

## RTA AP Project

### Introduction

While Information and Communication Technologies have been extremely pervasive in the private sector, their effects are yet to trickle down into government services. With the launch of numerous e-governance mandates from the Government to better manage services offered to rural locations, ICT is now having a tremendous impact in bringing the Government and its people closer.

The transport department of Andhra Pradesh has 140 offices across the state. Out of these, 43 are RTO office, 43 are UNIT offices, 37 are MVI offices, and 17 are Checkpoints.

In order to better manage all these nodes and capture information, the Road Traffic Authority (RTA) of Andhra Pradesh, in the year 1999-2000, developed software for the RTO and UNIT offices, to better manage the various processes that fall under the service set of the transport department. The software was a de-centralized client server architecture with every office having its own servers.

While the old architecture was extensive, it did have multiple drawbacks. Some of these drawbacks included, lack of communication between the RTO offices, low data security, mounds of duplicate data due to the decentralized nature of the architecture, lack of MIS, lack of management modules for dealers, no central dashboard for the head office to monitor performance, non uniform data sets due to multiple disconnected locations, and scope for data manipulation.

To overcome the above drawbacks, the transport department decided to implement a centralized application and database. They floated a tender for the

same in the year 2007 to develop the application and implement on pilot basis in 3 locations. CMS won the tender and started development in the year of 2007.

While the old client server architecture was developed in Developer 2000 with a front end and an Oracle database, CMS proposed Dot Net 2.0 as the front end and SQL Server2005 as the database. The development process completed in the year 2008, was implemented in 3 pilot locations. It is important to mention that with a successful pilot the project was expanded to 13 more locations in 2010.

In addition to this, the Transport department floated a tender again to rollout the application across the state including MVI offices and check posts. CMS stood as the winner again with L1 cost and a new contract. The contract was signed on November 30th 2012 for implementation of a 3-Tier CFST throughout the state. The implementation process was started in 15th January 2013 and was completed by 15th April 2013.

### The Solution

Given the pre-existing architecture implemented by the Transport Department circa 1999, CMS decided to add a contextual layer to it so as to Service Enable it. In order to do this, CMS used a DOT NET 2.0 based front end, served by SQLServer 2008. In addition to this, CMS also developed all the web services to be integrated with the disconnected components to provide a truly centralized and efficient management dashboard.

As part of this project CMS had to develop specific modules such as the Online Dealer Module, which helped the sale of vehicles through an online process, which decreased the redundancy of data entry. Here the revenue collected can be checked at any point of time, which enables the department to estimate the total revenue collected in form of tax and fee for new vehicles. The T/R numbers are generated automatically. The Online Tax module developed by CMS allowed the Dealer to pay tax for new vehicles, online. The tax

calculation process is automated with payment integration for several banks having been done. Apart from this the Dealer can also pay tax at eSeva. Apart from dealers registered transport vehicle owners can now pay their periodic taxes at eSeva and APOnline.

Another important module that was created was the Online DL & LL Slot Booking module. Prior to the implementation, an applicant had to come to the office and stand in long queues for his turn. The Online DL & LL Slot booking helped applicants book a date and time online and pay online, without having to make multiple visits to the office. The applicant would only visit the office on the booked date, which helps save time.

The Chassis Format module developed by CMS restricts the dealer from selling old vehicle models as new models. The chassis format enables users to automatically pick the month and year of manufacture from the server according to the chassis number entered by the dealer without being edited by the dealer. This chassis format automation was one of the first for CMS in India.

CMS also developed a Key Management System or KMS, which encrypts the Smart Card Driving License and Registration. In addition to this, CMS has facilitated integration with the Nation Registers for Driving License and Vehicle Registration. Finally, CMS also developed the Online VCR module, which enables the department to know the revenue collected in detection mode at any particular point of time. This enables the department to analyze the total revenue collected. In this module various MIS reports are available ranging from offence wise report, vehicle wise report, VCR's booked by particular MVI, total VCR's booked in particular district etc.

## The Challenges

A project of this scale, unifying close to 140 nodes over a decentralized set up, is quite a mammoth task. It had its set of challenges that caused project slowdown. Some of these included:

- Requirements were not shared properly at time of the system study
- Huge Process change in the system
- Legacy data migration from Oracle to SQL
- Immense structural disparity between various decentralized data bases
- Non-availability of developers
- Inconsistent and frequent code changes
- Database performance issues
- Lack of cooperation from end users
- Connectivity issues

## Benefits

While the implementation had its fair share of challenges and given the scale of the implementation over the course of the years, the Transport Department of Andhra Pradesh has benefitted greatly.

The modules and online processes created by CMS helped RTA in AP organize itself and make the most of its implemented infrastructure. While there have been a number of changes to the system, the system is finally in a position to generate benefits both to the administrators and the citizens.

Modules like the Online dealers module, Online Tax module and DL & LL Slot Booking have brought a number of users of the system conveniences and have resulted in increased efficiencies, time saved and money made.

The Chassis structure module has helped reduce the number of incidents of car fraud, which were rampant with old chassis being used for new cars. In addition to this, the RTA benefitted as follows:

- Communication between all RTO offices across the state
- Servers were removed from RTO offices
- Data security
- Real time MIS reports
- Full control over automobile dealers
- Lot of online services to citizen such as slot booking, tax & fee payments
- All offices and check posts were connected to the central server
- Software is uniform in all offices across the state
- Data duplication was reduced
- Monitoring of all offices across the state made easy