INTERNSHIP REPORT

ON

A report on Power Monitoring Slot, SAP Software Work and CMU Work In ROBI (AKTEL) AXIATA INTERNATIONAL LTD.

By

Chowdhury Whalid Bin Dastagir

Submitted to the

Department of Electrical and Electronic Engineering Faculty of Sciences and Engineering East West University

In partial fulfillment of the requirements for the degree of Bachelor of Science in Electrical and Electronic Engineering (B.Sc. in EEE)

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Approved By

8.810

Academic Advisor

[Sharmin R Ara]

Hagle 18.08.2010

Department Chairperson

[Dr. Anisul Haque]

Approval Letter

To whom it may concern

This is to certify that Chowdhury Whalid Bin Dastagir student ID 2005-3-80-016 has successfully completed the project work that was assigned to him as part of the internship program. I, Imtiaz Ahmed, on behalf of ROBI (AKTEL) AXIATA INTERNATIONAL LTD. am recommending this work as the fulfillment for the requirement of EEE 499 Industrial Training. I wish him success.

CK- 7/8/10

Imtiaz Ahmed

IMTIAZ +880 181 9210344

Imtiaz Ahmed imtiaz@robi.com.bd



Department of Electrical and Electronic Engineering, East West University

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First of all I would like to thank Imtiaz Ahmed, Supervisor Engineer for this internship and the other Engineers in Network Operation Centre (NOC) of ROBI (AKTEL) AXIATA INTERNATIONAL LTD for giving me the opportunity to work in their group.

Acknowledgment

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Executive Summary

In telecommunication sector, monitoring the BTS's and BSC's is an important issue. In ROBI (AKTEL) AXIATA INTERNATIONAL LTD the importance of monitoring is enormous. Working in power monitoring slot provides hands on experience for an intern. Power slot is the most important slot among all the other slots of NOC (Network Operation Center) Surveillance Unit. In this slot, assigned person can monitor and resolve any particular problem regarding any power failure issue's for BTS's, BSC's and MW HOP's of ROBI(AKTEL) network. Along with that, there are works for SAP (System Application Process) software. CMU (Call Monitoring Unit) has the work of resolving problems regarding the clients inquiries. The experience of working in these three important sectors (Power Monitoring Slot, SAP (System Application Process) and CMU (Call Monitoring Unit) was challanging and enjoyable.

TABLE OF CONTENTS

1.	INT	RODUCTION	9
	1.1.	Introduction	9
	1.2.	Company Profile:	
	1.3.	Visions and Mission	
	1.4.	Objective of the Internship	
	1.5.	Scope and Methodology	
2.	DE	TAIL OF INTERNSHIP WORK	11
	2.1.	Power Monitoring Slot	11
	2.2.	Network Management Systems:	
	2.3.	Major Tasks of Power, Environment & Integrated Network:	
	2.4.	Overview Power Monitoring Slot	
	2.5.	Element Management System (EMS) for Power Monitoring Slot	
	2.6.	Opening Alarm List Viewer (ALV):	
	2.7.	Opening Command Handling Mode (CHA):	
	2.8.	Command Handling Mode (CHA): Loading Command from the mode.	
	2.9.	Opening alarm status matrix for synchronization:	
	2.10.	Alarm Status Matrix:	
	2.11.	Opening EMS for Alcatel (OMCR):	
	2.12.	Element Management System (EMS):	
	2.13.	Checking Filter:	
	2.14.	Element Management System (EMS): iManager:	
	2.15.	Reminder Update SMS:	.20
	2.16.	Timings for updates:	.21
	2.17.	From Ericsson:	.21
	2.18.	From Alcatel:	21
	2.19.	From Huawei :	.22
	2.20.	Response to power related Query from OSS:	.22
	2.21.	Response to power related Query from OMC_R:	
	2.22.	Acknowledge clear alarms:	.24
	2.23.	Response to power related Query from i-Manager:	
	2.24.	Alarm status:	.25
	2.25.	Log in BTS Maintenance to know about Temperature & Board Information:	.26
	2.26.	Temperature (in degrees):	
	2.27.	BTS Configuration Status:	.27
	2.28.	Board Information's:	.27
	2.29.	Integrated Network Management System (INMS):	
	2.30.	Opening Integrated Management System (INMS):	
	2.31.	BSC Power:	
	2.32.	Important Hop:	
	2.33.	Mains Failure:	.31
	2.34.	Environmental All:	.31

2.35.	Intelligent Network (IN):	32
2.36.	External all except Mains Failure:	
2.37.	Opening Other Templates:	33
2.38.	BSC POWER, IMP HOP & IN:	33
2.39.	Creating log for Long pending Power issues:	34
2.40.	Give mail with pending power issues to next Roster Person:	
2.41.	Send update summary sms for long pending power problem:	35
2.42.	Other Activities:	35
2.43.	Handover these documents to next roster person by mail:	35
2.44.	SAP (System Application Process) Software Work	37
2.45.	SAP Log in:	
2.46.	SAP entry of Username and Password:	
2.47.	Next step in SAP entry:	
2.48.	Entering of BSC Data:	
2.49.	Entering site info's:	
2.50.	Preparing object list:	
2.51.	Preparing mail:	40
2.52.	Complaint Management Unit (CMU)	
2.53.	REQUIRED INFORMATION LIST	42
2.54.	Necessary Software	42
2.55.	Work Procedure for tracking case:	43
2.56.	Call Trace Procedure	
2.57.	Command Prompt	43
2.58.		44
2 DD	OBLEMS AND RECOMMENDATION	
5. I K		
3.1.	Power Monitoring Slot	45
3.2.	Discrepancies:	45
3.3.	SAP Software Work	45
3.4.	Discrepancies:	45
3.5.	CMU	
1 00	DNCLUSION	
4. CC	JINCEUDIOIN	
DEEEI	RENCES	
KET EI		



LIST OF FIGURES

Figure 1: Alarm List Viewer
Figure 2: Load Configuration
Figure 3: Selecting Alarm Type
Figure 4: Different Type of Alarm Type
Figure 5: Command Handling Mode
Figure 6: Finding Desired BTS in Command Handling Mode
Figure 7: Alarm Status Matrix
Figure 8: Selecting Alarm Type for Load Configuration
Figure 9: Synchronization
Figure 10: Current Alarm Check
Figure 11: Different Alarm for ALCATEL
Figure 12: Configuration (left) & Current Alarms on (right)
Figure 13: Opening Templates
Figure 14: Current Fault Alarm
Figure 15: Choosing Different Templates
Figure 16: Filtering a BSC
Figure 17: Viewing Different Templates
Figure 18: Sending SMS for Ericsson
Figure 19: Sending SMS for Alcatel
Figure 20: Sending SMS for Huawei
Figure 21: Checking Query from Zone(OSS)
Figure 22: Showing the Query Type(OSS)
Figure 23: Checking Query from Zone (OMC)
Figure 24: Showing the Query Type (OMC)23
Figure 25: Acknowledging Alarm (OMC)
Figure 26: Checking Query from Zone (I-Manager)
Figure 27: Showing the Query Type (I-Manager)
Figure 28: Desired Query Type (I-Manager)25
Figure 29: Temperature & Board Information
Figure 30: Checking Temperature
Figure 31: BTS Configuration Status
Figure 32: Board Warnings
Figure 33: Detailed Alarm Window
Figure 34: Starting of INMS
Figure 35: Logging in INMS
Figure 36: Sending SMS for BCS Power

