

Prepared (also subject responsible if other) Abhisek De		No.		
Approved	Checked	Date 21-01-2020	Rev Ver1.0	Reference

MOP of The RRU Link is Broken (198097605) for ZTE Site

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Activity Description

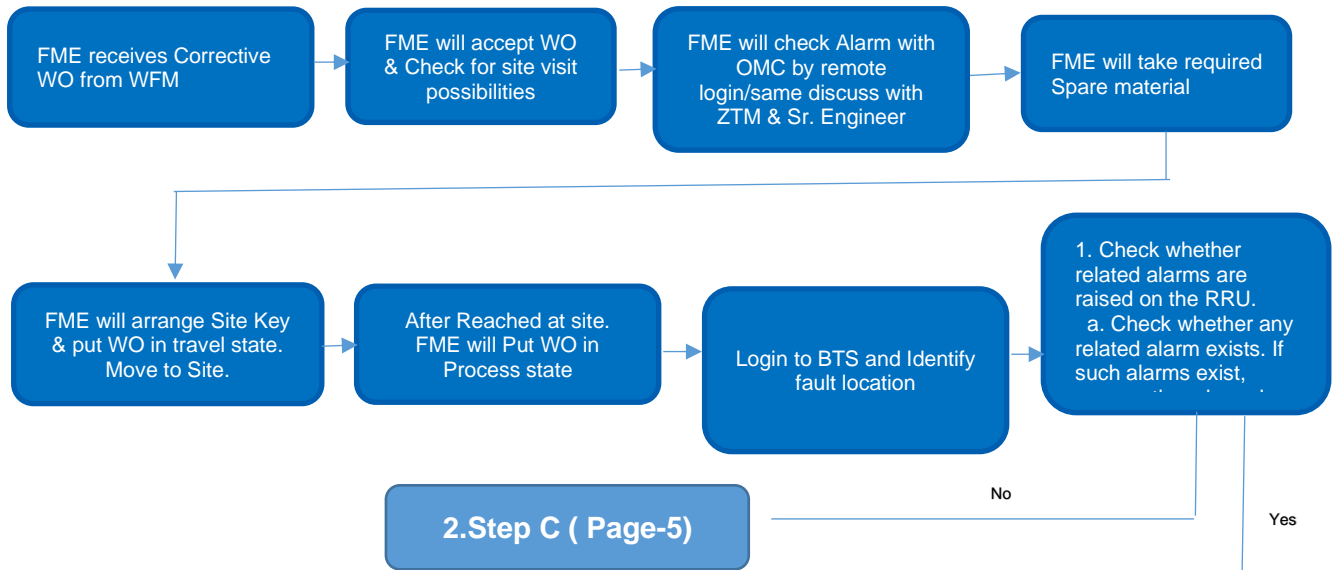
This activity is for E2E troubleshooting and alarm clearance of The RRU link is broken(198097605)

Attached is the details to be followed. As this need to be followed as guideline.

Alarm Name	The RRU link is broken(198097605)
Alarm Description	RRU connectivity lost from BBU
Possible Causes – arrange in logical order	<ol style="list-style-type: none">1. The optical fiber between the BBU and the RRU or between upper-level and lower-level RRUs is not operating properly.2. The optical module of the RRU or the optical module of the uplink BBU is faulty.3. The RRU is not powered.4. The interface board of the BBU is faulty.5. The RRU is faulty.6. The Ir line bit rate is not correctly set.

