Over the past decade or so there has been an island of e-Governance initiatives by state transport authority of different States in the country. The experience with the IT initiatives, have been very good and is extremely beneficial in making transport department services accessible to the common man in his locality through various service delivery outlets. It also ensures efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man.

NATIONAL TRANSPORT REGISTER

"Without data that is consistent, accurate and reliable across the enterprise an organization can easily reach misleading, faulty and potentially harmful conclusions".

Hon'ble Union Minister for Road Transport & Highways Dr. C.P Joshi inaugurated the National Register and National Transport Portal on 20th July 2011

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MINISTRY of Road Transport & Highways (MoRTH) had envisaged National Transport Project for computerization and interlinking of about 975 RTOs/DTOs across the country. Ministry in consultation with National Informatics Centre (NIC) implemented the National Transport Project at all the RTOs/DTOs across the country.

This is one of the Mission Mode Projects under National e-Governance Plan. The RTOs (Regional Transport Offices) in vari-ous States and UTs across the country are responsible for granting the Driving License, registration of motor vehicles and also providing various other services to the citizens. Off late, it was observed that these offices are working in isolation due to which information availability was limited and access to data from their offices was not available. Complaints were received in case of inter State transfer of vehicles. To do-away with the manual process so as to ensure uniformity and standardized process throughout the country, the Central Government had made provisions in the Central Motor Vehicles Rules-1989 for issuance of smart card based Driving License (DL) &

"SARATHI"
A one-stop solution to driving licensing (DL).
(http://sarathi.nic.in)

"VAHAN"
A one stop solution for vehicle registration (RC)
(http://vahan.nic.in)

Dr C. P. Joshi
Union Minister of Road Transport and Highways
Government of India

Registration Certificate (RC). On these lines- The Ministry of Road Transport & Highways has envisaged National Transport Project to develop standardized software in consultation with the NIC and to make it available to all the States.

On those lines, NIC has developed the standardized software; Vahan & Sarathi and the software is made available to all the States. NIC has also customized it to suite the requirement of the State. The aim of the National Transport Project was to computerize the RTOs, develop and implement standardized software for the DL & RC, smart card enablement, establish State Register and National Register and subsequent State-wide roll out. The software has been successfully customized and implemented in 33 States/UTs and 97% States have been computerized. The smart card is being issued for 24 States/UTs. The project has reached a sustenance phase wherein now it has capability for preventive maintenance, high availability & scalability through robust technological architecture. The project was awarded SKOCH ICT and SKOCH Challenger Award 2010 for its exemplary contribution to the transport sector.

The focus of the article is to present the scope of National Register (NR), its benefits and technology utilized for the Business Intelligence (BI) by interlinking all the RTOs/DTOs. The National Register has the capability to provide time critical information through a structured managerial reporting. The

I convey my heartiest congratulations to the officials of Ministry of Road Transport & Highways (MoRT&H) & National Informatics Centre (NIC) for successfully launching the National Register and National Register Portal. Several years of sustained hard work from the officers of MoRT&H and NIC has been realised. This initiative aims at introduction of Information and Communication Technology (ICT) in road transport sector on a large scale.

Ministry of Road Transport and Highways has been leveraging strengths of ICT and with excellent support from NIC it has automated lots of its citizen service related processes and succeeded in carrying out its functions with greater transparency and efficiency.

National Register which has been created from State Register under Transport project is today acting as a central repository for all crucial information related to Registration Certificate & Driving Licence. I hope that this initiative will enable & empower the stakeholders in terms of improved quality of services, improved law abidance and reduced turnaround time for various G2G, G2C and G2B services.

I also take this opportunity to congratulate the Central Government Departments, the State Governments and all those responsible for facilitating Road Transport on the successful launch of the "National Transport Register portal".

