

E3-E4 CFA TECHNICAL

CDR Project

WELCOME

- This is a presentation for the E3-E4 CFA Technical Module for the Topic: CDR Project.
- Eligibility: Those who have got the Up-gradation from E3 to E4.
- This presentation is last updated on 15-3-2011.
- You can also visit the Digital library of BSNL to see this topic.

Agenda

- Introduction and scope of CDR project
- Convergent Billing
- Hardware and Network
- Software components for the project
- Changes after CDR project
- Pre-implementation preparation
- Status of Project

CDR Project

- CDR Based Billing
- Convergent Billing
- Customer Relationship Management

CDR Project Scope

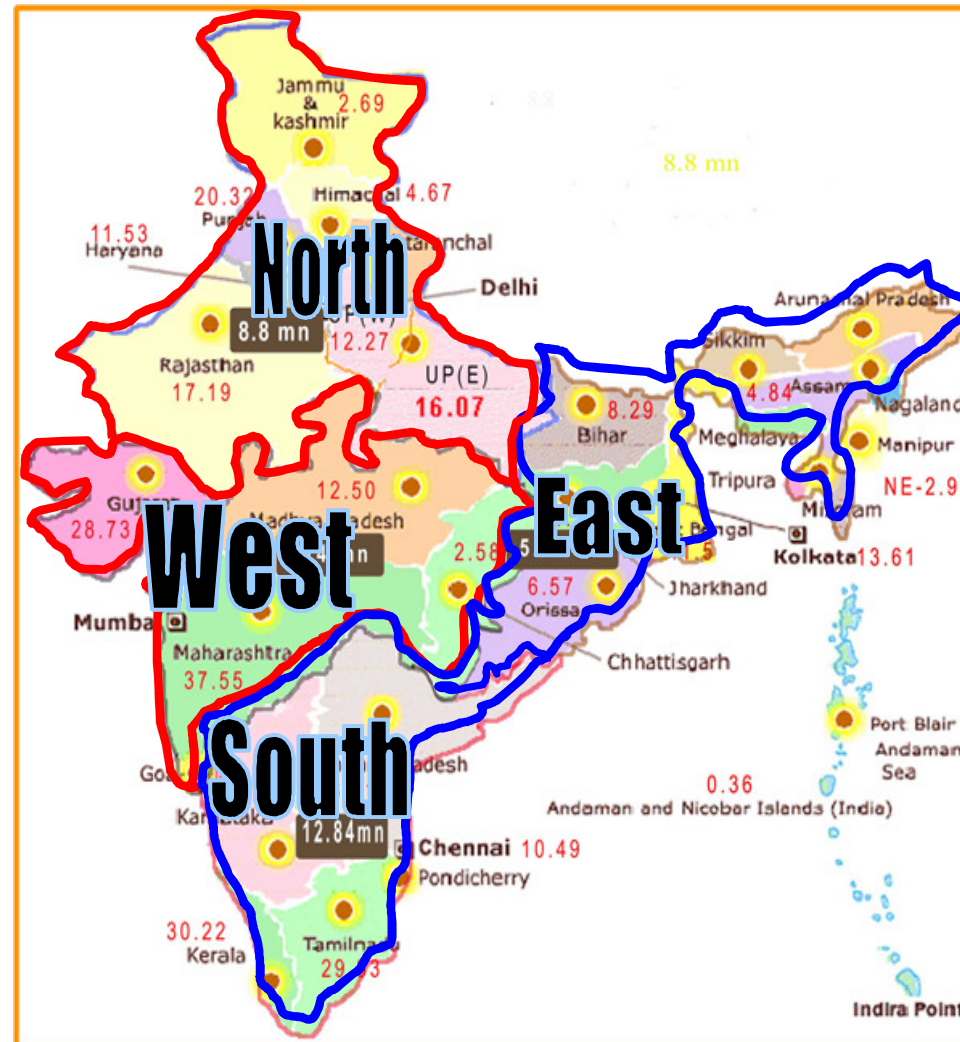
- This project is going to replace all the existing systems of
 - Commercial
 - TRA (Telecom Revenue Accounting)
 - FRS (Fault Repair Service) and
 - DQ (Directory Enquiry)

- The project will cover the customer care and billing for
 - Landline
 - Broadband and
 - Leased Line Services

Implementation

- Zone based, each zone having its own data centre's
 - North - Chandigarh
 - South - Hyderabad
 - East - Kolkatta
 - West - Pune