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Flow Chart



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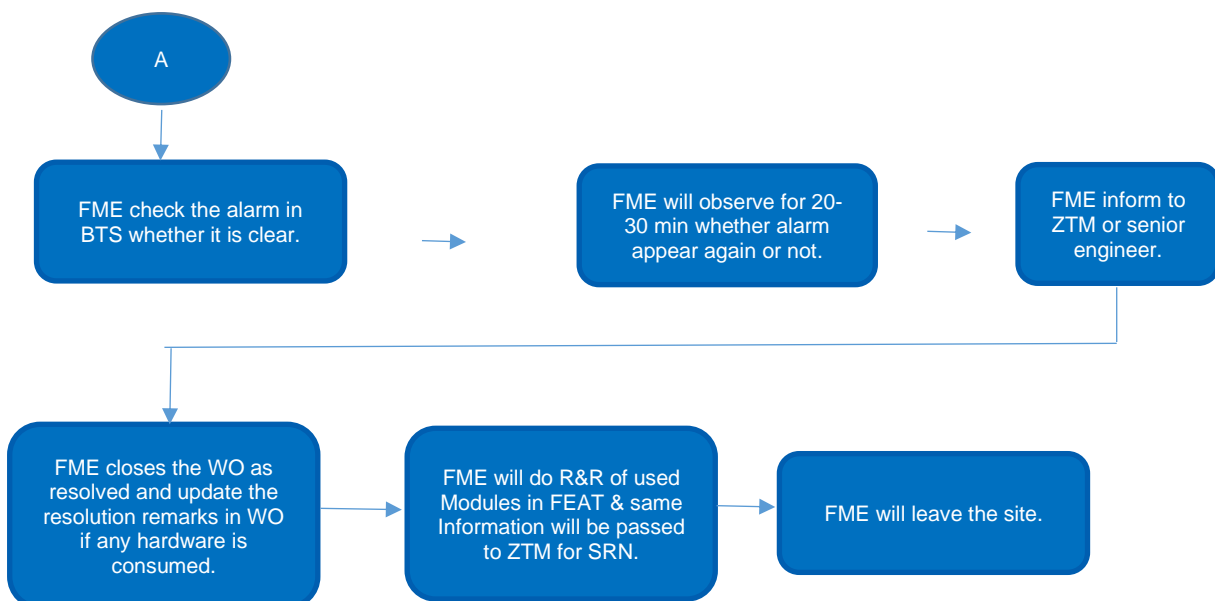
3. Check the RRU is a PRRU.
Yes -> Step 5.
No -> Step 4.
4. Check fiber links based on the handling suggestions of the "Optical port receiving link failure (198098319)" alarm.
After 15 minutes, check whether the alarms are cleared.
Yes -> End.
No -> Step 5.
5. Reset the board based on the Rack Number, Shelf Number and Slot Number in the Detail Information dialog box.
After 15 minutes, check whether the alarms are cleared.
Yes -> End.
No -> Step 6.
6. Power off and reset the board based on the Rack Number, Shelf Number and Slot Number in the Detail Information dialog box.
After 15 minutes, check whether the alarms are cleared.
Yes -> End.
No -> Step 7.
7. Select Configuration Management -> Managed Element -> Device -> Rack Graph -> Topology View, and check the Rack Number, Shelf Number, and Slot Number of the upper-level board or upper-level RRU of the RRU where the alarms are raised.
Power off and reset the upper-level board or upper-level RRU.
After 15 minutes, check whether the alarms are cleared.
Yes -> End.
No -> Step 8.
8. Find the corresponding interface board in Configuration Management -> Managed Element -> Device -> (such as B8200) in accordance with topo in the additional information of the alarm, and check whether the Ir line bit rate is set correctly in Optical Port Device Set -> Optical Port Device.
Yes-> Contact the customer service center.
No -> Step 9.
9. Modify the Ir line bit rate in accordance with the network plan. Wait for 15 minutes, and check whether the alarm is cleared.

