

IT & Customer Interface: PRS & UTS on the Indian Railways

Vijoy K Singh

Professor (Commercial Management)
Railway Staff College, Vadodara, India

PRS

Passenger Reservation System

Need for PRS

Problems in manual reservation:

- Time consuming
- Available only at station of boarding
- Onward reservation process was cumbersome
- Transparency was missing
- Record keeping and compiling was not easy

History of PRS

- Pilot project in 1984.
- [VAX-750](#) machine with VMS operating system selected for the pilot project.
- In Nov. 1985, GT Express and Tamilnadu Express were put on computers and software was called IMPRESS (Integrated Multi Passenger REServation System)
- IMPRESS versions
 - Ver I – 1985, Ver II – 1987, Ver III - 1990

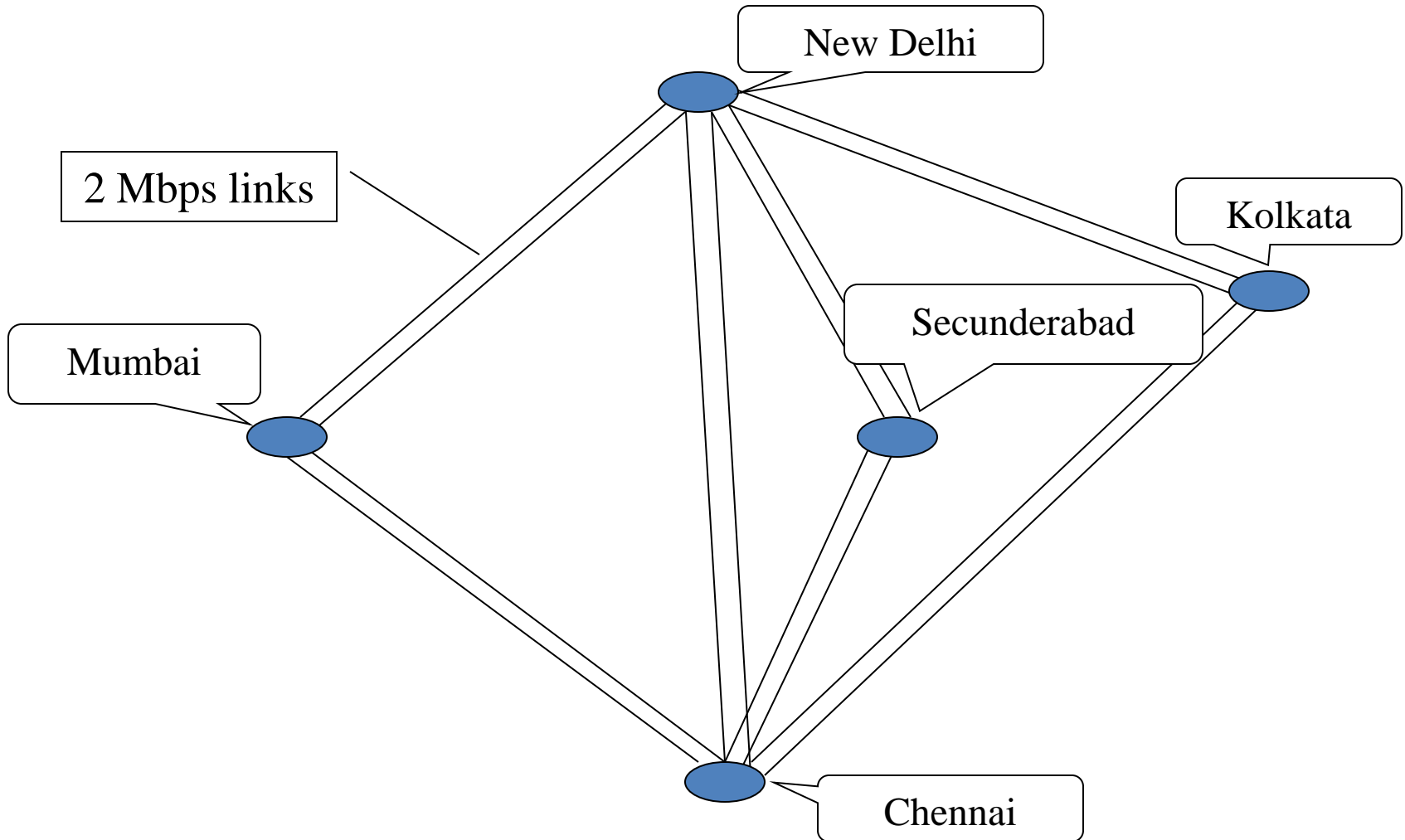
CONCERT

- Country-wide Network for Computerized Enhanced Reservation and Ticketing
- Developed by CRIS (Centre for Railway Information System)
- Now on Alpha servers with Unix as the operating system and Sybase as the RDBMS.
- Unique **PNR** (Passenger Name Record) independent of Train, Date, Route & Class (TDRC)

Features of CONCERT

- Booking for journey in any train in any class from anywhere to anywhere.
- Handles reservations, modifications, cancellation / refunds, and on-line enquiries.
- Caters to newer requirements namely,
 - 'Tatkal' bookings, Up-gradation Scheme
 - Bookings over telephone (Tele-booking)
 - Internet Booking
- Prints bilingual journey tickets and passenger manifests both in English and in Hindi.
- Takes less than 1 seconds for local transaction and 3 seconds for network transaction.

CONCERT Network Topology



Implementation of CONCERT

- The software implemented at all of the five PRS sites:

– Secunderabad	Sept. 1994,
– New Delhi	Sept. 1996,
– Calcutta	14 th June 1998,
– Mumbai	11 th Jan 1999,
– Chennai	12 th April 1999.