Figure 37: Starting of Important Hop	
Figure 38: Manual SMS for Mains Failure	
Figure 39: Page for Environmental all	
Figure 40: Alarm for IN(Intelligent Network)	
Figure 41: Alarm for External All	
Figure 42: Other Templates	
Figure 43: Accumulate three pages in Screen	
Figure 44: Log for Power Issues	
Figure 45: Mail file to the next Roster Person	
Figure 46: SMS for long Pending	
Figure 47: Handover for Next Roster Persons	
Figure 48: Long Pending for Next Roster Persons	
Figure 49: SAP Logging Page	
Figure 50: Username and Password Entering Page	
Figure 51: Choosing Create order iw21	
Figure 52: Selecting BSC's of 900 or 1800	
Figure 53: Providing site Info	
Figure 54: Object List	
Figure 55: Mailling Excell File	
Figure 56: Weekly Mailling Excell File	
Figure 57: Procedure of CMU's Work Done	
Figure 58: Call Trace Procedure	
Figure 59: Global cell identity	
Figure 60: Command Prompt	
Figure 61: Cell Identity Number	
Figure 62: Mail for CMU	

1. INTRODUCTION

1.1. Introduction

To ensure its leading edge technology, Robi has the international expertise of Axiata and NTT DOCOMO INC, to make it work. It has brought the whole country under the network of GSM world.

It provides 2G voice, CAMEL phase 2 and GPRS/EDGE service with high speed internet connection. Its GSM service is based on a robust network architecture and cutting edge technology such as Intelligent Network (IN), which provides peace-of-mind solutions in terms of voice clarity, extensive nationwide network coverage and multiple global partners for international roaming. It has the widest International Roaming coverage in Bangladesh connecting 550 operators across 205 countries. Its customer centric solution includes value added services (VAS), quality customer care, easy access call centers, digital network security and flexible tariff rates.

1.2. Company Profile:

Axiata (Bangladesh) Limited is a dynamic and leading countrywide GSM communication solution provider. Axiata Group Berhad, Malaysia and NTT DOCOMO INC, Japan has combinedly launched this company. Axiata (Bangladesh) Limited, formerly known as Telekom Malaysia International (Bangladesh), commenced its operation in 1997 under the brand name Aktel among the pioneer GSM mobile telecommunications service providers in Bangladesh. Later, on 28th March, 2010 the company started its new journey with the brand name Robi.

ROBI (AKTEL) AXIATA INTERNATIONAL LTD

- AXIATA Bangladesh hold 70% share of the whole company and NTT DOCOMO INC. ('Nippon Telegraph and Telephone' 'Do Communication over Mobile Network') holds rest 30%.
- Year of Establishment: 1997
- Type of Business: Telecommunication Company
- Total Employee's: 1000.
- The Head office: The Head office is situated at "BRAC Centre", Mohakhali.
- The HRM: The HRM department is in Gulshan-1 in "Siver tower".

- The Technical Division: It's also situated on Gulshan-1 at "Uday Tower". It contains the departments mentioned below:
 - ✓ IT- Information Technology department.
 - ✓ NOC/RO-Network Operation Center/Regional Operation.
 - ✓ O&M- Operation & maintenance.
 - ✓ SPMS, Planning & Devlopment.
 - ✓ CNO/IN/IR, Core Network Operation/Integrated Network/ International Roaming
 - MSC/HLR/VLR, Mobile Switching Center/Home location Register/ Variable location Register.
- The Finance Division: It's at "Kaderia Tower" Mohakhali.

And has there divisional branches at different braches like Chittagong, Rajshahi, Khulna, Barisal, Sylhet.

1.3. Visions and Mission

With its strengths and competencies developed over the years, Robi aims to provide the best quality service experience in terms of coverage and connectivity to its customers all over Bangladesh. Together with its unique ability to develop local insights, Robi creates distinct services with local flavor to remain close to the hearts of its customers.

1.4. Objective of the Internship

As an Engineering student, field experience is must to judge the knowledge that one has acquired in their university education life. As I had gathered knowledge from my university education, I wanted to experience and learn the procedure of using those knowledge in the field sector. So I choose this internship program in ROBI (AKTEL) AXIATA (BANGLADESH) LTD.

1.5. Scope and Methodology

Over here at ROBI (AKTEL) I had the scope of working in NOC-Network Operation Centre. There were many branches to work in this department. The methodologies were different too. But I worked in three particular sections which are described vastly in the next segment.

2. DETAIL OF INTERNSHIP WORK

2.1. Power Monitoring Slot

Power slot is one of the most important slots among the other slots of Network Operation Centre (NOC) Surveillance Unit. In this slot, respective assigned person can monitor and escalate to concerns at a glance regarding power along with environmental status of Base Transceiver Station (BTS), Base Station Controller (BSC) and Micro Wave (MW) HOP's of AKTEL network.

2.2. Network Management Systems:

Power BTS's (Base Transceiver Station) are monitored using the software mentioned below:

1. Operation Support System (OSS) for Ericsson.

2. Operation Maintenance Center-Radio (OMC-R) for Alcatel.

3. I-Manager for Huawei.

Also monitored all alarms of the three vendors from Integrated Network Management System (INMS). Vendor for this particular INMS is Tele Operation Support System (OSS).

2.3. Major Tasks of Power, Environment & Integrated Network:

- Sending Reminder Update SMS to concern SMS group which contained our Network Operation Centre (NOC) Surveillance Unit supervisor, to the next roster person and to the respective zone where the problem has occurred.
- Monitoring all alarms of three vendor terminal.
- Immediate Response of phone calls for any Query.
- Generate log for long pending of Power issues.
- Send update summary SMS (Short Message Service) for long pending power problem.
- Sending mail with pending power issues to next Roster Person for smooth handover.

2.4. Overview Power Monitoring Slot



Power monitoring slot is divided into two segments, which are explained below.