National Register can provide reports at different levels: operational, tactical & strategic for informed decision making. It provides the ability to intelligently select and apportion data for query analysis and quick information at the click of a mouse. Meaningfulness and correctness of information is a key interest of the department such that not only the transport department but also other government departments, citizens and businesses can be benefitted from it.

Further, the vision is to integrate National Register with other departmental databases for ready information availability to anyone desired. Example; Bihar State government extensively utilizes the NR-SR services for providing information to the citizens under the Right to Services (RTS) Act. The concept of National Register centrally aligns to the Right to Information (RTI) hence ensuring transparency of the information received from the citizens and distributed centrally anywhere, anytime. As said by Einstein "We cannot solve the problem by using the same kind of thinking when we created them". The NR initiative is gradually evolving into a world-class National level business intelligence system, with ideas like information access through SMS based services, integration with banks for financial services, web based applications, UID integration, cloud comput-

> The Ministry of Road Transport and Highways (MoRTH) has about 1000 RTOs spread across the country.Establishing State Register and a National Register by the process of data integration is the NIC's solution to the exploding requirements for information from disparate, heterogeneous systems to make sound decisions and comply with the Central Motor Vehicles Act (CMVA)-1988, throughout the country. This has made the services of issuance of Driving License and Vehicle Registration to the citizens simple, fast and transparent.

ing, payment gateways, smart card based applications (SCOSTA) and many more. The initiative is in fact an initiation to powerful ideas that the department is planning to develop, design and launch. The technological revolution has met the information gap and the transport department is pursuing actively to utilize every bit of it. The gamut of citizen services offered through the National Register is discussed in the subsequent sections. The article is structured with the information necessary to help understand the details and the services offered through the National Register.

FINDING THE RIGHT SOLUTION

The RTOs across the country remained isolated and completely disconnected and ran with heterogeneous operational system. The department lacked of mechanism & infrastructure for combining data residing at different sources and providing a unified view of these data to itself for its business needs and also to other stakeholders like police, crime bureau, etc.

Apart from this, the Ministry of Transport & Highways had constraints to handle rapid data growth and provide 24x7 data service to G2G, G2C and G2B. It also required information reporting at the National

level for the departmental decision and policy making.

What needed was a robust solution to provide integration between the isolated RTOs across the States through a world-class integration technology tool.

To enable the complex data integration, light weight Oracle Data Integrator (ODI) is used. The ODI (Figure 1) enables data extraction from heterogeneous sources and transforms it suitably as per the business process that consolidates the data into SR-NR (Figure 2).
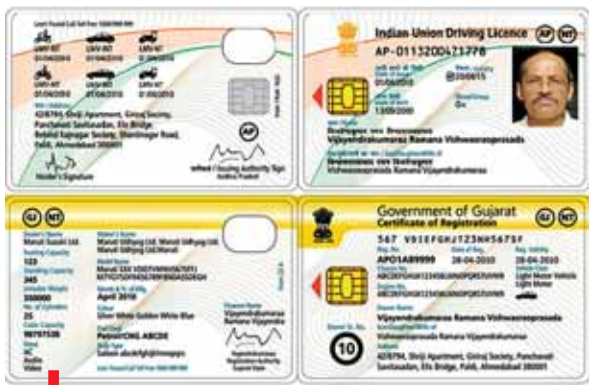
Oracle Data Integrator Features
- An Extract Transform & Load (ETL) & Business Intelligence (BI) Middleware Tool.
- Support heterogeneous sources and targets
- Packaged/Interfaces
- Changed Data Capture (CDC)
- Import/Export data facility
- Multiple repositories
- Agent load balancing/scheduler
- Oracle data quality integration
- Repository explorer
- Security/Profiles

ESTABLISHMENT OF STATE REGISTER (SR)

State level data repository called State Register (SR) has been established at every State. All the information being captured at RTOs/DTOs level will entirely go in to SR, so as to avoid any dependency of introducing new services on the level of information available

Uniform design of Smart Card based Driving Licence & Registration Certificate unveiled and proposed to be used by all the States