FME Will resolve the relevant alarm

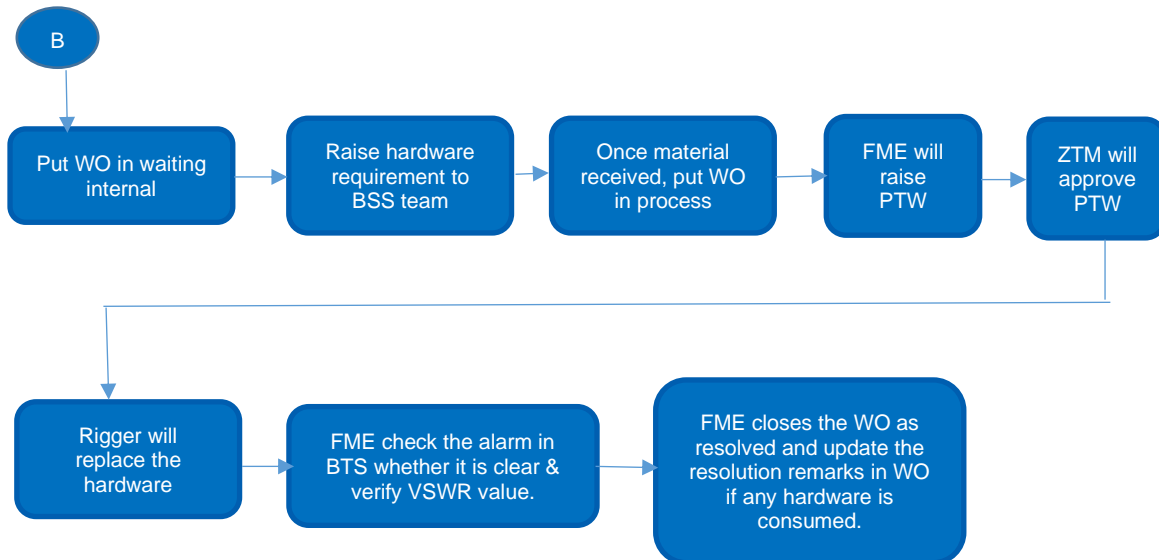
If RRU not available

B

A



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2.Step C



2. Check whether the related alarms exist on the upper-level board or the upper-level RRU.

- a. Select Configuration Management -> Managed Element -> Device -> Rack Graph -> Topology View, and check the Rack Number, Shelf Number, and Slot Number of the upper-level board or upper-level RRU of the RRU where the alarms are raised.
- b. Check whether the related alarms exist on the upper-level board or the upper-level RRU. If such alarms exist, remove them based on the corresponding handling suggestion. Related alarms are as follows:

- The board is powered off (198092057)
- The board is not in position (198092072)
- The board is not configured (198092203)
- The board is being initialized (198092348)
- Software loading failure (198092017)
- Initialization failure (198092070)
- Hardware type is different from the configuration (198092029)
- Unavailable optical module (198098318)
- Optical fiber connection error (198092292)
- Device power down (198092295)
- Software runs abnormally (198097604)
- The RRU link is broken (198097605)
- Board communication link interrupted (198097060)
- Board hardware fault (198097004)
- Parameter configuration error (198097511)

c. Check whether the alarm is cleared.

Yes -> End.
No -> Step 3.

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Activity Summary

1	Corrective WO of alarm is received on WFM portal
2	FME will Accept the WO
3	Put WO in travel
4	After reaching site - put WO in process
5	Login the BTS & Check alarm status in which sector its coming
8	FME will check as per MOP
9	If cleared, then Put WO in closed state
10	If not cleared, then check either the hardware to replace
11	If cleared, then Put WO in closed state
12	Put Work order in Waiting internal if any HW Req at site
13	Raise Req of Hardware to BSS Team
14	Once Material received again put WO in Travel mode
15	After reaching site - put WO in process
16	Replace the hardware
17	Check from BTS Login that alarm cleared or not after hardware replaced
18	Once Alarm Cleared
19	FME will close the WO as resolved

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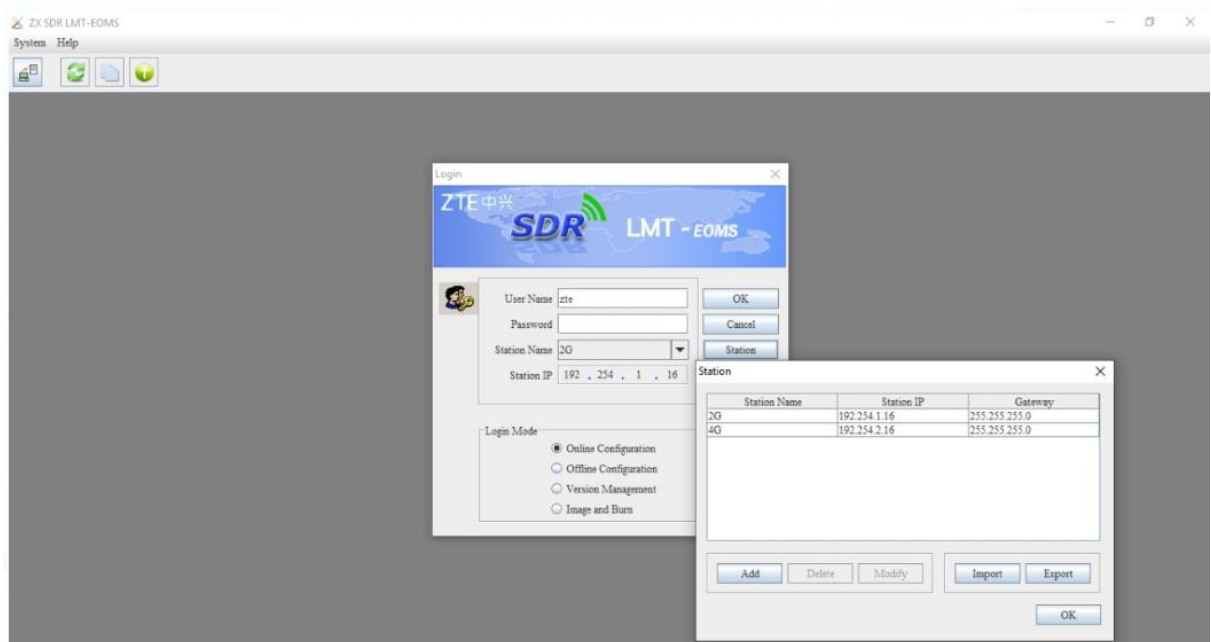
Activity Details