- Element Management System (EMS)
 Ericsson –OSS- Operation Support System
 Alcatel –OMC-R- Operation Maintenance Center–Radio
 Huawei-iManager.
- 2. Integrated Network Management System (INMS) Tele OSS- Operation Support System
- 2.5. Element Management System (EMS) for Power Monitoring Slot

System tools Used for Operation Support System (OSS) by Ericsson:

- Alarm List Viewer (ALV)
- Command Handling Mode (CHA)
- Alarm Status Matrix

Alarm Types:

- Mains Failure
- Temperature Alarm

2.6. Opening Alarm List Viewer (ALV):

Alarm list viewer (ALV) is described in the following segments.

a]Add Item to Menu 2]Customize Menu	Administration Tools Documentation OSS-RC Workspace Menu End Sun Tools	Alarm View Alarms	View Alarms Alarm List Viewer Alarm Status Matrix Alarm Log Browser		
a Loss Dippay Milog out.	Customize Menu				

Figure 1: Alarm List Viewer

First we have to open the softeware by giving username and password. Then display with this background will come. Then we have to right click mouse on ALARM > VIEW ALARM > ALARM LIST VIEWER. The next page will appear.

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Figure 2: Load Configuration

Then from here we would click LOAD CONFIGURATION, to open ALARM VIEWER of different kind of faults.

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Figure 3: Selecting Alarm Type

After opening the LOAD CONFIGURATION to selsct ALARM TYPE we click on POWER and ENV.

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Figure 4: Different Type of Alarm Type

In this way we would be able to open ALARM LIST for MAINS FAILURE ALARMS, TEMPERATURE ALARM, ACKNOWLEDGE ALARMS and CLEARED ALARMS. In the above picture at the lower left of the picture we see that ALARM TYPE is written. When we click on a particular alarm it shows the type of the alarm.

2.7. Opening Command Handling Mode (CHA):

CHA is described in the following segments.

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Figure 5: Command Handling Mode Command handling mode is useful to find the status of BTS in different zone.

2.8. Command Handling Mode (CHA): Loading Command from the mode.

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Figure 6: Finding Desired BTS in Command Handling Mode When we open command handling mode the display shows alarm for BTS's.

2.9. Opening alarm status matrix for synchronization:

Synchronization has been explained here.

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Figure 7: Alarm Status Matrix

Now opening the alarm status matrix we can synchronize alarm status by this procedure.

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Figure 8: Selecting Alarm Type for Load Configuration Then alarm fault should be reset to work on modified condition.

2.10. Alarm Status Matrix:



Figure 9: Synchronization Then here we would click tools and then click synchronization.

2.11. Opening EMS for Alcatel (OMCR):

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Figure 10: Current Alarm Check

Opening EMS for Alcatel we have to give username and password then desired window will be on the screen. Then we would have to click A.S: Current Alarms. Then the current alarms will appear.

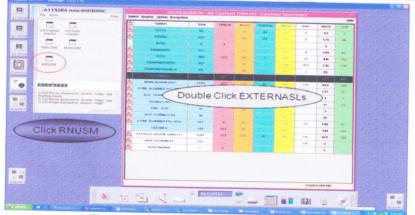


Figure 11: Different Alarm for ALCATEL

On the right side of the picture we see the current alarm list for all the types of alarms. On the left we click RNUSM for list of all BTS to check individual BTS alarms.



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Figure 12: Configuration (left) & Current Alarms on (right)

Here is the list of equipment configuration on left and current alarms on the right.

2.12. Element Management System (EMS):

HUAWEI (iManager) for Power monitoring slot System tools

- Template based Alarm Browser
- Physical Topology
- Board Management

Alarm Category:

- CPS Fail (1st extended I/O Alarm)
- CPS Any Phase Fail (2nd extended I/O Alarm)
- Temperature Alarm
- no AC Power Alarm

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Figure 13: Opening Templates

In Huawei we have to open the filters first to open templates of different kind.

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Figure 14: Current Fault Alarm

Then by clicking on fault we click Browse current fault alarms. Then the alarm will appear in the next page.

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Figure 15: Choosing Different Templates

From here we get to choose which templates we want to see for the next filters. For example we want to open Z_B (Zone B). So we have to click on that particular template.

2.13. Checking Filter:

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Figure 16: Filtering a BSC

If we want to filter any BSC we have to select them and then on the right side of the screen we have to click again to refresh the template.

2.14. Element Management System (EMS): iManager:

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Figure 17: Viewing Different Templates

Now we have different templates opened at the same time. These are unacknowledged Alarm, unacknowledged Cleared alarm, acknowledged alarms and acknowledged Cleared alarm.

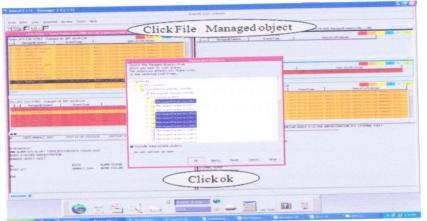
2.15. Reminder Update SMS:

Short Message Service (SMS's) is required to be sent to Ericsson, Alcatel & Huawei by using web SMS according to the fault escalation procedure.

2.16. Timings for updates:

- Morning shift (06:00–14:00) within 08:30 up to 4:00
- Evening shift (14:00–22:00) within 17:00 up to12:00
- Night shift (22:00–06:00) within 00:00 up to 20:00

2.17. From Ericsson:





How to send SMS Short Message Service for Ericsson is shown above.

2.18. From Alcatel:

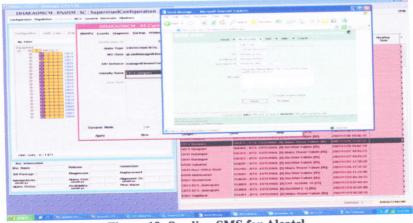


Figure 19: Sending SMS for Alcatel

How to send SMS Short Message Service for Alcatel is shown above.

2.19. From Huawei:

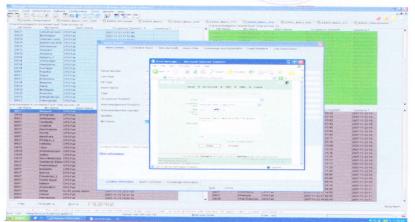


Figure 20: Sending SMS for Huawei

How to send SMS Short Message Service for Huawei is shown above.

2.20. Response to power related Query from OSS:

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Figure 21: Checking Query from Zone(OSS)

In this slot and in every other slot the slot person has to answer to the alarm related query's from any zone. For OSS we have to go to File>Network element>e.g.:CB29. We have to click on CB29. Then all BSC's in CB29 will be shown on a list view. Then we can check the alarm regarding that query.

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Figure 22: Showing the Query Type(OSS)

In this picture we see the alarm type, mains failure or any other failures.

