

Business Intelligence and Analysis Solution using OLAP

Schenker is one of the leading international providers of integrated logistics and freight-forwarding services. Schenker supports the global exchange of goods between industrial and trading concerns by offering European transport, as well as worldwide air/sea freight and associated logistics services. Almost 28,000 employees at 1,000 locations all over the world are responsible for a total turnover amounting to around 5.2 million Euros every year.

Schenker India was established in 1996 with the corporate office in New Delhi as well as Branch and Sales Offices at the major economic hubs of India at Delhi, Mumbai, Chennai, Bangalore, Calcutta, Tirupur and Pune. The financial and operational information at various branches is recorded in disparate software packages and consolidation was a tedious and error prone manual process. Trisoft Systems implemented a central data-warehouse solution based on Microsoft® SQL Server 2000 Analysis Services. This improved operational efficiency and provided reliable analysis and reporting.

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Situation

The operational practices at most of Schenker's branch offices are very similar. A financial package is used to record all transactions at the branch level. There are individual software packages for Air Export, Air Import, Sea Export and Sea Import. Certain data is also maintained in Excel workbooks. The financial data captured is not integrated/associated with the operational data in any way, which makes it very time-consuming to analyze.

The individual software packages store their data in various formats like FoxPro, Access and Excel. These packages do not communicate with each other, and this is another reason why the entire process of data consolidation at the head-office was time consuming.

As with any manual process, there was inconsistency and delay in report generation. Analysis was based on fixed-format reports without the ability to conduct ad-hoc queries on the data. The management had to wait for the MIS Department to manually prepare reports and only then could analysis be

Solution Overview

Customer Profile

Industry

Logistics

Business Situation

Schenker India uses SQL Server Analysis Service to analyze trends in their Air/Sea Export/Import operations.

Solution

Business Scenario

Analysis based on transactional data captured by various software solutions deployed at branch offices.

Benefits

The data warehouse solution enables the upper management of Schenker to perform various detailed analysis.

The warehouse consolidates financial as well as operational information.

The preparation of Monthly Statement of Operation, which took 2 people 5 days to prepare manually, now is done in a couple of minutes.

Integrated view of data of all the branches helps in profitability analysis.

All department heads get to see relevant data from one source.

Microsoft Products Used

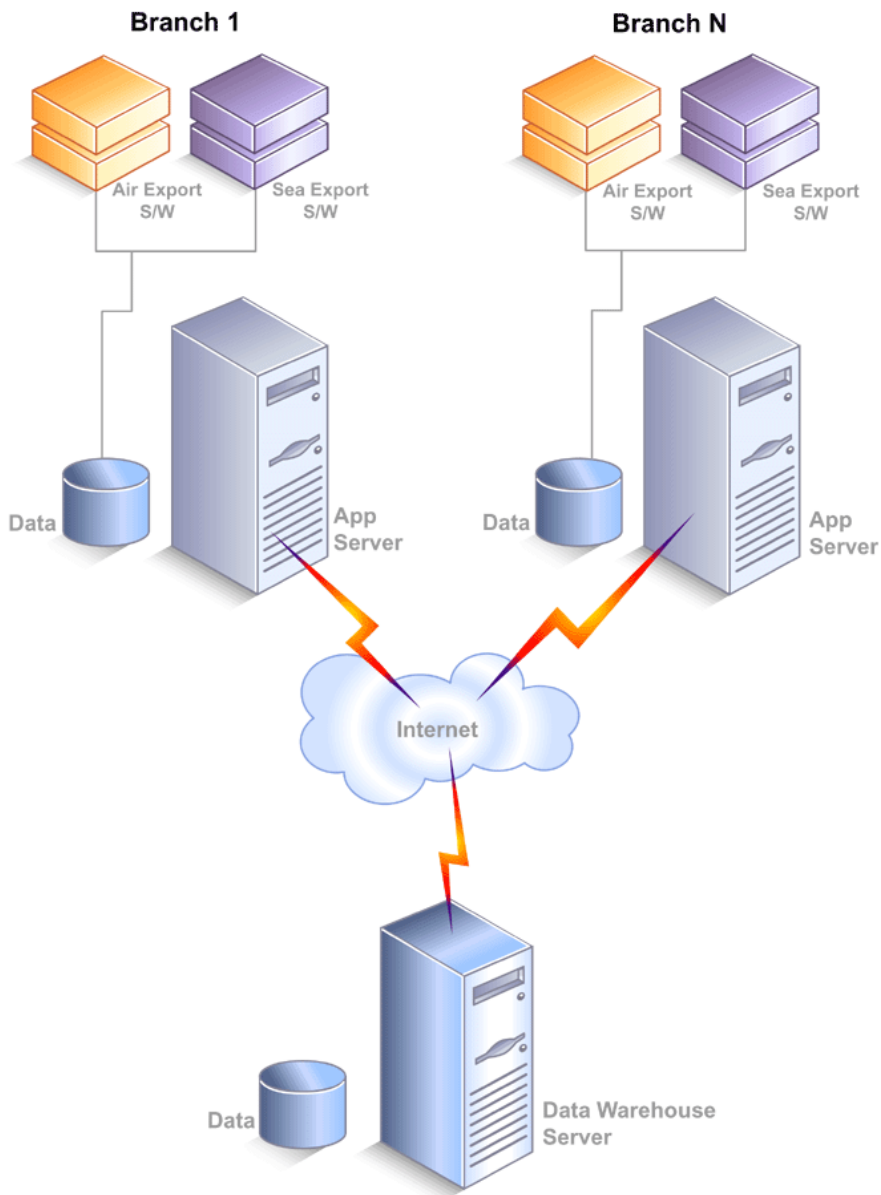
- Microsoft SQL Server
- Microsoft Office Web Components
- Microsoft Visual Studio
- Microsoft Windows® 2000