CDR Project Zones



CDR Project Zones

■ System Integrator

- South & East Zone – M/s HCL
- North & West Zone – M/s TCS

■ Billing System

- South & East Zone – M/s Comverse
- North & West Zone – M/s Converges

Zones & Circles

Zone	Circle
South	Andhra Pradesh, Chennai District, Tamilnadu, Karnataka, Kerala
East	Kolkata Telecom District, West Bengal Circle, Orissa, Jharkhand, Bihar, Assam, North East-I, North East-II, Andaman & Nichobar
West	Maharashtra, Gujarat, Madhya Pradesh, Chattisgarh
North	Punjab, UP-East, UP-West, Haryana, Rajasthan, Himachal Pradesh, Uttarakhand, J&K

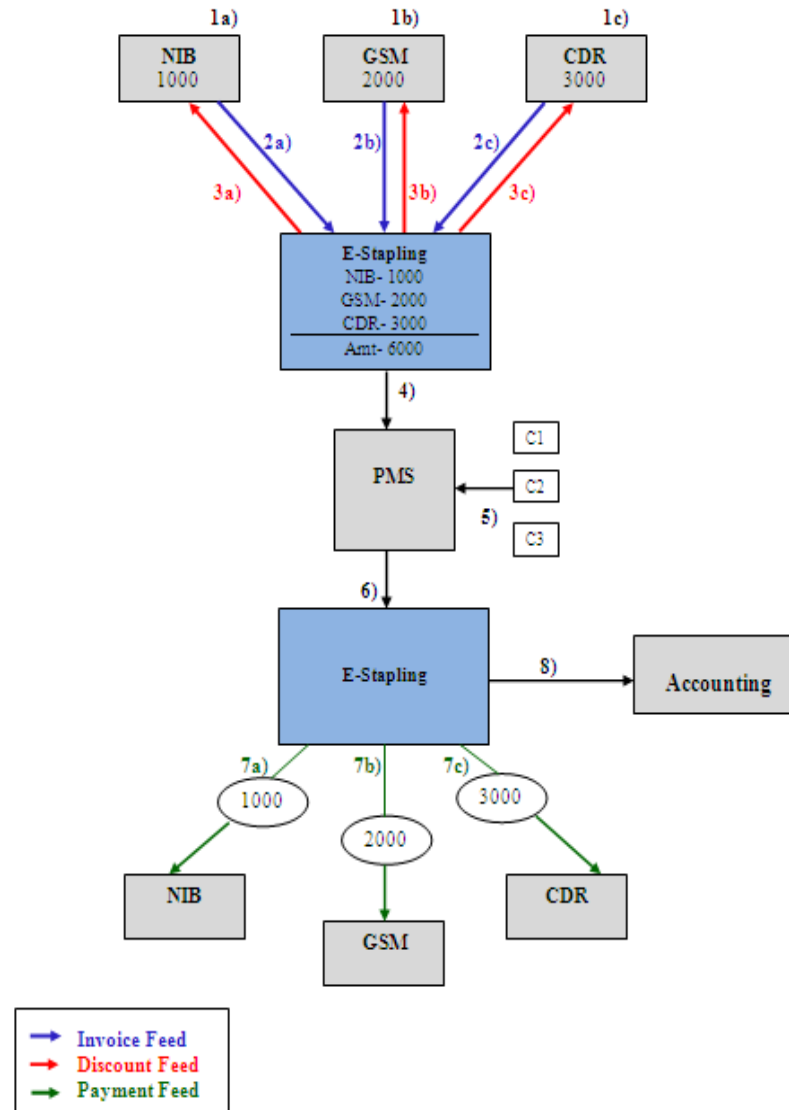
Convergent Billing

- This will enable BSNL issue a single bill for a customer taking any type of service from BSNL
- A customer having presence only in a particular zone, spanning across SSAs and Circles, can have a single bill for all the services he takes from BSNL whether the bill for the particular service is prepared or not from this system.
- The system will also help us introduce Combo Plans, offering flexible tariff plans to customers availing Landline, Broadband and GSM services.

E-stapling

- The e-stapling software shall be implemented in all 4 zones.
 - The e-stapling software installed at Hyderabad,
 - This will take care of Corporate customers having All India presence.
 - This system will interface with other zonal billing systems, GSM billing systems and the NIB billing system.
 - With this, it will be possible to issue a single bill to customer having All India presence
 - This system is also capable of taking the payments against this single bill and then distributing the payments back to the original billing systems of the different services taken by the customer for proper accounting.