2.21. Response to power related Query from OMC_R:

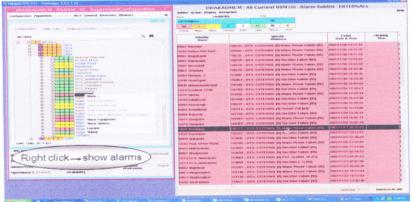


Figure 23: Checking Query from Zone (OMC)

For OMC_R related query we have to work the RNUSM as already mentioned. By opening the window we select a loation and right click on it, SHOW ALARM.



Figure 24: Showing the Query Type (OMC)

Then we will be able to see the alarm status on the next window.

222. Acknowledge clear alarms:

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Figure 25: Acknowledging Alarm (OMC)

Now here is another important thing that we have to work on, if alarms and BSC or BTS down, the name after a certain time gets cleared. Then there is a limit of containing every cleared alarm.

223. Response to power related Query from i-Manager:

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Figure 26: Checking Query from Zone (I-Manager) For i-Manager we open Physical Topology to see alarm status.

2.25. Log in BTS Maintenance to know about Temperature & Board Information:



Figure 29: Temperature & Board Information

BTS maintenance is another important thing. To check temperature and board alarm we have to click on the location and select BTS Maintenance.

2.26. Temperature (in degrees):

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Figure 30: Checking Temperature

Now before this page opens there will be username and password is required to log in to next page. One can collect that piece of information from any other slot members. Now from the figure we see that temperature and select zone has been circled.

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Figure 27: Showing the Query Type (I-Manager)

Then by opening the topology we select a particular location to check its alarm status. Right click of mouse on a location than QUERY ALARM> CURRENT FAULT ALARM.

2.24. Alarm status:

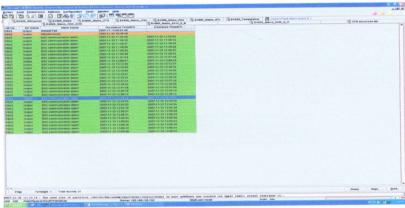


Figure 28: Desired Query Type (I-Manager) Then on this window we will have our desired alarm status.



2.27. BTS Configuration Status:

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Then we get BTS configuration status. Here the red color indicates faulty condition.

2.28. Board Information's:

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	. CONTRACTOR DISTORT		Control Carlos Control Control +	
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	Patient			
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	Tugin on	or on Erro Do	and training	

Figure 32: Board Warnings

Then to know more, we can right click on the fault (EAC) and then select BOARD WARNING.

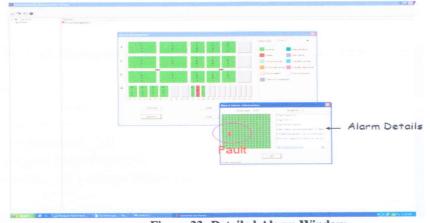


Figure 33: Detailed Alarm Window

Then this smaller window will appear. Here we can get every small detail about the fault alarm.

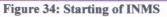
2.29. Integrated Network Management System (INMS):

In Integrated Network Management System (INMS) we have to monitor the templates mentioned below:

- 1. BSC Power
- 2. Important _Hop
- 3. Mains Failure
- 4. Environmental all
- 5. Intelligent Networks (IN)
- 6. External _ all _ except Mains Failure

2.30. Opening Integrated Management System (INMS):

Control Control Top (1997) 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	5 m 20
Double click 'CDE	



Double click the red circled position.



Figure 35: Logging in INMS

This menu will appear on screen. Click on the NX on the lower right of the screen then the boxes will appear. Then click on the red circled position. There will be a alert navigator being open.

2.31. BSC Power:

According to fault escalation procedure Send the manual SMS of the BSC Power related issue to the respective Zone & power group after 30 min. but not more than 45 min. After 1 hour (if the power would not be restored) send SMS to Head of the Power concern Person. Similarly, when the power problem gets resolved then select 'maintain' (as usual as previous of the concerned group) to send resolved message.

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Eavorth N	B/TEPLAME	Alert Name	EventTime / Westender	Cheedime	ENG Dept in Large	leation		ANO
canal can		DEST-MALNAPALL BEC S	007/13/23 1111130	8907/22/22 22	THE SERIES PACE	ican.	A-atla Labath - N	
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	S BASSATORS						7-ROMAN CPARA-NO	
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	S AGOAG G	MRG-INGACMMINPMIN #	60		•	CBA DBB	G-BADDA I-HO-BE	OCF-13
Aunders Che	TRANS CONTAILAS LEGO	EPC Extrumerate	+ took	My Account + SHS + LBRy	+ Logout		7 - B & B B	
		ENC-ENCRETING FF MLL	talent parts				7-RAMPONDARADAR	DO-BON BOOK
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205 (222)	2	REG-EXTRONALTOR: 2		#55_Xevedian_CTG			R-APel	10000
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			A Depart Contract	ISSC Provint	II PICCOL DIII			

Figure 36: Sending SMS for BCS Power

2.32. Important Hop:

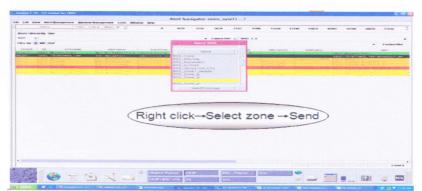


Figure 37: Starting of Important Hop

Send the manual SMS (click right button) for IMP_HOP sites after 1 hrs (if work order is not issued) to the particular zone and informed the respective roster person over phone call.



2.33. Mains Failure:

Send the manual SMS (click right button) for Mains Failure sites after 3 hrs (if work order is not issued) to the particular zone.

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					The second se	Production and the second second			
				States and	CHCK	sena			
				<	Click	send	>		

Figure 38: Manual SMS for Mains Failure

Now from this navigator we can choose our desired alarm from the list.

2.34. Environmental All:

Send the manual sms (click right button) for Environmental_all sites after 2 hrs (if work order is not issued) to the particular zone.



Figure 39: Page for Environmental all

Under the name of 'Environmental all' there is another template in INMS which contains work order not issued alarms.

2.35. Intelligent Network (IN):

1. SCDP, Severe overload of SCP,Qos. Above alarms should be informed to the designated persons.



Figure 40: Alarm for IN(Intelligent Network)

'IN (Intelligent Networking)' is another important alarm. These alarms need to be informed to the designated persons.

2.36. External_all_except Mains Failure:

Send the manual sms (click right button) for External_all_except sites after 2 hrs (if work order is not issued) to the particular zone.



Figure 41: Alarm for External All

2.37. Opening Other Templates:

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Figure 42: Other Templates

There are other templates in the navigator. The arrow sign is the place where one can find the other templates.

2.38. BSC_POWER, IMP_HOP & IN:



Figure 43: Accumulate three pages in Screen

The procedure to open all the templates is shown here. They are included under the template of "BSC Power, IMP HOP and IN".

