

Chapter 12

Report in CDR System

Reports in CDR

Introduction of CDR Project

BSNL has implemented a CDR based convergent billing and customer care system. This project is in the process of replacing all the existing systems of Commercial, TRA (Telecom Revenue Accounting), FRS (Fault Repair Service) and DQ (Directory Enquiry). The project also covers customer care and billing for the Landline, Broadband and Leased Line Services.

The project is not simply a replacement of the existing systems, but it is much more than that. For the first time in the history of BSNL, we are going to have State-of-the-Art Customer Relationship Management (CRM) software. This software will take care of all types of requests from the customers and integrate with other systems such as Order Management and Billing systems. This software will also provide a Web Self Care (WSC) module which will enable customers to access the system through Internet for placing any request, for making payments, or for general enquiry.

In this project, provisioning and mediation systems will interface with around 3000 PSTN switches. The subscriber management shall be done through the Provisioning system. The CDRs generated for all the calls will be pulled by the Mediation system. The combination of CRM and the billing system will enable BSNL to introduce flexible user-friendly tariff Plans. It will also enable us to introduce schemes which we are not able to do now with the present billing systems. This is also going to provide facility of Convergent Billing through e-stapling facility.

The project also involves implementation of Payment Management system. It is specially designed and developed by TCS for BSNL. This system will be common for all the Circles in BSNL. It allows acceptance of payments from all types of channels i.e. Online terminals, Post Offices, Banks, Internet payments, etc. The Payment Management system and the Billing system are integrated with an Accounting system which performs the accounting functionality and generation of sub-ledgers.

Implementation

The entire project is implemented with four Data Centres at Hyderabad, Pune, Chandigarh and Kolkata. These four Data Centres will take care of all the activities of the Circles in the respective Zones. The South and East Zones are considered as one project and the North and West Zones are considered as the second project.

The Billing system for South and East zone is going to be from M/s.Comverse with whom BSNL has a 10-year contract. So the same billing system as is being used in the GSM and Broadband will be used in this project for the South and East Zone as well. In the North and West zone, the system for billing will be from M/s.Converges.

After CDR Project

The introduction of this new project will eliminate the need of individual SSAs maintaining and operating IT systems for all the four functionalities, i.e. Commercial, TRA, FRS and DQ. The SSAs shall be the end-users of the systems and will have better tools and software at their disposal to provide better customer services, leaving the database related jobs to the IT team at the Data Centres. Because of the introduction of new systems and to take advantage of the features of the system, certain business processes within BSNL will change. Few of them are:

1. Revenue Accounting:

In the new system Balance brought forward accounting method shall be used instead of invoice based accounting. For example, a June Bill issued to a customer if not paid, will be added to the July Bill and the July Bill will be issued for an amount which is equal to both the June and July amounts. Every customer will be identified by an Account Number which shall be unique throughout the country. Revenue booking shall be based on the Account even though the services under the account are scattered across the various SSAs. The customers can pay any amount at any time and it shall be credited to the account and adjusted against the outstanding.

2. Surcharge/Late Fee

Surcharge will be treated as late fee, which will be a percentage of the outstanding instead of at the slab rate as is being done today. The late fee concept is already introduced in the GSM billing system and the same shall be followed here.

3. PCO Billing

For PCO billing, the commission payable and the minimum guarantee will be as per the billing cycle instead of on a monthly basis. PCO operators are now eligible for discounts instead of commission. These changes are already done in the existing systems and shall be continued in the new system.

4. Deposits

Deposits are already made uniform i.e. Rs.500/- for Local, Rs.1000/- for STD and Rs.2000/- for ISD. This shall be common for all the Plans. Therefore, we shall not be offering any OYT or TATKAL deposits/schemes. The existing OYT subscribers

shall continue to be billed till the completion of 20 years. However, no new OYT connection shall be provided.

5. Billing Cycles

The number of billing cycles in an SSA may increase. The new system is going to have a centralized billing process common for all the SSAs in a zone. Therefore, the customers in the entire zone shall be divided into different billing cycles to evenly distribute the process load on the servers. The number of billing cycles may even go upto 15 once the project is rolled out in all the SSAs.