Pre requisites:

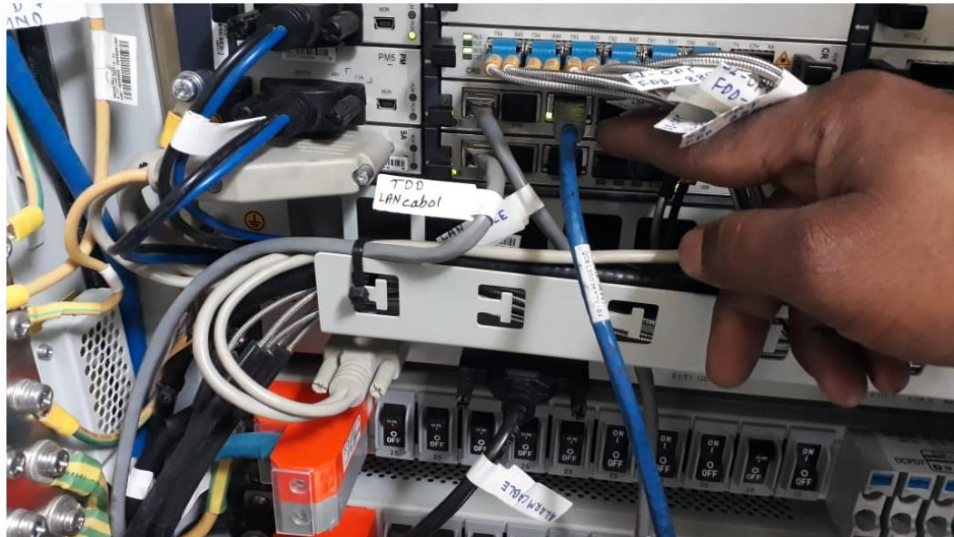
- 1) SVD WO for Optical port receiving link failure(198098319)
- 2) Alarm on OneFM/Netnumen/WFM.

Case : The RRU link is broken(198097605)alarm on 1 cell

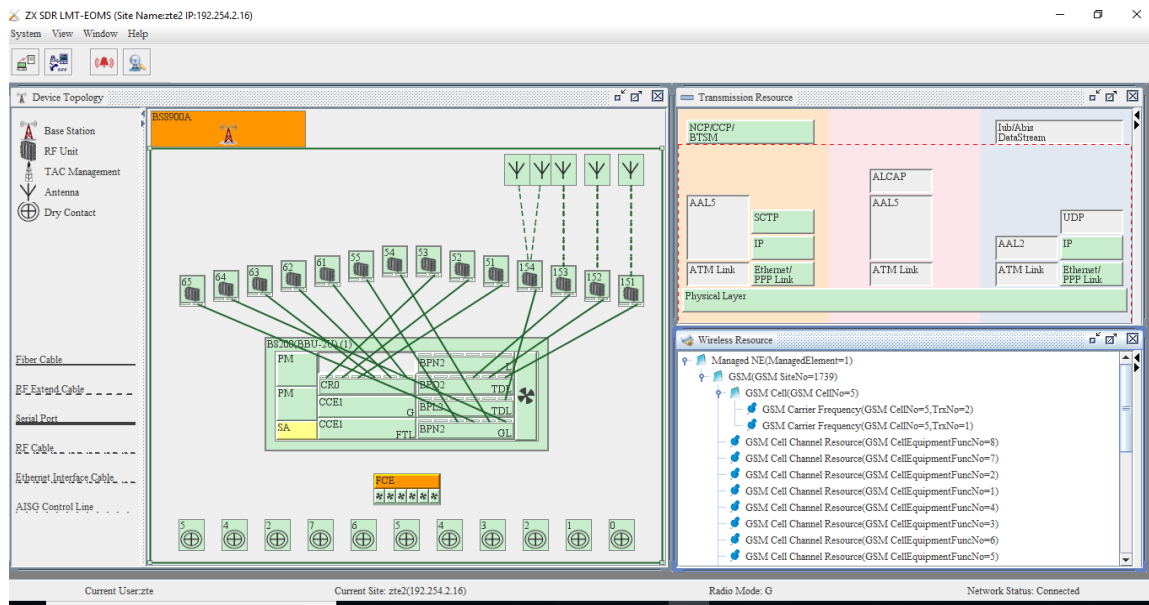
A) Login in 2G BBU/ enodeb as per RAN MOP via ZX SDR LMT OEMS connect using LAN cable



