ANNEXURE - I

Day to Day Operations for IP TAX Project

Prepared for Bharat Sanchar Nigam Limited

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INDEX

Contents **Page No.**

1. NODES

Under PO No's:

PO1: IT/PO/012/2008-2009 **Dated 15-01-2009**
PO2: IT/PO/013/2008-2009 **Dated 15-01-2009**
Amendment of PO2: 117-11/2008-MMD/IPTAX/ZTE **Dated 15-07-2009**

ZTE was awarded contract to deploy IP TAX Network Elements in L1 & L2 TAX Locations on BSNL Network in 22 different circles.

There are three types of nodes as given below.

1. NOC and DR-NOC Node
2. Softswitch Nodes
3. TMG Nodes

2.1 NOC and DR-NOC NODE:

There are two NOCs were set up as per the contract. The Main NOC located at Chennai and the DR NOC located at Delhi.

ZONE	Name of the Circle	NOC	NMS System	EMS System
SOUTH	CHENNAI TD	Main	2+2	8+8
NORTH	DELHI TD	DR	2	8

The key responsibility of NOC to manage the entire IP TAX network and to provide geographic redundancy when some problem occurs on NOC site, the DR NOC has been established at Delhi.

2.2 Responsibilities of NOC and DR-NOC:

NOC is responsible to monitor the network for alarms and certain conditions that require the special attention.

The main responsibility of Network operation center (NOC) is to configure and monitor the network.

1. Solving any technical problem raised by Node Incharge (SS/TMG node) or field staff.
2. Configuration of network elements and Coordinating with Field staff (SS/TMG node) for any verification of configuration in network elements.
3. Remote management of SS/AS/TMG/Router/LAN like checking of faults, performance, configuration, security management and upgrading the new software version.
4. In eMS server every network element of project is continuously monitored for any type of alarms. From the eMS server the cards and ports of the equipment are monitored on real time basis.
5. To assist Node Incharges(SS/TMG node) in installing the eMS client Software.
6. For eMS Client software please contact NOC, after Installation the eMS client software can be used to monitor the SS/AS/TMG/Router/LAN at the SSA level, which provides very efficient management for Node Incharges(SS/TMG node).

2.3 Rights of NOC and DR-NOC USERS:

- ✓ NOC operator handling file tasks and user tasks of entire IP TAX network.
- ✓ Capability to see the present availability of Fault Management, Configuration Management, Performance Management, Security Management, Topology Management, Log Management, System Management and Software Management.
- ✓ Capability to modify the scope of Fault Management, Configuration Management, Performance Management, Security Management, Topology

Management, Log Management, System Management and Software Management.

- ✓ Capability to handle NE related tasks including backup and other file handling tasks.
- ✓ Capability to handle all O&M tasks at various NEs.
- ✓ Capability of Security management is to manage operators and roles, to allocate operation privileges and management objects to roles. The operator and role management facilitates security control for operator operation. It can prevent unauthorized operators from accessing the system by login authenticating or implement security control for operators by authorizing.

3.1 SOFTSWITCH NODE:

There are 32 No.s of Softswitches across India were supplied, installed and under operational in 21 locations (Nodes). These SS Nodes (21) are co'located with TMGs.

Sl.No	Circle/Region	SITE	No.of SS
1	AP	Guntur	1
2	AP	Rajamundry(East Godavari)	1
3	AP	Hyderabad(Secunderabad)	2
4	AS/NTR	Guwahati (Pen Bazar)	2
5	BR/NTR	Patna (Patliputra)	2
6	KOL TD	Kolkata 172k (Telphone Bhawan)	2
7	HR/NTR	Ambala (Cantt)	2
8	KL	Ernakulam(Alwaye)	2
9	KTK	Belgaum	1
10	KTK	Mangalore	1
11	KTK	Bangalore(Central)	2
12	OR	Cuttack(Tele. Bhawan)	1
13	PB/NTR	Jalandhar (MTS Nagar)	2
14	RJ/NTR	Jaipur	1
15	TN	Coimbatore (Ganpathi)	2
16	UPW/NTR	Agra (Sanjay Place)	1
17	UPE	Allahabad	1
18	UPE/NTR	Lucknow(Kaiser Bagh)	1

19	WB	Kolkata	1
20	DEL TD	NEW DEHI	2
21	CHNI TD	Chennai Haddows Road	2
21			**32**
	21 ODES & 32 Softswitches		

3.2 Responsibilities of SS Node Incharge:

The key responsibility of SS Node is Managing the SS and its associated TMGs, ASs , Routers and LAN Switches.

1. Monitoring all the concerned equipment and links in their SS regions regularly.
2. Monitoring and solving problems related to SS, AS, TMG, ROUTER and LAN Switches.
3. Checking and monitoring the media connectivity between different network elements.
4. Addition of new cards or repaired cards in the SS, AS, TMG, ROUTER and LAN Switches.
5. Using eMS client to monitor SS, AS, TMG, ROUTER & LAN and attending the faults.
6. Node Incharge should solve the problems related to SS, AS, TMG, ROUTER & LAN by themselves in coordination with NOC and ZTE Field units.
7. Registering complaints in CSC for equipment related problems and major faults which are not solved in reasonable time and also raising RMA when ZTE Engineer justifies the hardware fault.
8. Prompt action is to be taken to send faulty card back to ZTE immediately in case it is replaced in advance by Vendor.
9. Localization of problems/faults is to be done locally as far as possible and NOC/Vendor may be contacted after trying all possible means.
10. Responsible for all Fault, Configuration, Performance Management of their SS region's NEs and it's dependent NEs.