2.39. Creating log for Long pending Power issues:

			Shift Person: Mi	oinWhalid	Ehift: Night	Date: 16/07/	2005 Slot: Power
Vendors	Zone	810	IBT & Nam a	Time of Power Outsge	Date of Power Outage	Total Power Outage 10 hours	Remarks
REPORTED I		128.15	KLIRIL_Z	13:23	74 Jul 09		
	aloute the	0805					
ALCATE	2.0 	0894 0894 0894 0862 0863 0863 0863 0863 0863 0863 0863 0863	Diskeshwari RoshaP) Boubi Islambagh(RM) Kachor BKB(MP) Kachor BKB(MP) North ChasaragMP) Char Habran gar(RP) Gopa HtMI F) Scient Robert F) Scient Robert F) Scient Robert F) Scient Robert F) Barry Islama Scient F) Turk tot Barry RP)	8 55 14 36 10 42 13 37 11 30 22 34 5: 58 0 13 25 59 14 33 16 57	14-Jul-09 14-Jul-09 14-Jul-09 14-Jul-09 14-Jul-09 14-Jul-09 13-Jul-09 13-Jul-00 13-Jul-00	2	Alto mil Change Alto mil Change Alto mil Change Million Change Million Million (1997) Million Million (1997) Million Million (1997) Million (1997) Mil
Planel		C855	Biruk(MF) Falgunka m(RF_181V) OCS_5huser Her(MF) KCI Har(RF)	18:13 7:21 23:49 19:03	16-Jul-09 15-Jul-09 13-Jul-09		
	ST 9	0802 0877 0877	Andikot Manikehar_1800 Chatlakandi_1800	13:37 0:19 11:30	15-Jul-09 15-Jul-09 9-Jul-0	1	
Still Pending Newly added	10-10 1 6	8827 6857	Parirkhak 25m Land Shitha pur	18:48 16:40	60-lut-61 90-lut-51	2	· · · · · · · · · · · · · · · · · · ·
cleared	80				Total	7	Update at 05:00_17/07/2009: Power outage for more than 10 hours: Total=7, DHK=41Z, D=41, KHL=2, CDC, CTG=1,



Create a proper list of long pending (more than 10 hrs) power issues and mail to next roster person & C.C. to Manager & NOC TECH assigned person.

2.40. Give mail with pending power issues to next Roster Person:

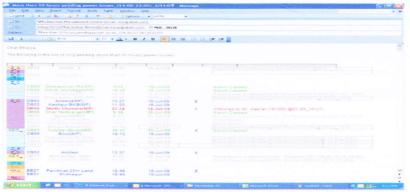


Figure 45: Mail file to the next Roster Person



2.41. Send update summary sms for long pending power problem:

SMS ct a recipient and enter your message text.
ct a recipient and enter your message text.
riginator 8801817181201 🛩
redits Left: Unlimited
hoose template:
inoose template 💉
essage text:
ains_Failura:RAJ:RB72:Nondigram/10:11,RB35:Mondo : Hat/15:45
essage Length: 72
umber of SNS messages:
eferred delivery time: 2009-08-02 18:48
1 C & L 4 0 0



Now before leaving and from the HANDOVER we sent update sms to the respective zone using this site.

2.42. Other Activities:

- Alarm updates (through the INMS) and any other irregularity are informed to NOC support, which are followed strictly.
- Convey all messages to the next assigned person of any major issues.

2.43. Handover these documents to next roster person by mail:

Handover Log, N	IOC Surveillance	
lame: Moin/Whalid		
Shift: Night		
Date: 16/07/2009		
Slot: Power		
Sent SM S	SentTime	Recipient(s
Reminider Malina Failure Z. D. 0852 Andikot/13:37. Reminider_Malina_Failure:RHL 8827:Parirkhak 25m Land/15:45.8857:	7/16/09 22:43	Z D
Remin der_Malina_Pallüre:RHL 8827:Panirkhak 26m Land/18:48.8857: Bhikhapur/16:40	7/16/08 22:44	KHL
Remin der Maina, Failure RAJ:RE41:Firat Gate/15:05.RE35:Bateshon/15:35. (aharol/15:35: Pakerhat/15:35.	7/16/09 22:48	RAJ
Reminider_Mains_Failure:Z_C:DE45:Alampur/18:21.DE03:Kaphpur BKE/11:30	7/16/09 22:51	z_c
Reminder, Mains, Pallure Z, D, D655 North Chasera 22, 34, 14/7.	7/16/09 22:54	2.0
Reminider Maina Failure CDC, CTG: CB 55; Biruli/13:13.	7/16/09 22:58	CDC_CTG
Reminider_Mains_Failure Z_C: DB50: Anarkoli_lbs/14:57.	7/18/09 23:08	z_c
Natunbag h+1800/14:57.	7/16/09 23:09	ZA
Reminder Mains Failure Z A: DE16, Gausia, 1800/13:59. Reminder_Mains_Failure(IMF HUB):Z_C: Natunbagh+1800/14:57, DE04:		
Bandura/19:57	7/16/09 23:15	z_c
Rammin dar, Maina, Failure (MFHUB) CDC_CTG-CBSFGaye shpur/20.46.CB97.Chatarpara/20.16.CB75. Brebarhas 19.50.CB95.Amish apur/19.44.	7/16/09 23 20	CDC_CTG
Remnider, Mainz, Failure(IMP, HUB), KHL BB 57 Babulgan, D. College, 19:05.	7/16/09 23 22	KHL
Reminder_Mains_Failure(IMP_HUB):DB71: Durgapur: 19:50, Barhatta/20:57.	7/16/09 23:24	Z_B
Reminder WaterImmersed		
Alarm: CDC_DHK:Nabiabad_Muradour/12:43(13/07/09)	7/18/09 23:58	CDC_DHK
Reminder, Over Temperature Alarm Z_0.0833.8 tohar/15:05	7/16/08 23:56	20
Reminider Malina Failure:Z D:DB52:Andikot/13:37, DB53: Radhagani/19:17.	7/17/09 2:22	2.0
Reminder Mains Failure Z 8: D871: Islampur/21.55, Bowla 25m Land/22.05.	7/17/09 2:20	2.6

Figure 47: Handover for Next Roster Persons

HANDOVER is another report to be given to the next roster person.