Complete network become operational on 18th April 1999.

- PRS related enquiries made available on Web-site from year 2000.
- Each Centre consists of Static & Dynamic Database.

Static Database

- Information related to
 - Number of Stations
 - Distances between various Stations
 - Fare Tables
 - Classes/Coaches in each Train
- Static Database of all NODES available in each NODE
- Data is synchronized periodically

Dynamic Database

- Information related to
 - Different Berths in different Trains
 - Their Occupancy Status
 - Passenger Data
- Changes Dynamically
- Available Online for 91 days at each NODE

PRS: Main Features

- Number of Centers (approx) = 2400
- A brand in itself
- Accommodating –
 - Types of trains
 - Classes
 - Quota types
 - Concessions
- Excellent successful rate
- Certain hiccups – cyber crime – close watch for prevention and sustained augmentation

Benefits of PRS to the Passengers

- Universal counters
- Instant update of status, enquiry
- Advance booking (90 days)
- Reduced waiting time (queue lengths)
- Booking through Internet (I-Ticket)
- Information also available through Internet:
<http://www.indianrail.gov.in>
<https://www.irctc.co.in>
<http://www.trainenquiry.com>
- Inquiry through SMS '139'

Benefits of PRS to the Railways

- Increased efficiency
- Optimal utilization of berths
- Real time availability of Accounting Reports
- Planning through MIS Reports
- Analysis of traffic pattern for better planning
- Better environment for employees
- Saving on Manpower
- Eliminate possibilities of fraud

On Line Operation Menu

- DIRECT JOURNEY RESERVATION (FORM 1)
- RESERVATION ON CONCESSIONS (FORM 2)
- INWARD MESSAGE REGISTRATION
- OUTWARD MESSAGE REGISTRATION
- CANCELLATION
- MODIFICATION
- SPECIAL FUNCTIONS MENU
- ENQUIRIES MENU
- AUTOMEX MESSAGES HANDLING
- CURRENT RESERVATION FORM
- LOGOUT