6. CDR based billing

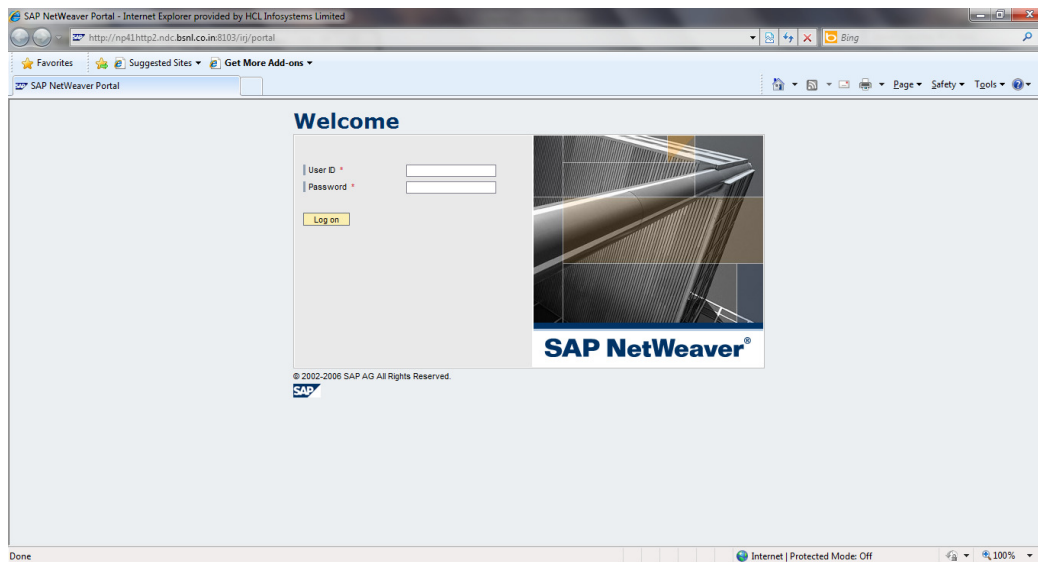
The existing tariff which is based on MCUs and number of calls will get migrated to MOU (Minutes of Usage) based system. The discounts may be given not in terms of Free Calls, but shall be in terms of Free Talk Time given as Minutes per month or Rupees per month.

CDR Reporting System

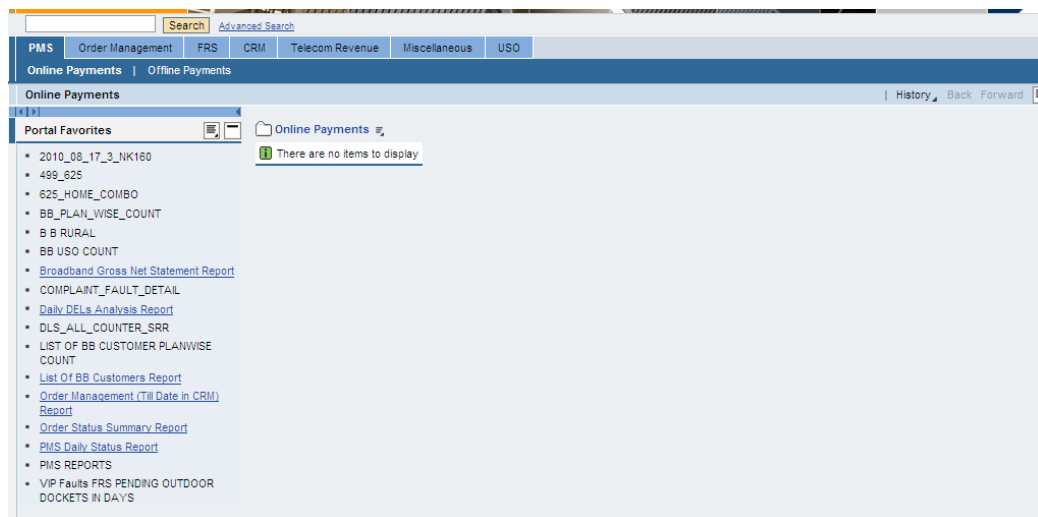
The reporting system of CDR is very powerful tool. This will enable decision maker to take better decisions as better facts and figures will be available at their disposal. The reports in CDR system are accessible through Enterprise reporting module (SAP – BI). An SAP Business Intelligence (BI) tool is used to design the report layout for the data stored in the warehouse and generate reports on the web. These reports can be viewed with the help of web browser.

For accessing the reports, individual will be provided user account with specific privilege. Various reports using the SAP BI tool have been developed by taking into consideration of BSNL needs and requirements. These reports are fully flexible and can be extracted as per the need of user.