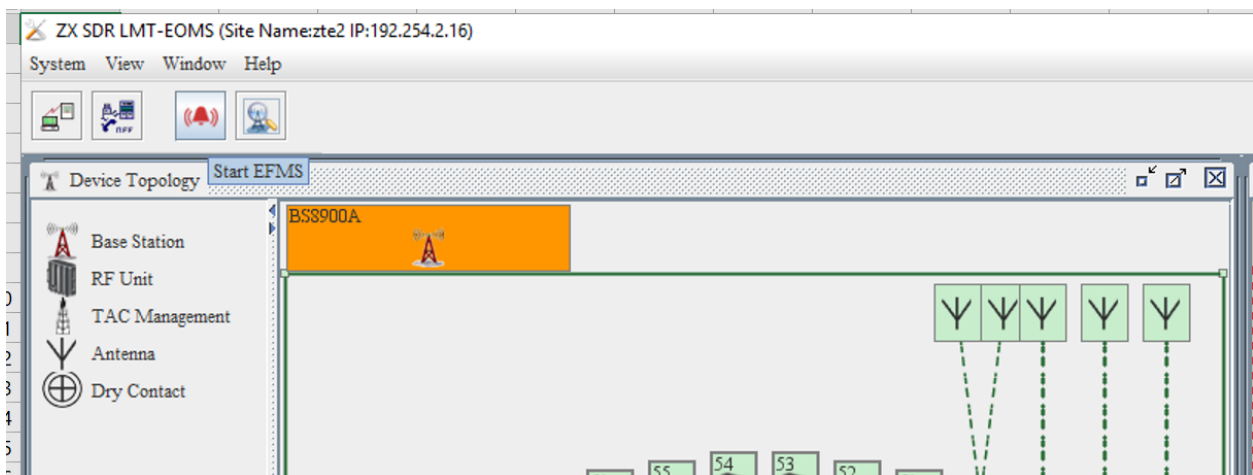
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a) Start EFMS to view alarm window