E-Stapling



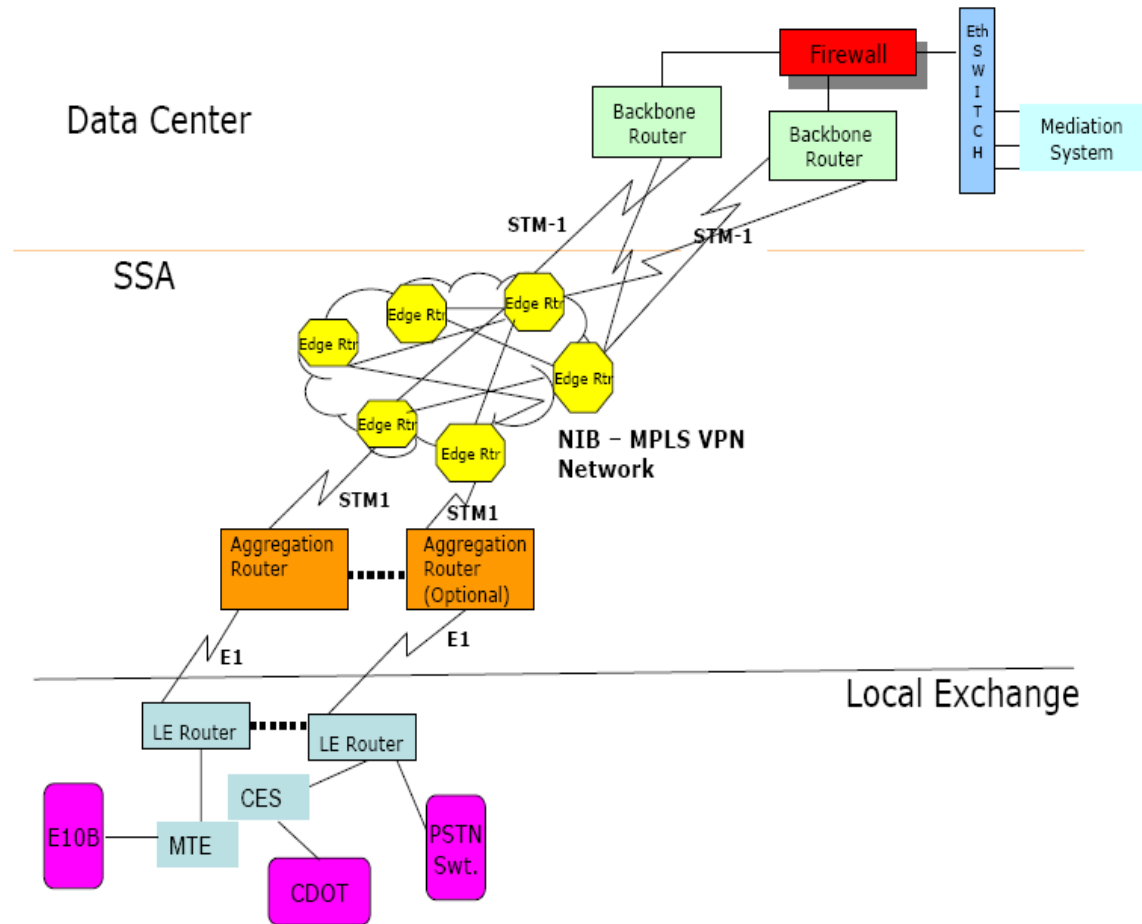
Hardware

- Data Centre (DC) Class servers
 - High-end servers having 64 cores/CPU's in each machine for hosting the main applications such as Billing and CRM
- Low-end servers
 - Two-CPU servers for small applications like Anti-virus, HTTP, Web servers, Authentication etc.
- Hyderabad Data Centre alone, is having around 18 DC class servers and around 200 low-end servers.

Network

- This project shall implement a country-wide Intranet, connecting all main offices / exchanges of SSAs, Circles and the Corporate Office.
- This network will be country-wide IP network with MPLS as the backbone.
- This network will be used for all other IT projects in future, as is to be used in ERP project.

