



Airports Authority of India

## Enterprise Application Integration using Microsoft BizTalk Server 2000

*The Airports Authority of India (AAI) was formed on 1st April 1995 by merging the International Airports Authority of India and the National Airports Authority with a view to accelerate the integrated development, expansion and modernization of the operational, terminal and cargo facilities at the airports in the country conforming to international standards.*

*AAI manages 11 International Airports, 89 Domestic Airports and 26 Civil Enclaves. AAI controls and manages the entire Indian Airspace (excluding the special user airspace) extending beyond the territorial limits of the country, as accepted by international Civil Aviation Organization.*

*In order to integrate the cargo facilities at Delhi, Mumbai, Kolkata and Chennai along with its top vendors and airlines, Trisoft was chosen as the primary consultant and development arm by Microsoft India to assist CMC Ltd. in developing a BizTalk Server driven Enterprise Application Integration project.*

### Situation

AAI handles cargo on behalf of over 55 operating airlines. Cargo is required to be brought in "ready for carriage condition" with proper packing, labeling, marks & numbers etc. prominently marked on all sides of packages, duly accompanied by a 'Carting Order' from concerned airline, Airway Bill, Shipping Bill, Baggage declaration, for admission of cargo. Terminal Storage & Processing charges are to be paid to the AAI at the Bank/AAI counter in export wing.

AAI books and ships cargo from four different locations - Delhi, Kolkata, Mumbai and Chennai. The vendors book their respective cargo for predefined destinations that have to be shipped via specific airlines. Once the cargo is physically received in the AAI Cargo Warehouse, it is then shipped to the various airlines. In the entire process various documents such as Carting Order, Airway Bill and Shipping Number is generated at respective stages. On an average each location records more than 10, 000 transactions per day generating more than 30, 000 documents.

AAI already runs DB2-Oracle based legacy applications that enable the AAI staff in booking, storing and delivery of cargo. However, since the applications are disconnected, AAI faces a tough challenge of collating, reentering and consolidating the process which often increases duplicate data entry and human errors making the entire process lengthy and time consuming. AAI required a solution that would not only automate the entire process but would also connect the different locations and organizations over various protocols due to infrastructural limitations.

### Solution Overview

#### Industry

Government of India

#### Business Situation

AAI handles cargo on behalf of over 55 operating airlines and hundreds of vendors through four major locations across India. It therefore performs thousands of transactions and generates thousands of various types of documents per day, per location.

#### Solution Overview

Using Microsoft BizTalk Server AAI was able to orchestrate the entire business process in a seamless and integrated fashion.

#### Benefits

Business Agility

Cost Effective

Scalable Solution

Integrated World

Better Management and Analysis.