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EMS View:-

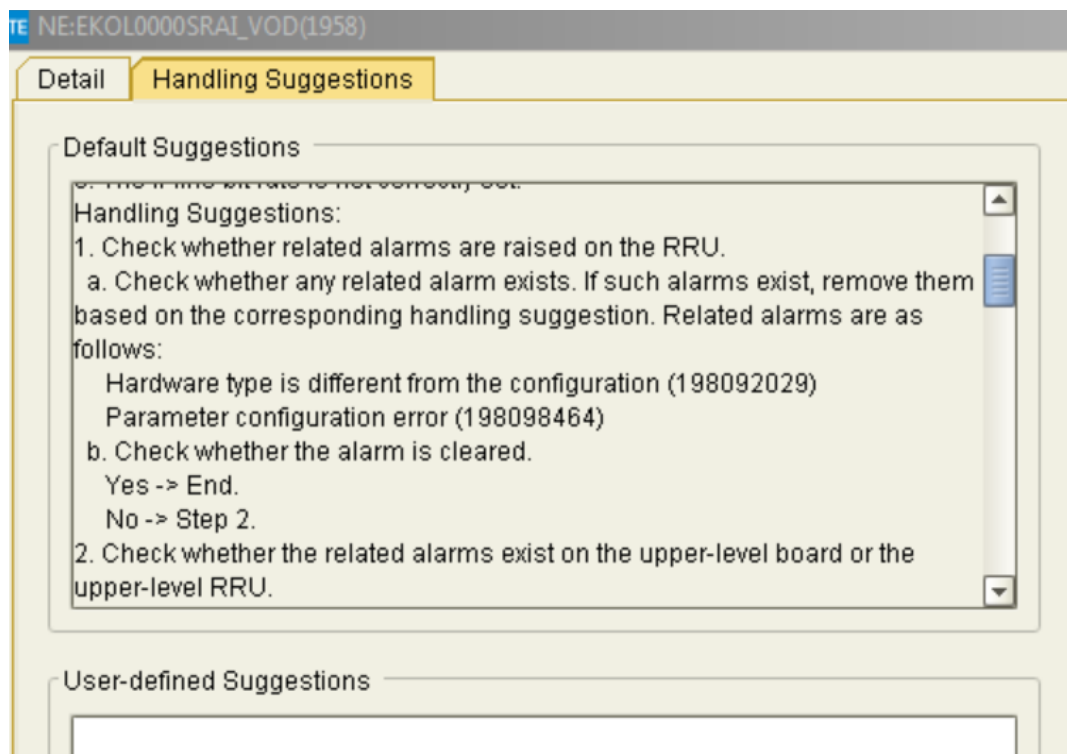
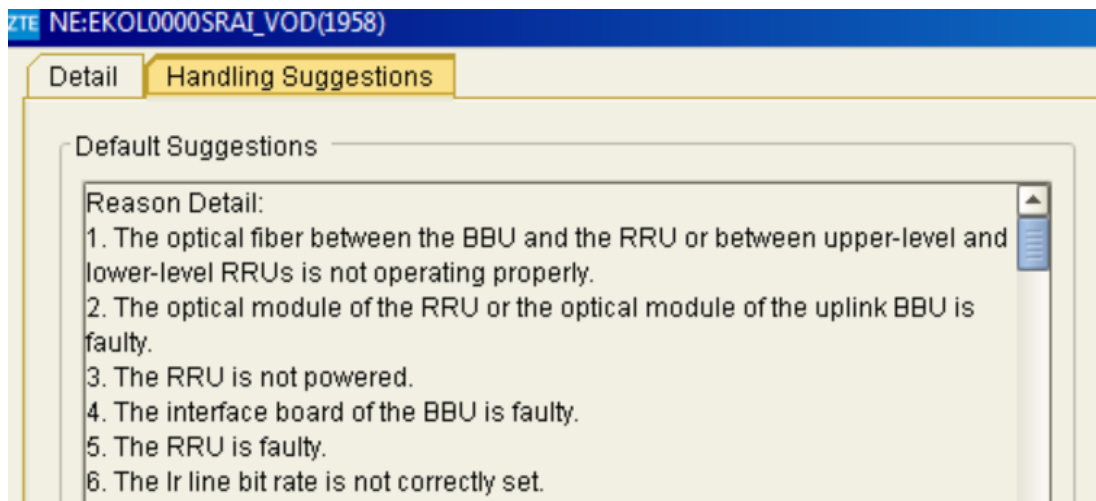
ZTE					
History Alarms Within Three Days: EKOL0000SHKT_RIL(3721)					
Total 224 record(s) found					
No.	Root Alarm Indicator	ACK State	Alarm Object Name	Site Name(Office)	Alarm Code
1		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
2		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
3		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
4		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
5		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
6		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	PCI confusion alarm(198094445)
7		Unacknowledged	EKOL0000SHKT_RIL	EKOL0000SHKT_RIL	The RRU link is broken(198097605)