	Station of		art & Hame	Time of Power	Date of Power	Total Power Outage 10 hours	Remarks
/endore	Zone	BSC	ET S TANKS	Creste	Comp	nours	
and the second second		110110	HURL 7	12.31			
RCEERIE	1.5-8						
	2.6	0500					
LCAYNE.	120				10-001-012		Alarm Cleared Alarm Cleared Control Control (1970) (2010) (2010) (2010) (2010) Control Control (2010) (2010
Station and Day		0894					False storm condensed by b
		0094					
		1.756.214			10-101-09	2	
Commentaria in commentaria	120	DB02		13 37	18-Jul-09		Informed to Mr. Hear et (181350 @21 25_10/07)
and in family of the Residence	- and the second	D803		22:34	14-341-00	4	Informed to Mr. Hezret (Terstore
	- Canal States of Longie	136568	North Chasara(MF)	9:55			Alarm Cleared False Alar in cash formed by Mr. Mohlo menches (20, 20, 20, 20, 27)
		0866					
	I STREET, STRE	10020					
and in famous and the state of	Aligness and a surgery	10000					
	and the second second	0.000				3	Charm Cleaves
Caller & Society, Sciences, Scientist		100007	Date pla is an aver (RP)	15 07	15.341-00	1	August and a second and a second and a second a
	1000	C867	Biruli(MF)	10:13	10-Jul-09		
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		C.33.1.9					
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	- Sand						
	To Take a	and the second					
	C CT O						
	And the state of the state of the			18:45	15-Jul-09	2	
		BB27	Parirkhak 25m Land	16:40	10-Jul-09		
			Shikhapur	10.40			
	ALC: NO.						
Still	-						
Panding		1					to a second s
Newly							Update at 06:00_17/07/2008: Power outage for more than 10
added						7	hours: Total=7, DHK-4/2, D+4), KHL-2, CDC, CTQ=1.
False Alar					Total		
	10						

Figure 48: Long Pending for Next Roster Persons And the Long Pending Alarms.

Department of Electrical and Electronic Engineering, East West University

36



- 2.44. SAP (System Application Process) Software Work
- 2.45. SAP Log in:

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	Opensky and t	()	
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		Promber -	
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		Churnus No 11.	
	L	E-slate tern_	
	"or help, press "		
			PRO () (000) TH BAPPRO OMP

Figure 49: SAP Logging Page

SAP software is used to record alarm that happens in every slot for POWER and SITE DOWN. Here we issue work order for affected site and if a terminal goes down we issue work order for every BSC under that BTS. Now before we proceed we need to log in to the software, then we select production and then click log in.

2.46. SAP entry of Username and Password:

			SAP
User Dystem Lielp		20 CB	and the second second second second
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browseed wer			
lient	558		
	sahfuzB44		
between			
anguage			
			PRD (1) (000) HE BAPPRD OVR
and the second s			

Figure 50: Username and Password Entering Page After that we enter username and password for logging in.

2.47. Next step in SAP entry:

SAP Easy Access		
0 5 5 9 6 /		
Constantial Constantia Constantia Constantia Constantia Constantial		

Figure 51: Choosing Create order iw21

Then this page shows up. Where we have to choose 'Create order_iw21'.

2.48. Entering of BSC Data:

8			
reate	Order: Initial Screen		
leader det			
order Type	PH05		
riority	Critical		
unc. Loc.	CHTG - LMNZ - 528 - 8988 0	10. 11.07	
quipment	CHTO-CHTO-LMNZ-bts-0900	200 Ang 60	
ing plant			
eference			
rder			
			PRD (1) (550) BE SAPPRO OVE

Figure 52: Selecting BSC's of 900 or 1800

Now we give order type PM05, to identify alarms of critical priority. Finally identify whether this is 900 or 1800 BSC's.



2.49. Entering site info's:

3			A 000	0						
T Cre			m Mainten							
			PO							
							BDT			
PlannerOrp Mn.wk.ctr User respo			Regional Operati	-	PMActType	BHO Breakdown	rna _			
					Address		D.			
Dates Bac start	84 88 2889 1		Priority	Critical			2			
Besic fin.	65.08.2069 1									
Sched@tart		00 00	Act start Actual and		00:00					
Sched.Fin. SchedType	Forwards in tin		RefDate		-0.00	Automat sched				
Rel view	Predecessor		Start in past		50	Exact breaks				
Version	. competential		Adjust dates		2	Cap. regmts				
Func. Loc. Equipment	CHTG-CHTG-LI						10 (S)			
MORALD	Darria	ge	Note dates							
Malf.start		10.82		Breakdow	wn					
Maif.start			2.45	_] Breakdown Breakdown		н				
Maif.start MaifEnd	04.08.2089	10 82	2.45		dur.					
Maif.start MaifEnd First operation	04.00.2009 on	10 82 00 84	2 45 L 0 00 9	Breakdown	dur. Celo	ry Calculate work				
Malf.start MalfEnd First operation Operation WikCts/Pint	04.08.2089	10 82 00 06	2:45 E 0:00 S Clatikany PR6	Breakdown 81 Acty Ty	dur. Coka	ry Calculate work				
Maif.start MalfEnd First operation Operation WeCtuPint Work durth	04.00.2009 on	10 82 00 84	2 45 L 0 00 9	Breakdown	dur. Coka	ry Calculate work				
Maif.start MalfEnd First operatio Operation WikCtuPint Work durth	04.00.2009 on	10 82 00 06	2:45 E 0:00 S Clatikany PR6	Breakdown 81 Acty Ty	dur. Coka	ry Calculate work				
Maif.start MaifEnd First operation	04.00.2009 on	10 82 00 06	2:45 E 0:00 S Clatikany PR6	Breakdown 81 Acty Ty	dur. Coka	ry Calculate work				
Maif.start MaifEnd Pirst operation Operation Wiscbs/Pint Work durth Person. no	04.08.2909 on <u>CIG ERIC</u> /	10 82 00 86 9900 N	2:45 E 0:00 S Clatikany PR6	81 Acty Ty Oprin	dur. Coka	ry Calculate work			PRD (1) (558	D) FRI BAPPRO O

Figure 53: Providing site Info

Here we enter the info's for the affected site i.e., time it was down and it's up again etc.

2.50. Preparing object list:

ler Edit Goto Extras Eng							SAP
ei Edit Goto Estada Entr							
Create Breakdow							
PR05 10000000000000			2				
11a Ronz11 BTS under CB88	was down from 80:84 t	0 89:11 ON 8	3/87/89.				
entime: 8 hr 07 min.							
scription: Power Failure	To (Bhoub)						
Status CRTD MANC MTUP		CRE CRE	4	2			
Contraction of the local division of the	Contraction Contra	Bashias	Addit Dat	a Location Plannin	a Control		
HeaderData Operations	Components Costa	Partner	Addit Dat	a Location Ptennin	g Control		and the second sec
bject List	NUMBER OF STREET			and the second second second	g Control	Notification	N. Desc
bjert List Sort Renal no. Material	Components Costa		Equipment descriptn	Funct Location	NAME OF COMPANY		N. Desc
bjert List Sort Renal no. Material	NUMBER OF STREET			Funct Location	FunctLocDescrip.		
bjert List Sort Renal no. Material	NUMBER OF STREET			Funct Location	FunctLocDescrip.		
bjert List Sort Renal no. Material	NUMBER OF STREET			Funct Location	FunctLocDescrip.		
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bjert List Sort Renal no. Material	NUMBER OF STREET			Funct Location	FunctLocDescrip.		
Seer List	NUMBER OF STREET			Funct Location	FunctLocDescrip.		
bjert List Sort Renal no. Material	Material description	Equipment	Equipment deacriph	Funct Location	FunctLocDescrip.		••

Figure 54: Object List

Now at the very last stage we have to enter the object for the site down and then click save. Then the issued work order will be shown on the lower left side of the screen.