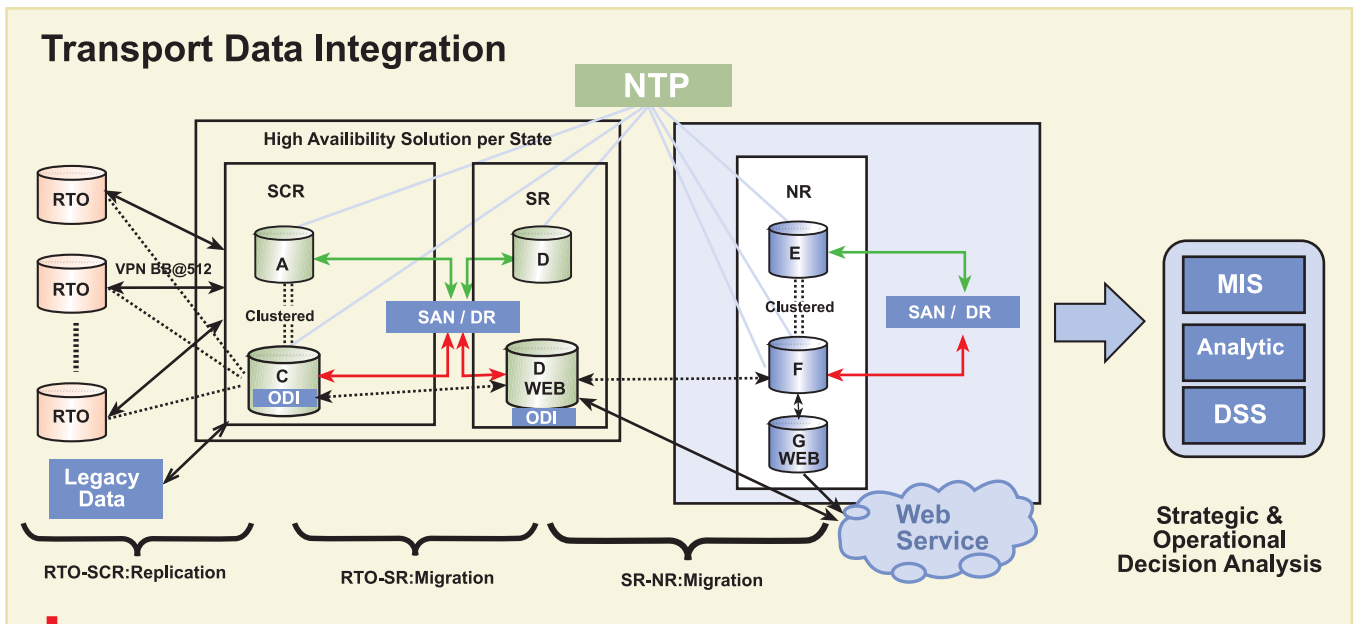Sample Uniform Look & Feel of DL & RC

Transport Data Integration

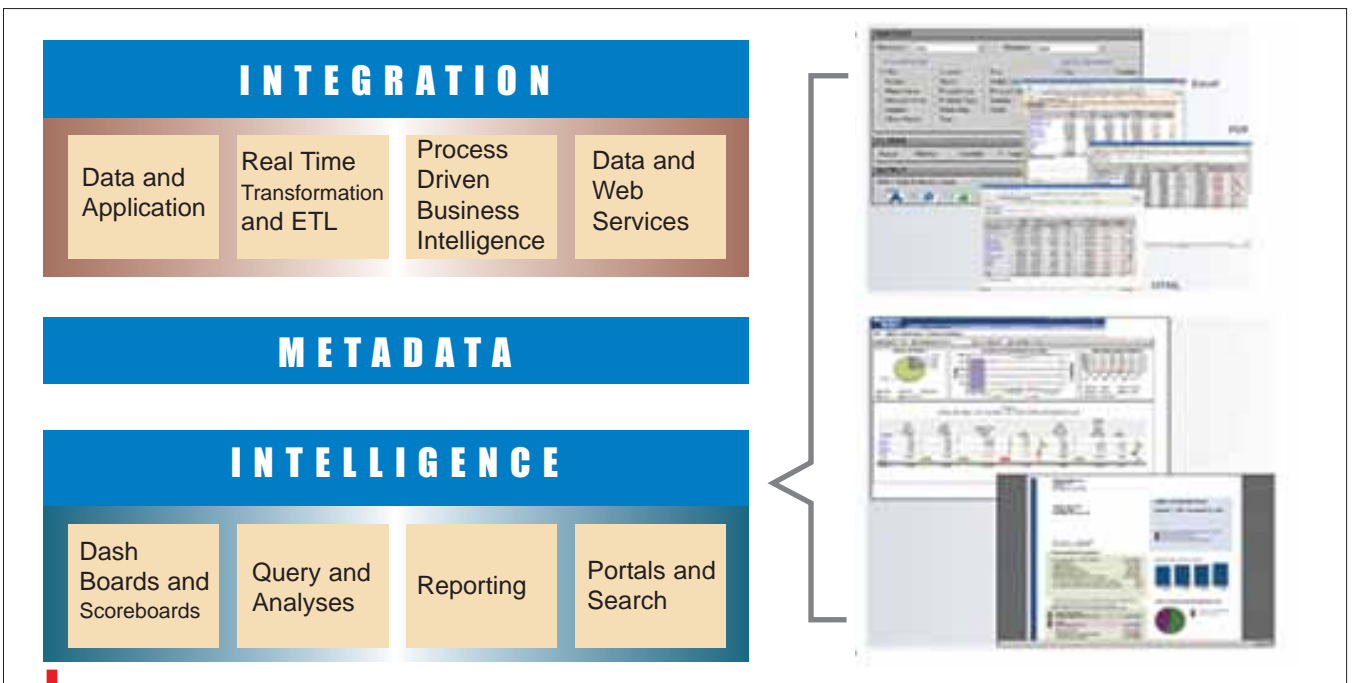**Figure 1: High availability architecture for Transport-data Integration**

Figure 2: A single platform for Business Intelligence for Operational, Tactical and Strategic Reporting (National Transport Register)

at the State level. The collected data at the State level provides information for operational and tactical decision making.
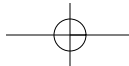
SR is connected to all RTOs/DTOs through Leased Line/VPNoBB connectivity. This supports the data