Network



Connectivity

- All new technology switches such as OCB, EWSD, 5ESS, AXE, shall be connected using X.25 cards and Ethernet interface (wherever available)
- All CDOT exchanges will be connected to the LE router using CES equipment supplied by CDOT through HCL
- All E10B exchanges will be connected to the LE router through MTE (Magnetic Tape Emulator)

Connectivity

- Each LE router is connected to the Aggregation Router through E1 links.
- All the E1s coming from the different exchanges will be aggregated to the Aggregation Router
- Each Aggregation Router in each SSA shall be connected over STM-1 link to the nearest MPLS node.

Connectivity

- For redundancy purposes, the connectivity shall be established to two MPLS nodes.
- Thus, each exchange shall be connected to the Data Centre over E1 end links and through the MPLS network.
- The existing CSR network will also get connected to the Aggregation Router.
 - Thus, all the terminals of Commercial, TRA, FRS and Directory Enquiry which are now connected to the local systems will be connected to the Data Centres through the Aggregation Router.

IVRS & Integration with Call Centre

- Centralized IVRS (in each zone), CTI (Computer Telephony Interface), IP EPABX, etc.
- The core equipment required for Call Centre operations will be installed at the Data Centres.
- The existing Call Centres, mostly one per each Circle, will then be connected to the Data Centres
- In future, the 1500 calls and the 198 calls will be routed to this IVRS. Depending upon the Number or the CLI, the call will be routed through the IP network to the respective Call Centres.

System Components

- CRM (Including FRS)
- Billing
- Accounting (ERP)
- Mediation
- Provisioning
- Web Self Care
- Bill Formatter
- Payment Management System (PMS)

System Components...

- Revenue Assurance
- Inventory Management(sub)
- Directory enquiry
- Inter Operator Billing and Accounting System (IOBAS)
- Fraud Management System (FMS)
- Enterprise Management System (EMS)
- Enterprise Application Interface (EAI)

Scope of CRM Module

- Customer Management
- Billing Account Management
- Product Catalogue
- Order Management
- Service Order Management (Post Sale Support)
- Customer Care Management
- Sales
- Marketing

Disaster Recovery

- A disaster is defined as an event that makes continuation of normal functions of a Data Centre impossible.
 - An event could be any one of the incidents like Flood, Fire, prolonged power shut down, strike, earthquake, etc.

- Hyderabad is configured as the DR site for Kolkata and vice versa. And similarly, Pune is configured as the DR site for Chandigarh and vice versa.

- The degradation of performance for the applications failing over to the DR site is permitted upto 50%.

After CDR Project

■ Revenue Accounting

- New Accounting Procedure (BF instead of invoice based)

■ Surcharge / Late Fee

- Surcharge will be treated as late fee, which will be a percentage of the outstanding instead of at the slab rate.

■ PCO Billing

- Commission payable and the minimum guarantee will be as per the billing cycle instead of on a monthly basis
- PCO operators will be eligible for discounts instead of commission

After CDR Project

■ Deposits

- Deposits shall be common for all the Plans. Therefore, BSNL will not be offering any OYT or TATKAL deposits/schemes.

■ Billing Cycles

- This system is going to have a centralized billing process common for all the SSAs in a zone.

■ CDR based billing

- The existing tariff based on MCUs will get migrated to MOU (Minutes of Usage) based system.
- The discounts may be given in terms of Free Talk Time given as Minutes per month or Rupees per month.

Preparedness

- Connectivity of Exchanges
- Connectivity of CSR to Aggregation Router
- Reconciliation of data
- FRS and Sub Inventory data
- Availability of PCs, Scanners, Bar code readers etc

Status of Project as on 07.03.2011

NORTH	85 /110	WEST	79 /87	SOUTH	52 /70	EAST	61 /67
5 /6	HR 8 /9	CG 6 /6	MH 27 /3 0	AP 15 /22	KL 2 / 11	AS 7 /7	BH 19 /19
JK 4 /5	PB 10 /11	MP 34 /3 4	GJ 12 /17	KT 18 /19	TN 17 /17	JD 6 / 6	NE-I- 3 /3
RJ 19 /24	UE 26 /31			CHE 0 /1		NE-II 1 /3	OR- 13 /13
UW 9 /18	UT 4 /6					WB 12 / 14	CTD 0 /1
						AN 0/1	
Total : 277/334							

- This project can be successful only with the coordination and cooperation of all the Wings of BSNL and in the SSAs, especially those of IT, Planning, Accounts, and Engineering officers.
- This is one of the biggest IT Projects taken up by any Telecom Operator in India and it is our duty to see that it is a success.