2.51. Preparing mail:

	Hom	e Inse	n Pege	Layout Pormulas Da	ta Review View					
este	* ? *	Arial B Z	- 10 U - U		General General	Format	tional Pormat ting - as Table - 1 Styles		Delete	
	D7		- (To Patiliihap						
		8	6	0				н		
Nar		Date	Topis SAP entry of							
Wha	alid	6/2/2009	the cleared alarms.							
Seria	I No	WO No.	BSC	Site Name	Specific Problem	Event Time	ClearTime	Duration	Reason	Corrective Maintenance
4		51171101	Dect	Gosinga	Long Time STS Down	5/81/2009 19:09	6/1/2009 11:45	16.36	Loose connection at RBLT	Menuel
-	2	51171105	C804	Panwalapara-1000	Long Time 875 Down	6/1/2009 0.25	6/1/2009 9:41	9.18	Power problem	Manual
	1	51171105	0808	Razabari_Bazar	Long Time 815 Down	11:55 9005\16\2	6/1/2009 9:18	11/17	Power problem	Menuel
4		51171110	D804	Pathijheo	Long Time STS Down	6/1/2009 7:02	6/1/2009 8:51	1:49	Power problem	Menual
	£	51171112	C847	Bonorupa_RA+1800	Long Time STS Down	5/81/2009 23:20	6/1/2009 8:01	8:41	Power problem	Menuel
	5	51171186	C825	DCS_SHAMLAPUR	LAPD_OML alarm	6/2/2009 15 51	6/2/2009 18:52	0.00	Fluctuation	Auto
0 7		51171189	C825	DCS_SHAMLAFUR	LAPD_ONL BIRCO	6/2/2009 18:49	6/2/2009 18:51	0.01	Fluctuation	AUTO
1 8		51171191	C825	DC5_TERNAP	LAPD_OML alarm	6/2/2009 18:49	6/2/2009 18:52	0.02	Fluctuation	Auto
2 5		51171196	C825	KHONKAR_PARA	LAPD_ONL alerm	6/2/2009 18:49	6/2/2009 18:52	0:02	Fluctuetion	Auto
3 1		51171201	C825	PALONGKHALI	LAPD_ONL alarm	6/2/2009 18:49	6/2/2009 18:52	0:02	P uctuation	Auto
4 1		51171205	C825	SABRANG	LAPD_ONL # Imm	6/2/2009 18:51	6/2/2009 18:52	0:00	Fluctuation	Auto
5 1		\$1171206	CB25	SABRANG	LAPD_OML alarm	6/2/2009 18:49	6/2/2009 18:51	0:03	Fluctuation	Auto
6 1		51171209	C825	SHAH_PORIR_DIP	LAPD_OML alarm	6/2/2009 18:49	6/2/2009 18:52		Fluctuation	Auto
		\$1171210	C825	SHAMLAPUR	LAPD_OML alarm	6/2/2009 18:51	6/2/2009 18:52	0:00	Fluctuation	Auto
8 1		51171211 51171212	C825 C825	SHAMLAPUR ST_MARTIN_ISLAND	LAPD_OML elerm	6/2/2009 18:49 6/2/2009 18:49	6/2/2009 18:31 6/2/2009 18:32	0:01	Fluctuation	Auto
2 2	•	51171212	0825		LAPD_OML elarm	6/2/2009 18.49	6/2/2009 18:52	0.02	Plottoetion	AUto
	6 K	heet1	sheet2 5	sheet3						

Figure 55: Mailling Excell File

The format for sending mails for SAP is shown below. Suppose in long time BTS down we get 1 work order and then rest will be on that work order and for single BTS down we have a work order for one site. Now we attached this file to designated persons.

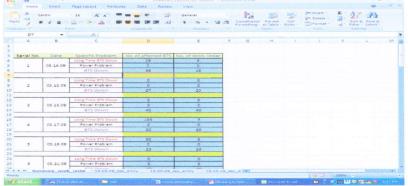


Figure 56: Weekly Mailling Excell File

This is the summary of the total work done for a month. We had to add those file in one excel file to mail them to designated persons.

2.52. Complaint Management Unit (CMU)

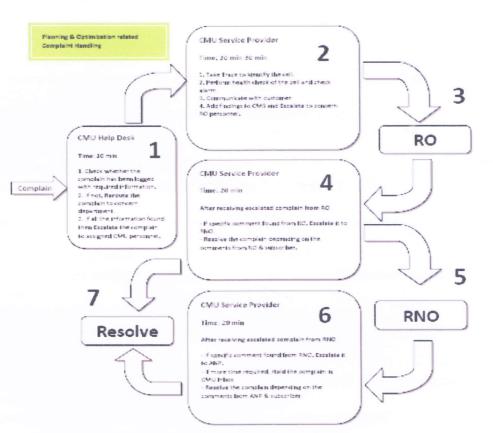


Figure 57: Procedure of CMU's Work Done

Here we maintain some procedure to help our client in the problems they faced in using SIM for talking, using internet or any other reason. If a client informs us that they are facing any kind of problem we try to resolve them from CMU.

7.2Procedure of IN related complaint Handling COMPLAINTS CATEGORY

These are the major problems that a customer feels while using the cell phone

Call Drop Call Congestion No Coverage Poor Coverage Voice Distortion (Broken/Metallic Sound during Call)

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2.53. REQUIRED INFORMATION LIST

To identify the problems, the information required from the customers are:

- Location Address Details.
- Persistency of the problem.
- Duration of the problem.
- Problem description with respect to different category (Coverage, Quality or Others).

For coverage related (Poor\No coverage) problem, questions need to be answered by the customers are,

- How many bars is shown in Handset?
- What is the coverage status outside the building?
- Problem is in which floor & How many floors are there is that building?

For Quality related (Call drop\Congestion) problem, we had to ask the client these questions:

- How many network bar shows when the call dropped?
- Is the call dropped suddenly or dropped after huge breaks of voice or muted condition?
- Usually how many bars should be in the handset?
- Case Title vs. Problem description.
- Handset Info & Handset duration.
- Nearby AKTEL Site info- how far at which direction.
- All AKTEL SIMs are facing the same problem or only you at same floor\ same area?
- Did you change your Handset?
- Did you put on a different SIM in your Handset or change the SIM?
- Problem only at this location?
- o Problem during call to/from B party or other locations too- address of B- party location
- Problem with Only AKTEL or Other Operators or PSTN or ISD.
- Problem occurs during INCOMING or OUTGOING or BOTH?
- Another Active alternative number to contact him?
- Another number who face the same problem?