consolidation for RTOs/DTOs to SR and vice versa. SR will provide real time information to State transport department, RTOs/DTOs, police department and other G2C,G2B services.
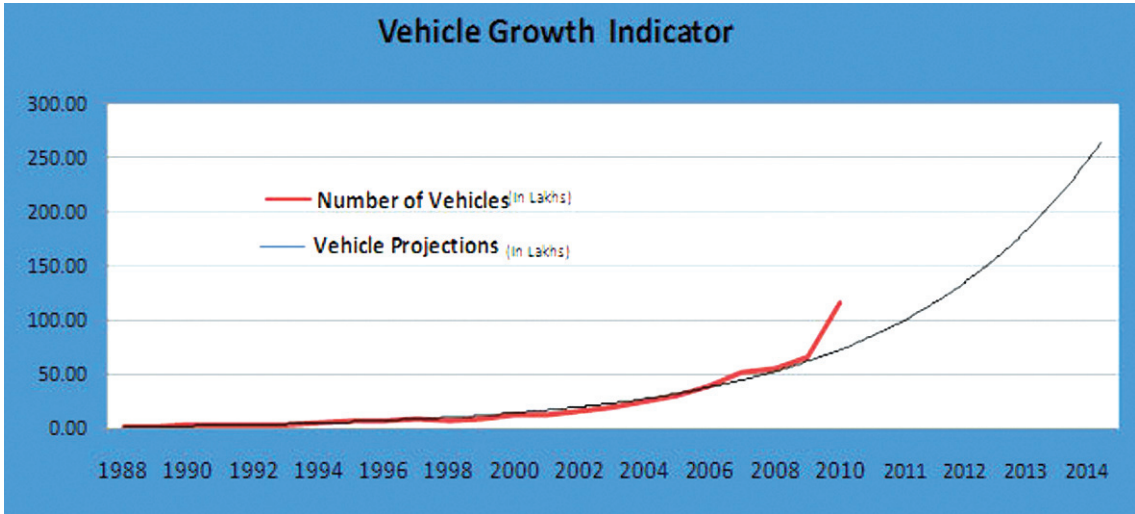
NATIONAL REGISTER (NR)
A Centralized database for Driving License and Registration Certificate has been created from SR and is located at NIC Data Centre, Hyderabad. Its architecture has been designed for high availability, reliability and scalability. SR-NR is connected through high availability NIC Network (NICNET). High availability network supports the real time data replication from SR to NR.

