

The Government of Kerala
CitizenServices.net – Empowering the citizens
of Kerala

Harnessing Microsoft Enterprise Servers to Enable E-Governance

The State Government of Kerala is a trendsetter in the deployment of technology at the grassroots level and a model for participatory governance through the effective use of Information Technology.

Trisoft Systems implemented a web-based solution using Microsoft Enterprise Servers to enable the citizens of Kerala to file their dues and taxes securely over the Internet. This helps the State Government of Kerala to automate most of their mundane tasks thereby reducing cost and time and increasing the overall productivity of their employees.

Situation

The Indian State of Kerala has made impressive progress since its formation. It can easily boast of being the first Indian state to achieve 100% literacy, the only state to have hospitals in every village and the first state to implement land reforms. It soon bore upon Political Leaders in the state that true governance would entail vesting powers with every citizen, and by forming a transparent link between citizens and the government.

Microsoft developed a showcase for the State Government of Kerala, which comprehensively demonstrated the true power and benefits of E-Governance in a visible manner. Trisoft was engaged by Microsoft to build the solution, which was built using MS BizTalk Server 2000 and MS Commerce Server 2000.

Solution

Empowering the Citizens

In response to the State Government of Kerala's requirements, we proposed an E-Governance solution which would enable the citizens of Kerala to pay their dues and taxes online from the comfort of their home and track payments as and when needed.

The solution provided a single web-browser window to the citizens with the option to navigate to services provided by various state-owned bodies and departments such as The State University, The Motor Vehicles Department and The State Corporation. Citizens can select the appropriate payment options and pay their dues using credit cards. The verification and acknowledgement of the payments was designed to work in real time.

In order to extend its reach to the maximum number of citizens a second payment option was also provided wherein the citizens could enter their Demand Draft or Cheque details online and deposit the payment offline to a collection point. The verification and acknowledgement of the payments

Solution Overview

Customer Profile

Organization

Government of Kerala

Situation

The Government of Kerala clears all state related dues of its citizens using an offline mechanism. To simplify this process, a solution was built that would seamlessly integrate all the disparate systems that currently exist in these state departments an enable citizens to pay their dues online.

Solution

Business Scenario

A web based portal using MS BizTalk Server 2000 and Commerce Server 2000 to provide a one window interface for submission of dues electronically.

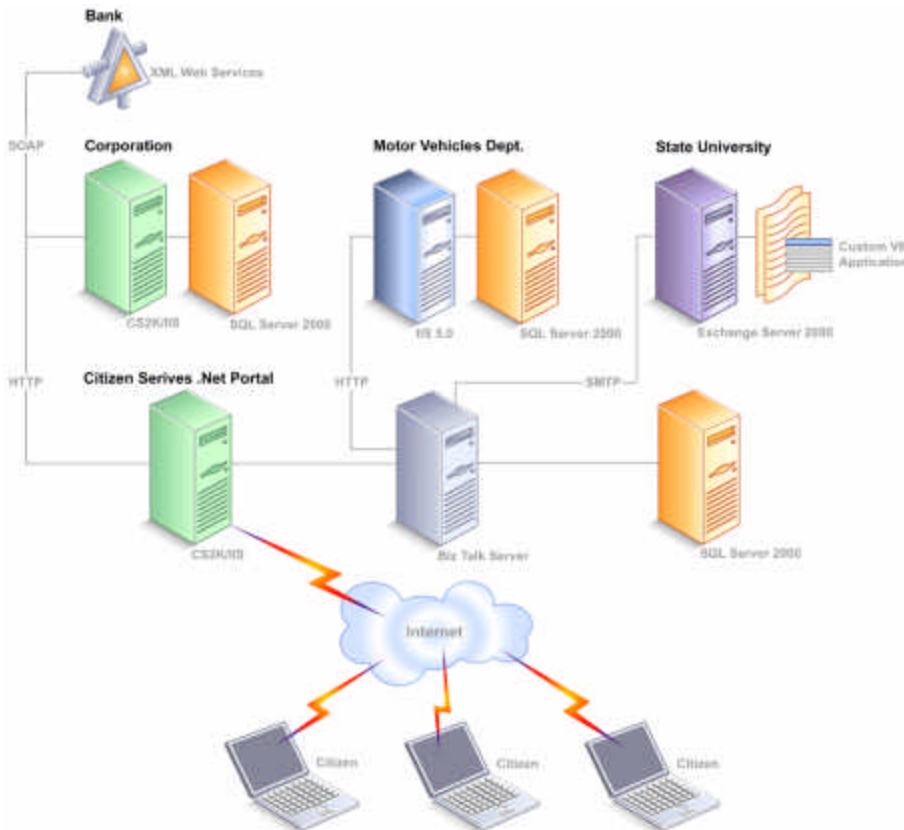
Benefits

One window interface makes the service more user friendly for the citizens allowing them to pay, track and manage their dues online.