2.54. Necessary Software

- Complaint Management System (CMS)
- o SMU Client
- o I-Manager 2000
- Ericsson-OSS
- OMC-R
- Huawei LMT

2.55. Work Procedure for tracking case:

- o Call Subscriber.
- Get the missing details.
- If he is at the problem location, then TRACE and get the serving CELL information. If not at the problem, then ask when he will be there.
- Check for current fault alarms and traffic status of the serving CELL found by Huawei LMT, OSS or OMC-R.
- ESCALATE to the concerned RO personnel in CMS with ALL information (CELL Name, Current Fault Alarm, Traffic Status)

2.56. Call Trace Procedure

We use iManager to take a trace of subscriber's current serving cell. First use the command "**DSP USRINF**" to find the global cell identity (CGI).

		21 • 15 1	
istory Command	DSP USRINF-UNT=MSI3DN,D=KS80161	9520341, 🔻 🕂 🗗	
ommanci input	D'SP USRINF		
MainStandby	nodule MARi(Main) 💌 Us	er Number Type MSISDN(MSISDN) 💌	
Usert	umber 8801819520341		

Figure 58: Call Trace Procedure

2.57. Command Prompt

e Report Cystom Menu Window Hei	q	
TMSI		SSOFICA
IMEI		358375000147280
IMEL reused times	_	9
User Type	-	Common liser
Roaming Type	-	Local Subscriber
Mobile station	_	Double Fred Mobile
IS O-COL CAMEL USEL		7=0
IS D-CSI CAMEL USER	-	No
IS VT-CSI CAMEL USER	_	No
IS SHS-CSI CAMEL USER		No
IS 33-C3I CAMEL USSI		No
Is M-CSI CAMEL User	-	No
Is LCS User		No
Available AuthSet Number		2
Location Area Identity	-	47002-0075
Cell Identity	100	47002-0075-2013
MSC Number	-	8801801000043
HLP Number		3301801000011
llowed Roaming Area Num(ZoneCode)	-	All Aree
IMSI Attach Flag	-	Attached
Radio Confirm Flag	-	CONFILMED
Subscriber Data Confirmed by HLR		Confirmed
Location Info Confirmed in HLR	-	Confirmed
Help Information		

This is the cell identity number. Then issue another command to get the specific location of the subscriber. The command is "LST LAIGCI. We put the cell identity in 2g CGI to find out the specific subscribers current location.

		St • 1 3	
listory Commend	LST LAIGCE GCI='4700200752013',		
tommand input	LST LAIOCI	*	
	23 801 4708266752013		

Command Prompt

Figure 60: Command Prompt

Then using the cell identity number we try to find the Cell name by putting the cell identity number in the above figure.

	Global cell TD	-	4700200752013
	LA CELL Date		C8 20 550
	MS number of the LA cell	-	0801801000043
	VLP number of the LA cell		8801801000043
	Robile network code		fit has
	Perform reasing enalysis		NO
	Restract incoming call		NO
	Regtract succoing call		NO
	Location area category		SCT
	Location atea type		Local VLR.
	Early assignment flag	-	Early Assignment
	Location maker		65505
	ESC manber		1
	Mome BSC network indicator 1	-	National reserved network
	Home BSC DPC L		000153
mon Maintenan	History Command Help Information		
1 BC 1 : BC 1 =** 4	700200752013";		
			31 📥 10 1
y Command	LST LAGCE OC = 4700200752013',		- •
mand input	Lat Lager		- [3] (*)

Cell Identity

Figure 61: Cell Identity Number

Then check the 'Cell Name' for any fault alarms as well as traffic status of serving cell.

2.58. Preparing mail for CMU:

LATON Commission

di-	libn - 11 ∡ 및 -∥∰ Font				General \$ - •	* * 1 ***	0.00 Cor		Table - Styles -	and Ins and De De Ce	iete - 3	- ZJ	Find & Select	
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A	B	C	D	E	1	G	н	1	1	ĸ		IV		-PN
Name	Date	Topic	MSISDN	CASE_NO										
Whall	d 6/4/200	CMU Calls made on this day.		8		-								
			17472	90618021 4 90618030										
			41698	2										
			41503	0 90619000										
			20851	2 90618030										
			11365	6 90618031										
			63107 88018172 74636	9										
			88018170 57837	90619096 4										
			33121	90619081 5 90620007										

Figure 62: Mail for CMU

Then at the end of the day we send mail to the designated persons of how many calls we made on that particular day.

3. PROBLEMS AND RECOMMENDATION

- 3.1. Power Monitoring Slot
- 3.2. Discrepancies:
 - Terminal PCs have some problems regarding monitoring. While monitoring them, the PC sometimes get hanged and there are some problems with running of the PC's. They are being running for long periods of time. So this PC's should be taken care of very well.
 - **Recommendation:** Terminal PC's should be rearranged for smooth monitoring.
 - Sometimes Integrated Network Management System (INMS) does not work properly. This is very important software to monitor all three vendors of ROBI (AKTEL).
 - Some sites are found in one BSC but different zone which is very much tough for quick identify, there are entries for different BTS and BSC but they are not found in the particular zone rather they are found in different zone which is unpleasant.
 - **Recommendation**: Location entries should be performed carefully.
- 3.3. SAP Software Work
- 3.4. Discrepancies:
 - Sometime the desired site's are not found in SAP, there are entries for different sites but these are not found in the particular zone. They are found in different zone.
 - **Recommendation:** Site location should be recorded under proper place to ease the solution of existing problems.
 - $\circ~$ Few sites do not belong to 0900 or 1800, which create problem in relocating these site.
 - **Recommendation:** Before starting work, one should be properly trained to understand these things very carefully.

3.5. CMU

• There was no discrepancy observed in CMU.

4. CONCLUSION

On the completion of this internship I gathered knowledge on Power Monitoring Slot, SAP Software work and CMU (Call Monitoring Unit). Precautions should be maintained while working with power monitoring slot. The update of OSS OMC_R and i-Manager should be checked. The handover procedure should be completed correctly along with the 10 hours pending data, so that the next slot person can understand every alarm that were down in that time. SAP (System Application Process) and CMU has vast area of work. To learn more about SAP (System Application Process) and CMU more time is required. The overall working environment and senior's attitude towards intern was appreciably encouraging.

References

[1] Website: <u>www.robi.com.bd</u>

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[2] Rests of the other information were provided through our office at Uday Tower Gulshan-1 Dhaka 1212.

Department of Electrical and Electronic Engineering, East West University