

The Client

The Client is a world's leading printer and copier manufacturer.

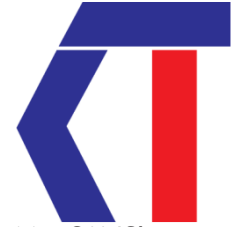
Business Situation

The client implemented Oracle 11i Order Management (OM) module along with Oracle Inventory, Shipping Execution, Pricing, BOM, WIP etc. The client is in the business of manufacturing and selling both low end and high end digital printers and copiers. Several shipping companies were on the roll to ship client's printers/copiers to the client's customers based on zip code where the customers located. High end printers/copiers need client's help in installation and low end copiers/printers are customer installable. Client trained the shipping company agents to install the same. Shipping companies' charges were high and same for both high end and low end printers/copiers. In order to cut the cost client had to reduce the shipping charge for the low end printers/copiers. The shipping companies that can match pricing expectation of client were mass carriers like UPS, BAX, and FedEx etc., who can only drop the shipment at the customers' door.

The Challenges

These mass carriers offered two options to for shipping process:

1. Client to fill out paper application for each box of shipment and then carriers enter the data manually in their systems and print the label and attach it to each box
2. Mass carriers provide proprietary software or client can procure third party software and feed data to these software to generate the label and print. Client can attach the label to the box and software transmits the shipping data to the mass carriers' servers. Using the shipment data mass carriers can estimate the number of trucks required and send the trucks to pick up the shipment and deliver it. The software also helped to get the status shipment like 'in-transit', 'delivered' etc.

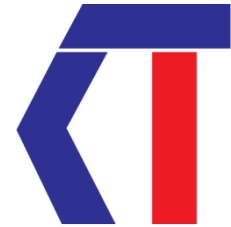


However the challenge was to interface the data from Oracle 11i OM/Shipping Execution modules, which was installed in Sun Solaris, with third party software that was only compatible on Windows server platform with MS Access database. Another challenge was how to make the third party software as transparent as possible so that user can and do all the transactions through Oracle Application without logging into third party software. This transparency would help in reducing the training cost and required accessibility on third party software.