#### Products Used

- Microsoft BizTalk Server 2000

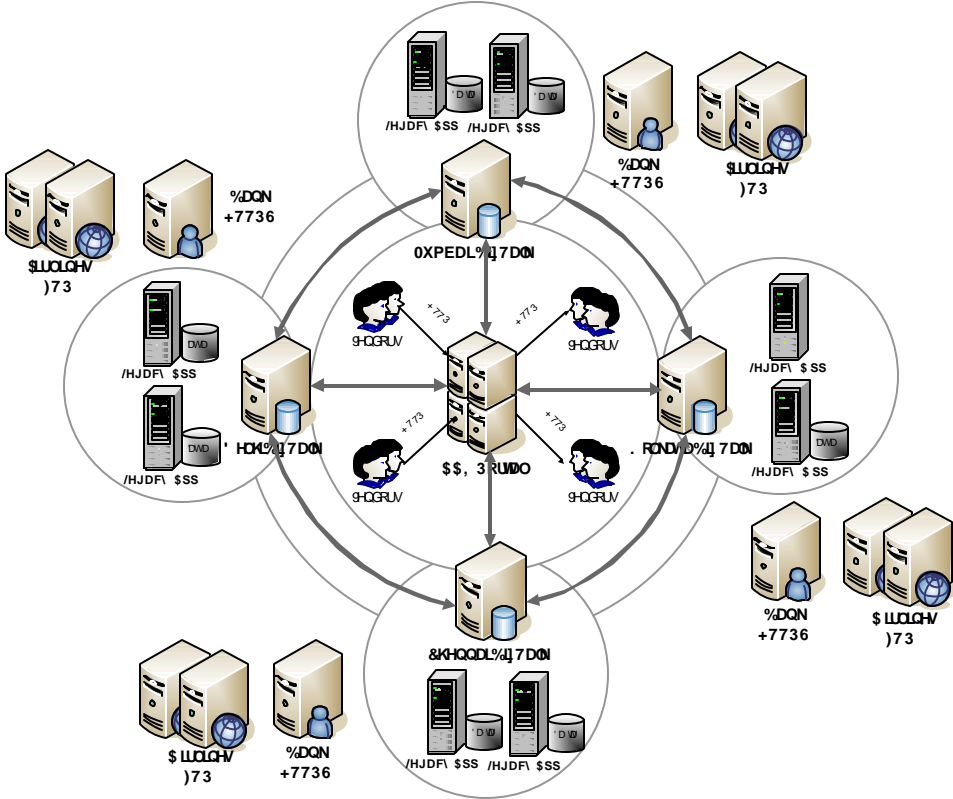
- Microsoft SQL Server 2000

- Microsoft Windows © 2000

### Solution

CMC Ltd. was awarded the contract by AAI to automate the Cargo Handling exercise end to end. After a few weeks of effort, CMC realized the complexity of the situation and approached Microsoft Corporation, India for assistance. Trisoft being a preferred Microsoft partner and already having capabilities on the cutting edge Microsoft technologies was in turn nominated by Microsoft to provide consultancy and development expertise to CMC Ltd.

After a thorough analysis and technical feasibility exercise Trisoft proposed Microsoft BizTalk Server 2000 as the key platform on which to build and automate the entire process. The following diagram depicts the overview of the solution:



The proposed solution had two critical facets. One was a central AAI Portal which allowed the key vendors of AAI to register and book their cargo online. The portal would also allow the vendors to make payments to the banks online and track the status of their cargo as well.

The other aspect was the actual BizTalk integration with the portal, the various airlines as well as the in-house legacy applications. BizTalk Server was deployed at all the four AAI locations which in turn communicated amongst themselves on a real time basis. As many as 10 different document structures and 3 different document types including EDI FACT were used on a multitude of protocols which included SMTP, HTTP, HTTPS and FTP. The entire orchestration of the business processes resulted in 10 thousand transactions and over 30 thousand document exchange per location.

This drastically reduced the overall time required for single complete transaction by almost 50%. The human errors and data entry duplicities were non-existent after the deployment. Detailed audit trails and transactional reports enabled the senior management of AAI to get a firm grip on their business.

## Benefits

### Business Agility

AAI no longer relies solely on counter-based payments and receipts generation. The online portal integrates with banks that accept payments online. The desk-to-desk manual process is now converted into a proactive and automated transactional cycle. This has drastically improved AAI's agility and allowed for a painless well orchestrated process.

### Cost Effective Solution

Of the many solutions evaluated, BizTalk came out to be the cheapest of the lot which met all the customers' requirements. Moreover, the existing legacy applications were leveraged upon by BizTalk thereby providing an end to end cost effective solution

### Scalable Model

New partners and customers can be integrated into the system without additional infrastructure. The in built document mapping and transformation features of BizTalk has resulted in a scalable model which continues to support the new requirements of AAI

### Integrated World

BizTalk's out of the box capability of integrating with the AAI Portal, the Banks and the Airlines has resulted in a seamless integrated environment. The users no longer participate in isolation as all transactions are real time and transparent.

### Better Management

One of the greatest benefits for AAI has been the ease of management. AAI no longer needs to manage a host of applications from various distributed locations. The entire business process can now be managed centrally with very little expertise.

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