In order to access the CDR reports, the system should be connected to the CDR network. The CDR network administrator of your area can convey the URL for accessing the CDR reports. When system is connected on CDR network and correct URL is typed, following screen will be visible.



On successful login, following screen will be visible:



As seen from the above, reports in CDR system are categorized into seven categories, namely:

1. PMS – Payment management System
2. Order Management
3. FRS – Faulty Reporting System
4. CRM – Customer Relationship Management
5. Telecom Revenue
6. Miscellaneous
7. USO

1. **Payment Management System:**Through PMS payments are received and accounted. Under PMS reports are categorised into:

- Online Payments
- Offline Payment

Under offline Payment, following reports are available as:

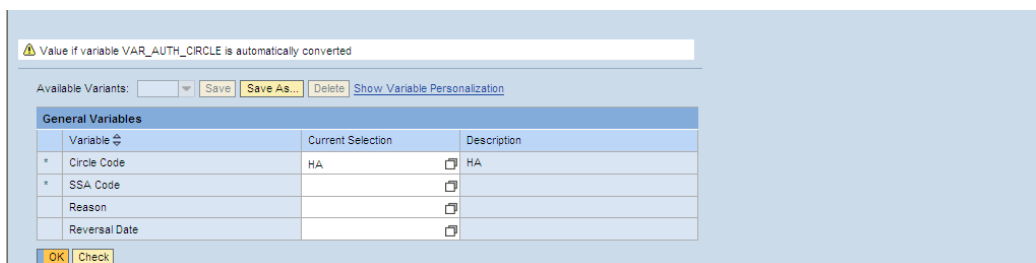
NRPMS01 - ChequeDishonoured Report

NRPMS02 - Daily List Summary for All Counters Report

NRPMS03 - AIP Payment Details Report



In order to take report of, say, ChequeDishonoured Report, user needs to click the hyperlink, which will open following window:



Then user needs to select requisite parameters like Circle, SSA, reason, and reversal date. Out of these, field marked with asterisk(*) are mandatory like, Circle and SSA. Once these parameters are selected and OK is pressed, a report similar to below will be visible on the screen:

Zone	Circle Code	SSA Code	Account Number	First Name	Last Name	Dishonoured Reason	Instrument Number	Instru
N	HA	AMB	100043605	#	#	#	510831	28.05
			100091511	#	#	#	214102	21.08
			1003702979	MALIK SUSHIL CHANDER		#	489533	06.05
			1003703192	PRINCIPAL N.M.M.D		#	639743	24.06
			1003703194	PRINCIPAL (RES)		#	639743	24.06
			1003707710	SHRI KRISHNA KUMAR		#	429989	08.09
			1003713199	UNIQUE TOOLS CO.		#	880854	14.09
			1003713988	M/S S. P. TIMBER INDUSTRIES		#	534283	#
			1003719819	SH RAM SINGH S/O		#	750318	07.09
			1003722038	M/S VIJAY LAXMI ELECTRONICS		#	189057	27.04
			1003723509	SMT SUNITA GUPTA		#	98738	20.10
			1003724987	MS/ S P TIMBER INDUST		#	534283	#
			1003728323	SH BIMAL KUMAR DHIMAN		#	761786	13.09
			1003729636	DHIMAN BIMAL KUMAR		#	761786	13.09

Dishonoured Reason	Instrument Number	Instrument Date	Bank Name	Payment Date	Dishonoured Date	Currency Code	Cheque Amount	Amount Paid	INR Amount
#	510831	28.05.2010	DEFAULT	28.05.2010	05/28/2010	INR	1,170.00	1,170.00	1,170.00
#	214102	21.08.2010	DEFAULT	23.08.2010	NA	INR	908.00	908.00	908.00
#	489533	06.05.2010	PUNJAB NATIONAL BANK	06.05.2010	05/10/2010	INR	209.00	209.00	209.00
#	639743	24.06.2010	SYNDICATE BANK	25.06.2010	NA	INR	1,995.00	1,995.00	1,995.00
#	639743	24.06.2010	SYNDICATE BANK	25.06.2010	NA	INR	220.00	220.00	220.00
#	429989	08.09.2010	STATE BANK OF PATIALA	08.09.2010	10/19/2010	INR	1,559.00	1,559.00	1,559.00
#	880854	14.09.2010	ICICI BANKING CORPN LTD.	14.09.2010	10/19/2010	INR	3,235.00	3,235.00	3,235.00
#	534283	#	#	19.04.2010	NA	INR	109.00	109.00	109.00
#	750318	07.09.2010	ORIENTAL BANK OF COMMERCE	07.09.2010	NA	INR	562.00	562.00	562.00
#	189057	27.04.2010	DEFAULT	27.04.2010	NA	INR	11,666.00	11,666.00	11,666.00
#	98738	20.10.2010	DEFAULT	25.10.2010	11/19/2010	INR	448.00	448.00	448.00
#	534283	#	#	19.04.2010	NA	INR	504.00	504.00	504.00
#	761786	13.09.2010	STATE BANK OF INDIA	14.09.2010	10/19/2010	INR	1,688.00	1,688.00	1,688.00