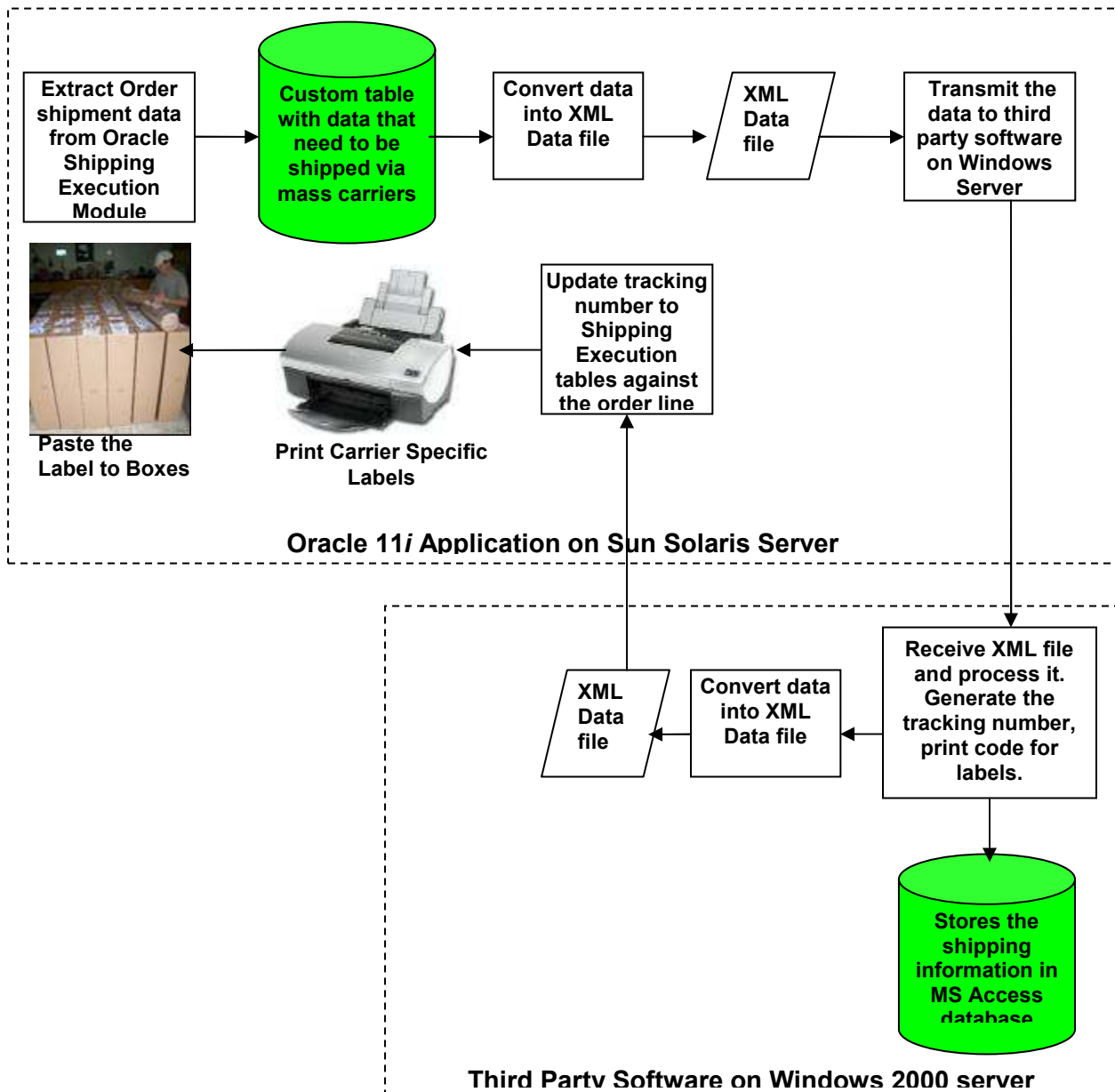
The Solution

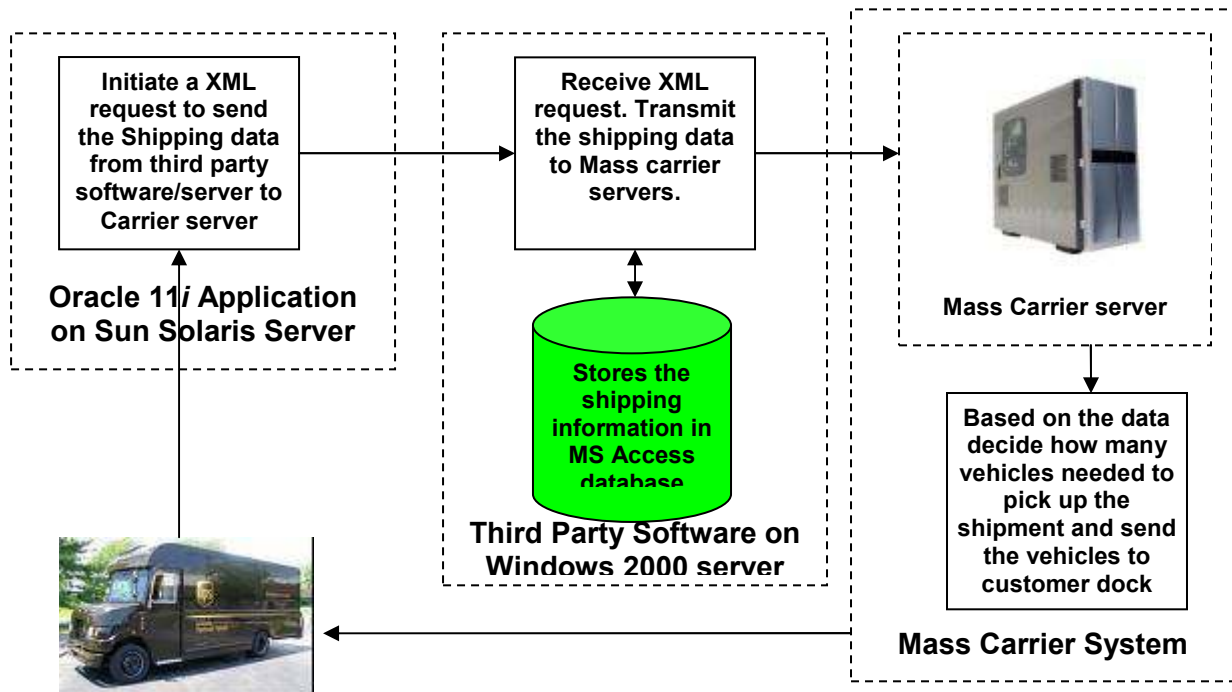
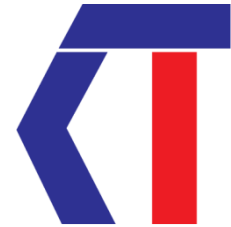
Helped the client by addressing the challenges by developing:

1. Database trigger to capture the Order/Shipping items, that are fit for mass carrier shipments, during the pick confirmation and put it in a custom table
2. PL/SQL program to massage the data and get the item weight and dimensions and make it ready for transmitting it to third party software
3. PL/SQL program to turn these data into XML data file and stored as CLOB data type.
4. Java program to transmit the XML data file as XML request to the third party software residing on Windows server (because Oracle UTL_TCP has a limitation of 32KB data file size).
5. Third party Software Company's XML processor processed the data in Windows server and generated the tracking number and printcode for labels and transmitted back to above Java program as XML response.
6. PL/SQL programs to extract the data from XML response and updated the Oracle Shipping tables with tracking number and printed the label.
7. PL/SQL program to get the manifest/bill-of-lading data from third party software using XML and UTL_TCP functions to post the data and print it and hand it over to the truck drivers
8. Form to see the status of the whole process.
9. PL/SQL program to send an XML request to third party software to transmit the shipping data to mass carrier servers. Mass carriers estimate and send the number of trucks required to pick up the shipments.



10. Use Oracle supplied API to gather the delivery status from Mass carrier servers.
11. Form to see the status of the delivery for the shipment
12. Error report to see any data error on the process





Business Impact

The major benefit that client got from this project is quick return on investment by reducing the shipping and handling cost by 80%. Other benefits accrued were:

1. No training cost on third party software for end user (except for system administrator) because the software was made transparent by letting the user do all transaction using Oracle Application
2. Less administrative activity because no need to create multiple users and provide access on third party software
3. Easier to follow regulatory compliance (e.g., Sarbane Oxly) because not many users on third party software



Value Adds

Apart from reducing the shipping and handling cost, most of the processes were done automatically and thereby reducing operations cost. The few user interactions that were required with the application need little training because everything is done through Oracle 11i Application.

The Technology

- Oracle 11i Applications
- Oracle 9i
- SQL, PL/SQL
- Developer 6i
- XML, XSLT
- Java
- Microsoft Access
- Unix/Windows