Enquiries

- | | |
|---|---|
| 1 GENERAL ACCOMMODATION AVAILABILITY | 2 CURRENT STATUS OF PASSENGERS |
| 3 TIME TABLE ENQUIRY | 4 FARE ENQUIRY |
| 5 PNR NUMBER OF PASSENGERS | 6 DATE OF BOOKING AND SHIFT ID |
| 7 PNR SESSION HISTORY | 8 PASSENGERS BOOKED IN EACH COACH |
| 9 ALL TRAINS FOR A DESTINATION | 10. VACANT BERTH ENQUIRY FROM HHT |
| 11 QUARTERWISE ACCOMMODATION AVAILABILITY | 12 ALL CLASSES ACCOMMODATION AVAILABILITY |
| 13 ACCOMMODATION AVAILABILITY FOR A DESTINATION | 14 OPERATOR INSTRUCTIONS |
| 15 PASSENGERS CANCELLED AFTER CHARTING | 16 ALL CLASSES FARE ENQUIRY |
| 17 INTERMEDIATE STATIONS TIME TABLE | 18 DETAILED PNR ENQUIRY |
| 19 ALL REMOTE LOCATIONS CHARTING STATUS | 20. PASSENGERS BOOKED AFTER CHARTING |
| 21 CURRENT BOOKING AVAILABILITY | 22 REFUNDED PNR ENQUIRY |
| 23 COACH POSITION ENQUIRY | 24 WAITING LIST ENQUIRY |
| 25 DUPLICATE ALLOTMENT PASSENGERS LIST | 26 EXIT |

ENTER CHOICE

SPECIAL FUNCTIONS MENU

- | | |
|--------------------------------------|--------------------------------------|
| 1. QUOTA RESERVATION FROM WAITLIST | 2. OTHER QUOTA RESERVATION |
| 3. BLOCK BOOKING | 4. TRANSITION RESERVATION |
| 5. SPECIAL CANCELLATION | 6. STUDENT CONCESSIONS |
| 7. SET ONWARD MESSAGES | 8. SET TRAIN STATUS |
| 9. SET CHART SWITCH | 10. SET COACH STATUS |
| 11. CHANGE OF BOARDING POINT | 12. PARTIAL RESERVATION CANCELLATION |
| 13. CHANGE OF PASSENGER NAME | 14. (RE)SET TICKET STATUS |
| 15. EXTENSION OF WAITLIST | 16. RELEASE ACCOMMODATION |
| 17. MESSAGE RESERVATION | 18. MESSAGE CANCELLATION |
| 19. BLANK PAPER TICKET RESERVATION | 20. FOREIGN TOURIST RESERVATION |
| 21. FOREIGN TOURIST CANCEL/END | 22. DUPLICATE TICKET ISSUE |
| 23. SUPERVISORY REFUNDS | 24. DUPLICATE TICKET REFUND |
| 25. QT RESERVATION IN DIFFERENT TDRC | 26. SOURCE CLUSTER RESERVATION |
| 27. TATKAL SERVICE RESERVATION FORM | 28. INTERNET TICKET PRINTING |
| 29. REPRINTING OF INTERNET TICKET | 30. PRINT CURRENT BOOKING PASSENGERS |
| 31. REFUND OF FARE DIFFERENCE | 32. REFUND ISSUE |
| 33. OVERSEAS RESERVATION FORM | 34. OVERSEAS BLOCK BOOKING |
| 35. TRANSITION ENTRY USING SAME PNR | 36. BPT BLOCK BOOKING |
| 37. JOURNALIST UTILITY | 38. EXIT |

ENTER CHOICE :

Unreserved Ticketing System (UTS)

- Started in 2002
- Computerized unreserved tickets from dedicated counter terminals, hand held terminals, smart card, automatic vending machines etc.
- UTS Application - front-end (C++ on UNIX platform) and back-end (Sybase).

UTS

- Connectivity between Station and Zonal servers/Zonal server and Central server is over WAN. Terminal connectivity is over LAN. TCP/IP is used as network protocol.
- The Station server is connected to Zonal server by 64 kbps line. For Inter Zone connectivity existing PRS channels are used.

Advantages of UTS

- Reduced queue length
- Enable advance planning of unreserved journey also
- Reduced crowds at booking offices and stations, making ticket purchase more comfortable
- Allow Indian Railways to plan extra trains and coaches as per trend of sales registered in the system.
- Unreserved itinerary planning possible, tickets available from any station to any station.

Future of PRS...

E-Ticketing?

Not in near future!