Vehicle Growth Indicator

STATUS OF THE PROJECT

- **Computerization:** The computerization of the RTOs has been achieved for most of the States except for few RTOs in J&K and Punjab. This is expected to be completed in the current financial year.
- **State Consolidation Register (SCR)**- The SCR activities are completed to 99% for Vahan and 85% for Sarathi
- **State Register (SR)** is completed to 98% for Vahan and 67% for Sarathi database
- **National Register (NR)** is completed to 95% for Vahan databases and 59% for Sarathi database

- **NR-SR Web Services** formally launched on July, 2011 (http:// parivahan.nic. in)
- **Operations:** Support is provided to sustain the continuity of the services offered by NR-SR

VALUE PREPOSITION

The successful launch of National Transport Register has improved the quality & availability of services to all the stakeholders- Ministry, Citizens and Businesses. Reducing turn-around time of various G2G, G2C, G2B services and increased law abidance. The services provided by the National Register like availability of intelligent MIS for decision making, quick and easy availability of information to other Government departments, tracking of stolen vehicles and detection of malpractices, e-payment of taxes, fees etc.

The entire Transport data from all the remote RTOs' operational servers can be accessed by the departments spread across the country at National, State, Regional, District etc. This important information can also be shared with other agencies like Insurance and Police, and other law enforcement agencies. The quality and online availability of services to the citizens has been significantly improved. Premium services can be started from NR. Data can be mined from business intelligence purpose. It is also ready to join National Grid (NATGRID).

The National Transport Register provides consistent, accurate, and reliable information to G2G, G2C, and G2B. It would not be an exaggeration to say that the e-Gov ICT objective of the Government of India is largely met through the National Transport Register.

Fraud Detection- Mumbai ATS

Post the Mumbai blast, police had a tough task to identify and track the terrorist involved in the serial blasts. To identify the criminals the Mumbai ATS approached the transport department for assistance and quick information search on the vehicle owners and the details. Due to the availability and information readiness with the National Register (NR) it was possible to access the details required.

SARATHI Services

- **DRIVING LICENSES**
  New Driving License
  Learning License
  Renewal of Old Driving License
  Change of Address etc.
  Endorsements
  Issue of Duplicate License

- **ENDORSEMENT MANAGEMENT**
  Revocation
  Notifications
  Disqualification
  Cancellation

- **ISSUE ENDORSEMENT FEE LICENSE**

VAHAN Services

- **VEHICLE REGISTRATION**
  New Vehicle Registration
  Renewal of Registration
  Transfer of Ownership
  Change of Address etc.

- **PERMIT & TAXES**
  Issue of National & Interstate Permit
  Renewal of Permit
  State-wise tax calculation & Payment

- **FITNESS**
  Issue of Fitness Certificate
  Renewal of Fitness Certificate

- **ENFORCEMENT**
  Issue of Challan
  Settlement of Penalty Amount