As seen from above, various fields like Zone, Circle Code, SSA, Account Number, Instrument Number, Name, Amount, etc. are visible. The report format is flexible and fields can also be dropped if these are not significant. Also, these reports can be exported as PDF or excel format for further actions.

Similarly, other reports can be generated.

2. Order Management: Order management is further categorized into:

- OM
- Inventory

Under Order Management, 26 reports are available. These are:

- NROM01 - Advice Note Register Report
- NROM02 - Broadband Gross Net Statement Report
- NROM03 - Centrex Connection Report in a group id
- NROM04 - CUG Connection in a group id
- NROM05 - Daily DELs Analysis Report
- NROM06 - Daywise Analysis of Orders Report
- NROM07 - DNP History Report

NR0M08 - Enquiry of a Connection on Demand Notes Report
NR0M09 - List of PT in an Exchange Report
NR0M10 - List of Working Casual Connection in an Exchange Report
NR0M11 - List of Working Connections in an Exchange Report
NR0M12 - Monthly Analysis of Orders Report
NR0M13 - Monthly DELs Analysis Report
NR0M14 - Order Management (Till Date in CRM) Report
NR0M15 - Order Pending Order Type Wise
NR0M16 - Order Status Summary Report
NR0M17- Pending And Cancelled Orders Report
NR0M18 - Pending NPC Work Orders Report
NR0M19 - Pending Outdoor Orders in Days
NR0M20 - Permanent Closure Cases Report
NR0M21 - Planwise NPC Booking Report
NR0M22 - Shift Work Orders Report
NR0M23 - Surrender Analysis of Landline Connection Report
NR0M24 - Taskwise Status for Disconnection of Permanent Cases Report
NR0M25 - Temporary Disconnections Report
NR0M26 - User Activity Analysis Report

Under Inventory, following 7 reports are available:

NRIV01 - Connectable Capacity Report
NRIV02 - DP Card Report
NRIV03 - Exchangewise Missing Pillar Data Summary Report
NRIV04 - List of Vacant Telephone Numbers Report
NRIV05 - Modems Issued Report
NRIV06 - Pillar Card Report
NRIV07 - Vertical Card Report

3. FRS: FRS is categorized into:

- Faults
- Complaints

These reports are great significance, which can give real picture of the area.

Under Faults, different 36 types of reports are available.

NRF01 - Cleared Instrument Faults Report
NRF02 - Cleared NFF Report
NRF03 - Cleared SWRM Faults Report
NRF04 - Complaints & Faults Details Report
NRF05 - Daily Fault Booking/Clearance for Last 30 days Report

NRF06 - Daily Fault Consolidation Report
NRF07 - Dockets pending at Task Report
NRF08 - Dockets Pending at Task Summary Report
NRF09 - Fault Rate Analysis Report
NRF10 - FRS Details Report DP No wise
NRF11 - FRS Details Report equipment wise
NRF12 - FRS Details Report Phone-no wise
NRF13 - FRS Details Report Pillar-out wise
NRF14 - FRS Details Report Pillar-wise
NRF15 - FRS Details Report Vertical No wise
NRF16 - JTO Wise Cleared Faults with Duration Report
NRF17 - Lineman Cleared Faults Report
NRF18 - Monthly Cleared Fault Analysis Durationwise Report
NRF19 - Monthly Fault Category Report
NRF20 - Outdoor Faults Ordered To Lineman Report
NRF21 - PCO Monthly Fault Analysis Report
NRF22 - Pending Accessory Fault Report
NRF23 - Pending Cable Faults Report
NRF24 - Pending Faults MDF Report
NRF25 - Pending Faults- Supervisory Verification Report
NRF26 - Pending Faults SWRM Report
NRF27 - Pending Instrument Faults Report
NRF28 - Pending NIB Faults Report
NRF29 - Pending Outdoor Faults Report
NRF30 - Pending Outdoor Faults Summary Report
NRF31 - Pending Outdoor Faults Summary Rolewise
NRF32 - Repeat Faults Details Report for last 30 Days
NRF33 - Repeat Faults Summary for last 30 Days Report
NRF34 - Weekly Fault Category Report
NRF35 - Subscriber Fault Card Report
NRF36 - Lineman Docket Report