performed; a small error during manual consolidation would get severely magnified.

The management needed a system that would provide consolidation of data from all the packages and all the branches and transform the raw data into valuable business information.

Solution

After a thorough study of the requirements, we felt that a data warehousing solution would fit the bill perfectly, as it would pre-aggregate the data and serve it to the users instantly.



The financial package stored data in a proprietary format and exposed only certain transactions through ODBC (Open Database Connectivity), therefore a custom procedure was developed to extract the required data in XML format. XML was the preferred mode because of the inherent structured representation. The Air Export, Air Import, Sea Export, Sea Import packages developed in FoxPro, MS Access and MS Excel allowed connectivity through

ODBC, hence DTS (Microsoft Data Transformation Services) packages were designed to connect directly to the data store and extract the required data.

An application was developed to consolidate all data and to transfer it over the Internet to a central store. This application, which was deployed at all the branches, took care of the first level of data cleansing and could be scheduled to auto-run at non-peak hours with a provision for manually overriding the times. The "push strategy" (from branches to Head office) was preferred over the "pull strategy" because of connectivity constraints at certain branches.

At the Head office, another application (DTS based) took care of the final level of data cleaning and pushed the data from all the branches into the central warehouse. Microsoft Analysis Service was used to pre-aggregate the data and store in multi dimensional structures to enable fast querying and analysis.

The final solution was visible to the management via a web browser. The application was built using Active Server Pages and the cubes were made visible using Office Web Components. Microsoft Data Analyzer was also configured to allow access to the data. Since the data was restricted to senior management only, we configured the security permissions on the system appropriately.

Benefits

Increase in Operational Efficiency

Operations have been streamlined based on analysis of trends. Resources used for the manual consolidation have been re-deployed for more productive work.

Data Consistency

Inconsistencies between reported figures and actual figures have been stopped. Exception reports are generated from the warehouse so that mismatch of data between the financial and operational packages can be corrected.

Smooth generation of reports

Reports, which took 3 to 5 days to prepare, are now prepared on-the-fly, in a couple of minutes. The authenticity of the reports is granted as no manual intervention is allowed.

Information on demand

Since the Warehouse is live and accessible over the Internet any authorized person can query for required information from any place.

Flexibility

Delivery of client tools that are highly optimized, so decision makers can get their own data and retrieve only what is individually relevant to the context of their investigation.

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