Daily/weekly/quarterly checks are to be carried out by SS Node Incharge as per the Manufacture's maintenance manual.

3.3 Rights for SS Node USERS:

- ✓ Capability to see the present availability of Fault Management, Configuration Management, Performance Management, Topology Management, Log Management, System Management and Software Management.
- ✓ Capability to modify the scope of Fault Management, Configuration Management, Performance Management, Topology Management, Log Management, System Management and Software Management.
- ✓ Capability to handle NE related tasks including backup and other file handling tasks.
- ✓ Capability to handle all O&M tasks at various NEs. (i.e., Softswitches and its dependant TMGs, ASs , Routers and LAN Switches).

4.1 TMG NODE:

There are 97 nodes has only TMG. These nodes are called as ”TMG Node”.

4.2 Responsibilities of TMG Node Incharge:

The key responsibility of TMG Node is to monitor the alarms of TMG.

1. Monitoring FM, PM and part of CM.
2. Monitoring and solving problems related to TMG.
3. Checking and monitoring the media connectivity between different network elements.
4. Addition of new cards or repaired cards in the TMG.
5. Using eMS client to monitor TMG and attending the faults.
6. TMG Node Incharge should solve the TMG related problems by themselves in coordination with SS Node Incharge and NOC Incharge.
7. Registering complaints in CSC for equipment related problems and major faults which are not solved in reasonable time and also raising RMA when ZTE Engineer justifies the hardware fault.
8. Prompt action is to be taken to send faulty card back to ZTE immediately in case it is replaced in advance by Vendor.
9. Localization of problems/faults is to be done locally as far as possible and SS Node Incharge/NOC/Vendor may be contacted after trying all possible means.

Daily/weekly/quarterly checks are to be carried out by TMG Node Incharge as per the Manufacture’s maintenance manual.

4.3 Rights for TMG Node USERS:

- ✓ Capability to see the present availability of Fault Management, Configuration Management and Performance Management.
- ✓ Capability of Fault Management (only view) by monitoring the alarms i.e., whether any TMG down, TMG-Cards whether if any abnormal status,etc.
- ✓ Capability of Performance Management (only view) by checking the usage of module query and distribute the load in module in TG and by checking the load of SPC card and distribute the E1's accord to load of SPC, etc.
- ✓ Capability of Configuration Management (partially)by opening of new E1's in the DTB card of TMG, and add the Protocol Port Configuration for the respective E1's and Regular Backup of Configuration of TMG.

5. USER LIST MAPPING with RIGHTS:

Sl. No	User Role	USER TYPE	No.of Users	Rights
1	TTA	TMG Node Users	118	○ Capability to see the present availability of Fault Management, Configuration Management and Performance Management. Capability of Fault Management (only view) by monitoring the alarms i.e., whether any TMG down, TMG-Cards whether if any abnormal status,etc. ○ Capability of Performance Management (only view) by checking the usage of module query and distribute the load in module in TG and by checking the load of SPC card and distribute the E1's accord to load of SPC, etc. ○ Capability of Configuration Management (partially)by opening of new E1's in the DTB card of TMG, and add the Protocol Port Configuration for the respective E1's and Regular Backup of Configuration of TMG.
2	JTO_FM		118	
3	JTO_PM		118	
4	SDE_OM	SS Node Users	118	○ CAPABILITY TO 1.SEE THE PRESENT AVAILABILITY OF 2. MODIFY THE SCOPE OF 3. TO DO THE MANAGEMENT ACTIVITIES OF Fault Management, Configuration Management, Performance Management, Topology Management, Log Management, System Management and Software Management. ○ Capability to handle NE related tasks including backup and other file handling tasks. ○ Capability to handle all O&M tasks at various NEs. (i.e., Softswitches and its dependant TMGs, ASs , Routers and LAN Switches).
5	SDE_Backup		118	
6	DE		118	
7	NOC operator	NOC Users	56	○ NOC operator handling file tasks and user tasks of entire IP TAX network. ○ CAPABILITY TO 1.SEE THE PRESENT AVAILABILITY OF 2. MODIFY THE SCOPE OF 3. TO DO THE MANAGEMENT ACTIVITIES OF Fault Management, Configuration Management, Performance Management, Security Management, Topology Management, Log Management, System Management and Software Management. ○ Capability to handle NE related tasks including backup and other file handling tasks. ○ Capability to handle all O&M tasks at various NEs. ○ Capability of Security management is to manage operators and roles, to allocate operation privileges and management objects to roles. The operator and role management facilitates security control for operator operation. It can prevent unauthorized operators from accessing the system by login authenticating or implement security control for operators by authorizing.
			764	