Under Complaints, following 5 reports are available:

NRC01 - Cleared ROT Complaints Report
NRC02 - Pending Complaints Initial Testing Report
NRC03 - Pending Complaints Under Verification Report
NRC04 - Repeat Complaints Details report for last 30 days
NRC05 - Repeat Complaints Summary for last 30 days Report

4. **CRM:** Reports under CRM is categorized into:
 - Advice Notes
 - Waitlist
 - Customer Accounts
 - Franchisee Reports

At present no items are available under this.

5. **Telecom Revenue:** Under Telecom revenue, following sub categories have been created:
 - Billing
 - Accounting

Under Billing, 16 reports are available:

- NRBILL01 - Accounts Refunded Report
- NRBILL02 - Adjustment Summary Report
- NRBILL03 - Annual Plans Report
- NRBILL04 - Bill Register Report
- NRBILL05 - Bill Register Summary Report
- NRBILL06 - Broadband Usage Customer wise Report
- NRBILL07 - Credit Broadsheet Report
- NRBILL08 - Outstanding Detailed List Report
- NRBILL09 - Payment Receipt Summary of Permanently Closed Accounts Report
- NRBILL10 - Per Line Revenue Report
- NRBILL11 - Receipt Classification Report
- NRBILL12 - Subledger Report
- NRBILL13 - Write Off Month Wise Report
- NRBILL14 - Project Kuber Report (Bucket 1)
- NRBILL15 - Project Kuber Report (Bucket 2)
- NRBILL16 - Project Kuber Report (Bucket 3)

Accounting: Under accounting, no report is available:

6. **Miscellaneous:** under Miscellaneous, master category has been created.
 - Masters

Under this category, 9 reports are available pertaining to daily status report.

- NRMISC01 - Clarity Order Status Summary (OM) Report
- NRMISC02 - Clarity Pending(In Progress) - Breakup Report
- NRMISC03 - Daily Status of Faults Report
- NRMISC04 - Lineman Performance Report
- NRMISC05 - List of BB Customers Report
- NRMISC06 - Pending Indoor Tasks for Dunning Report
- NRMISC07 - Plan Change Details Report
- NRMISC08 - PMS Daily Status Report
- NRMISC09 - Tasks in error state Report

7. USO

- o VPT
- o RH BB
- o RH DELs

VPT – Village Public Telephone. Under this category, 8 different reports are available.

- NRVPT01 - Details of VPT Added during the Month Report
- NRVPT02 - VPT Billed Usage Details Report
- NRVPT03 - VPT Billing Details (Billed Amount) Report
- NRVPT04 - VPT Billing Details (Outstanding Amount) Report
- NRVPT05 - VPT Fault Report
- NRVPT06 - VPT Permanent Disconnections Report
- NRVPT07 - VPT Usage Details Report
- NRVPT08 - VPT Suspend and Restore Orders Details

RH BB – Rural Household Broadband report: Under this, 5 different reports are available

- NRHHBB01 - BB New Connection Rural Report
- NRHHBB02 - BB New Connection With Billing Details Report
- NRHHBB03 - Broadband Closures Report
- NRHHBB04 - Rural BB Fault Report
- NRHHBB05 - Suspend and Restore Rural BB Orders Details

RH DELs - Rural Household Broadband report: Under this, 5 different reports are available

NRHHDEL01 - First Bill Details of RHDELS Installed in a month Report
NRHHDEL02 - RHDELS Billing Details
NRHHDEL03 - RHDELS Fault Report
NRHHDEL04 - Rural Dels Permanent Disconnection Report
NRHHDEL05 - Suspend and Restore RHDELS Orders Details

As seen, under CDR system around 120 different reports are available. These reports are fully customizable and can be exported to excel for further analysis. Therefore, we should take advantage of information available to server our customers better.

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