b) Double click on the alarm to check the alarm Description. (EMS View):-

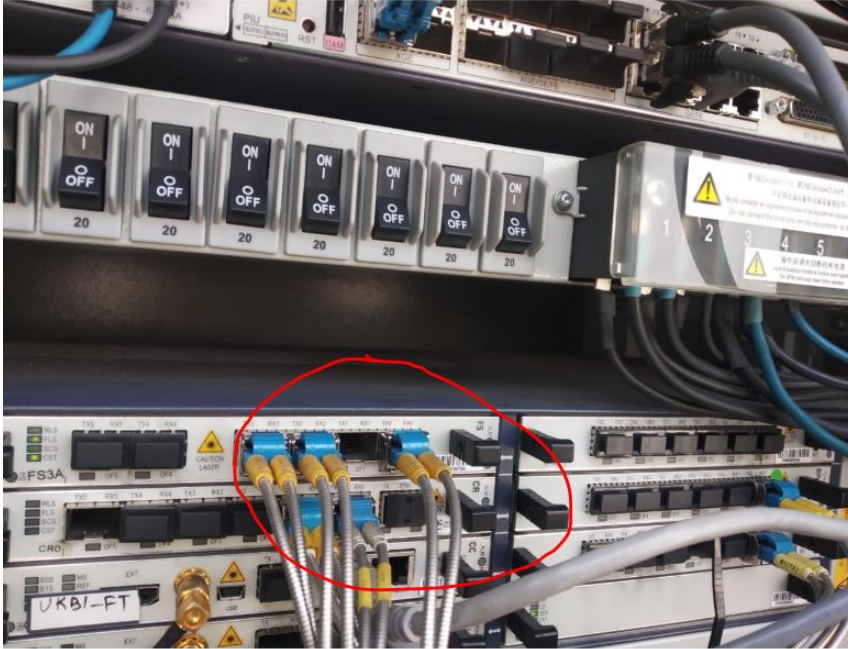
NE	EKOL0000SRAI_VOD(1958)
Location	Equipment Resource(MO SDR)=1,Rack(MO SDR)=52,Shelf(MO SDR)=1,Board(MO SDR)=1
System Type	Platform Alarm(20420)
NE Type	ME(MO SDR)
Alarm Type	Processing Error Alarm
Specific Problem	1. The optical fiber between the BBU and the RRU or between upper-level and lower-level RRUs is not operating properly. 2. The optical module of the RRU or the optical module of the uplink BBU is faulty. 3. The RRU is not powered. 4. The interface board of the BBU is faulty. 5. The RRU is faulty. 6. The Ir line bit rate is not correctly set.
Remark	G BSCId: 8; Uplink port of optical port 1:does not receive optical signals; G siteId:319; Topology: Optical board=(1,1,4), Optical board port=3, Optical board port type is SFP, Fault board rack=52, Fault board main cascade=1
ADMC Alarm	No
Repeated Count	
Alarm Object Type	RU
Site ID(Office)	1958
Alarm Object ID	54
Alarm Object DN	SubNetwork=1012,MEID=1958,Equipment=1,Rack=52,SubRack=1,Slot=1,PlugInUnit=1
Probable Cause	Unavailable(14)
Alarm AID	5

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






c) Click on the solution tab to check the check the probable cause



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Alarm Monitoring		Active Alarms: EKOL0000SRAI_VOD(1958)		Query History Alarms*		Active Alarms: EKOL0000SHKT_RIL(3721) 	
ZTE							
Active Alarms: EKOL0000SHKT_RIL(3721)							
    		Severity: All		ACK State: All		Visibility: Visible Total: 3 Critical: 1 Major: 0 Minor: 2 V	
No.	A...	Alarm Object Name	Comm...	Raised Time	NE Agent	Alarm Code	Board Type
1		EKOL0000SHKT_RIL		2020-02-12 11:56:46	MO SDR_OMMB_01	The license file will soon fall due(198097673)	CCE1
2		EKOL0000SHKT_RIL		2020-02-02 01:46:45	MO SDR_OMMB_01	DOOR OPEN(198092559)	SA
3		EKOL0000SHKT_RIL		2020-01-21 16:30:16	MO SDR_OMMB_01	LOW BATTERY VOLTAGE(198092557)	SA



- d) Replace hardware as per fault location & troubleshooting steps mentioned.
- e) Check in EFMS/OneFM/Netnumen whether alarm cleared or not.

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Post Analysis

Step No.	Step Name/Step Type	Command	Field	Mandatory (Y/N)	Expected Value
1	FME will check at One FM/Netnumen after 30 minutes to check alarm	As per attached MOP in traffic check status step-- -Refer RAN MOP	RAN	Y	As per MOP
2	BSS Team will check after 24 hrs if alarm has reappeared				