Complete back office integration with legacy systems of various government departments enables hassle free manageability and maintainability of the existing systems.

Extensive notifications at various stages allows for more proactive planning and task scheduling making the system more efficient.

made in this case was offline and this entire process takes a maximum of 24 hours.



Status updates on payments made, reminders on next dues and secure login and authentication were other key aspects of the solution, which was built to be secure and convenient to the citizens.

The main website was developed using Commerce Server 2000 due to its out-of-the-box available features and tight integration with BizTalk Server 2000. All the payment forms such as Water Taxes, University Fees, License Fees and Motor Vehicle Fitness Fees were grouped and treated as catalogues in Commerce Server. The ready-made order-processing component was used to process the fees remitted by the citizens.

Connecting the Dots

The most challenging aspect of this showcase was to simulate the integration of the various disparate systems and sub-systems of the State Body. This required connecting disparate systems on different platforms, communication over different and electronic interchange of disparate forms and document structures. For example:

- The Motor Vehicles Department was running on Windows 2000 and had an internal browser-based application running on Commerce Server and BizTalk Server for generating various taxes and subsequently processing them. This entity therefore was in a position to accept all payments in Credit Card as it could process and communicate to the Bank's Payment Gateway on a real time basis. The protocol required was HTTP/HTTPS.

The citizens enjoy tangible benefits: no more queuing at government offices, no more dealing with multiple clerks and officials and completing all transactions with utmost transparency.

Microsoft Products Used

- Microsoft Visual Studio
- Microsoft BizTalk Server 2000
- Microsoft SOAP Toolkit 2.0
- Microsoft Commerce Server 2000
- Microsoft SQL Server 2000
- Microsoft Exchange Server 2000
- Microsoft Windows® 2000

- The University of Kerala had no such application running and chose to receive and acknowledge all payments made via emails. The protocol required was SMTP.
- The Sate Corporation was running a normal website type internal application for receiving and processing dues of the citizens and did not have the ability to transact with a Bank on-line. Therefore, it could accept payments only in the form of Demand Drafts and Cheques which would be later on be verified by them after getting a clearance from the Bank via an offline mechanism. The protocol required was HTTP.
- There was also a fictitious Bank, which demonstrated the clearance and acknowledgement of credit card payments using XML Web Services over SSL (Secure Socket Layers).

While the actual CitizenServices.NET portal and the Motor Vehicles Department application was done using Commerce Server 2000 and BizTalk Server 2000, the University of Kerala application was developed using Visual Basic 6.0 and COM+ for building a custom component using MAPI which facilitated the correct exchange of emails over SMTP. The State Corporation application was done using Active Server Pages 2.0 (ASP). The treatment of the Bank application was entirely different as it was developed using SOAP (Simple Object Access Protocol) with SOAP Toolkit 2.0.

BizTalk Server 2000 was the heart of the solution which executed a series of Business Process Orchestrations, thus enabling all protocols, document types and applications to communicate and integrate seamlessly by abstracting everything as base XML, and then applying the transformation and delivery logic to each of the requests.

Benefits

Services @ Home

The citizens no longer needed to queue up for hours at the government counters for paying their dues and taxes. All this was now possible by simply connecting to the Internet and securely logging in and start their transactions right from the comfort of their homes.

The headache of remembering the due dates, amounts and other details of taxes and fees was eliminated as smart alerts and reminders on the citizen's home pages always reminded them in advance regarding their upcoming payments and dues. Fines due to non-payment or late payments were reduced considerably and profited both the citizens and the government due to timely payments and collection.

Additional costs for payments in terms of traveling to the government counters and often paying up middle men, agents and touts were reduced to cost incurred on internet connectivity. This also brought about a great deal of transparency thereby improving the image of the government.

One of the main objectives of E-Governance, efficient service, was accomplished. Whereas, tax payment, processing and delivery of receipts would take a few days at least in the normal course of things, using this solution it was almost instantaneous.

Painless Manageability and Maintenance

The major hurdles in implementing a truly connected E-Governance system are integrating the processes and systems of various government departments, which have evolved over a long period of time. The sheer volume of infrastructural and network disparities requires a time tested, truly enterprise level solution which has the capability to integrate, execute and manage all systems and sub-systems centrally and in a cost effective manner.

BizTalk Server 2000 brings with it all this and moreover, well documented and UI based configuration management enables speedy implementation of integration services.

With BizTalk managing the complicated tasks of processing, integrating and communicating in the background, the State Government of Kerala continued to enjoy the benefits of their existing systems and did not require investing in additional customized application development. This greatly benefited them both in terms of ROI as well as the management and maintenance of the solution.

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