcpClientIdentifier                   Struct{2}
 >>> 1.clientIdentifier =
 >>> 2.clientIdentifierType = 0 (AUTOMATIC)
logging                                0 (DISABLED)
maxNoOfFailedPings                     2
maxWaitForPingReply                    3
mtu                                    1500
networkPrefixLength                    28
noOfPingsBeforeOk                      2
operationalState                       1 (ENABLED)
ownIpAddressActive                     0.0.0.0
reservedBy                             [1] =
 >>> reservedBy = IpSystem=1,IpAccessHostEt=1
rps                                    false
subnet                                 10.175.3.224
switchBackTimer                        180
trafficSchedulerRef
trafficType                            0 (NOT_USED)
userLabel                              New_Iub_IpInterface
vLan                                   true
vid                                    3363
================================================================================
================================
Total: 1 MOs
```

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```
UKAT01> get ipaccesshostet=1

200221-11:28:37 10.231.37.228 19.0g RBS_NODE_MODEL_U_4_910 stopfile=/tmp/8484
================================================================================
==================================
1795                                IpSystem=1,IpAccessHostEt=1
================================================================================
==================================
IpAccessHostEtId                    1
administrativeState                 1 (UNLOCKED)
availabilityStatus                  0 (NO_STATUS)
ipAddress                           10.175.3.228
ipDefaultTtl                        64
ipInterfaceMoRef
Subrack=1,Slot=1,PlugInUnit=1,ExchangeTerminalIp=1,GigaBitEthernet=1,IpInterface
=1
networkPrefixLength                 0
ntpDscp                             46
operationalState                    1 (ENABLED)
reservedBy                          [2] =
 >>> reservedBy = IpSystem=1,IpAccessSctp=1
 >>> reservedBy = NodeBFunction=1,Iub=1
userLabel
================================================================================
==================================
Total: 1 MOs
```

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Activity Summary

1	Corrective WO NTP server reachability fault is received on WFM portal
2	FME will Accept the WO
3	FME/ZTM will check if there is multiple node is impacted on same FPOP or issue in connected MW link
4	Check with TX/ TNG team for solution. IF required please involve BO MPBN / BO RAN
5	Possibility of issue in MW link or Fiber media
6	Discuss and take help from SME/ ZTM
7	If cleared, then Put WO in closed state
8	If not cleared, then move to site and put WO in travel state
9	After reaching site - put WO in process
10	Login the BTS & Check alarm status
11	Check TX inputs and do needful corrections if required
12	FME will check in BTS (Alarm cleared or not)
13	If cleared, then Put WO in closed state
14	Check latency and packet loss ratio towards NTP server for IP access host Et- 1.
15	If cleared, then Put WO in closed state
16	If not cleared, then check errors on cable connected with node and TX equipment
17	Change lan cable if required and again monitor errors and packet loss/ latency at nodeb
18	If cleared, then Put WO in closed state

NOTE:

1. Once NTP server reachability fault alarm reported, Site will report down in RNC

2. Utrancell_unavailable will appear in RNC.

3. Once NTP server reachability fault alarm cleared site will restored in RNC

5. Further NPI to check KPI