



Whitepaper: Implementing fax into a “call blending” application for Global Distribution Company



Integration Technology	.Net Java SQL Server
Industry	Distribution
Enterprise Applications	Avaya Interaction Center Oracle RightFax SQL Server
Document Flow	Inbound Outbound Fax
SNAPS Products	Snapsflow

Executive Summary

This client is a large maintenance supply distribution company who receives orders via telephone, Internet and fax. They use the Avaya Interaction Center to manage telephone calls and web orders, but needed to integrate inbound fax orders into this process. By integrating fax into their existing process, they would be able to utilize the work load balancing capabilities of their call distribution system. Snapsflow was implemented in conjunction with a RightFax Enterprise Server. The system was configured to process inbound faxes and push them into the Avaya IC via web services.

Case Study Details

Our client receives a number of orders via a set of 6 fax machines centrally located in the call center. These faxes are manually sorted by region and manually tracked. Faxes are picked up by the fax group of each region and then are manually transcribed as orders into the Client's Oracle Forms system. Often one fax can result in multiple orders or be an amendment to a previous fax. Response is an issue, since fax orders received before a certain time have to be entered as orders in Oracle Forms, before the cut off time for the region in order to make the delivery dates. Faxes are sorted and processed by region as part of the Local Value Proposition, a recently introduced business process to better know and serve the customer base.

About 10% of the current business (by revenue) is via fax. This is in contrast to 7% of the current business generated by orders over the Web and the balance is phone in orders. This ratio is not changing; in particular the percentage of fax orders is not declining in favor of Web orders. The major reason is due to the nature of the business, most of the customers fall into a pattern of operation and those feel it's more convenient to write an order on a paper and fax it.

Today, on average, the client receives about 800 to 1,100 faxes per day. This volume is fairly evenly distributed across the weekdays – with Monday to Thursday accounting for just over 20% per day of the weekly total and Friday accounting for about 15%. Fax volumes increase significantly with promotions – which are generally a monthly event. Fax orders are typically not received on weekends and if they are they are NOT processed. On average each fax order is one or two pages. The business is growing at a rate of about 20% per year and so is the fax volume. The major objectives of client for this project were as follows:

- store an electronic image of each fax
- attempt to identify the customer account and profile by the ANI of the fax
- route the fax according to business rules in a manner similar to the current Intelligent Call Routing (ICR) system (Avaya IC) , where the outcome is skill (e.g. military, west, etc.) and priority (e.g. high, medium and low)
- provide a thin client solution to locate and display a fax order by customer account, by sales order number, by ANI, by DNIS, by time range of fax received
- provide a client solution that allows a fax processing agent to perform the following:
 - identify themselves
 - modify the list of skills they belong to
 - request the next fax to be processed in queue based on skill and priority, and render the fax image for viewing and/or printing
 - review a set of faxes based on the criteria outlined above
 - selects a fax for a detailed review with the option to view and/or print the fax
 - specify processing of a selected fax
 - enter the sales order number and update the account number associated with a fax

- automatically associate an ANI with a customer account – with parameters to manage this process
- provide a thin client solution to administrate and monitor the fax solution:
 - identify themselves
 - review a set of faxes based on the criteria outlined above
 - change the skill or priority assigned to a fax that has not been processed
 - mark a fax as processed
- provide a thin client solution that tracks faxes in queue with the following information for each fax skill and priority:
 - number of faxes in queue
 - oldest fax in queue
 - faxes processed in last hour
- archive faxes

The client had in place a majority of the infrastructure required for this solution. This includes an Avaya Definity G3 PBX, the Avaya Interaction Center ACD and the Oracle Forms Sales Order System. In order to complete the objectives of the project, they implemented a RightFax server with the Snapsflow EAI engine installed on it. The following process was implemented:

1. Definity G3 receives fax call and relays it to the RightFax server along with the ANI data.
2. RightFax system receives the fax, stores fax image and creates a new record with metadata in its database
3. Fax Received event is sent to Snapsflow which performs the following:
 - a. ensure all fax pages are right-side up
 - b. put a PDF wrapper around the fax image
 - c. create a Snapsflow table entry for fax
 - d. submit an HTTP Post to the Avaya IC system with the fax metadata
4. HTTP Post received by Avaya IC which then performs the following steps:
 - a. perform ICR functionality to qualify fax (using the ANI) and determine the skill that will process the fax and its priority
 - b. create a CTI table entry in the Fax table with the above parameters and set the status to “queue”
 - c. respond to HTTP Post with the account number and order ID
5. Snapsflow updates the RightFax database with the account number and order ID, then archives the fax order with information returned from Avaya IC
6. Fax order is waiting to be processed by a Fax Processing Agent.
7. Fax Processing Agent or Administrator has the option of setting the Fax
8. Status to Deferred, or altering the Skill and Priority
9. Fax Processing Agent or Administrator has the option of setting the Fax
10. Status to Cancel. For this case set the Sales Order Number to “CANCELLED”
11. Fax Processing Agent (with corresponding skill) selects the fax for processing which changes its status from “queue” to “processing” and then displays the fax image
12. Fax Processing Agent completes the record for fax processing by confirming/updating the Account Number and entering the Sales Order number.
13. Avaya IC then updates ANI learning table with ANI / Account Number match
14. Avaya IC submits an HTTP Post to Snapsflow to update the Account Number and Sales Order Number associated with the Fax
15. After a preset time period (e.g. 3 months) the fax is moved from the current fax directory to an archive directory (by year and month)
16. After a preset time period (e.g. 15 months) the fax archived directory is copied to a removable media and the archive directory is deleted

The workflow described above was implemented in two weeks with a minimum of custom programming. Archiving was accomplished using the Alchemy Document Management system from Captaris.

Business Need

Our client initially employed a manual inbound Fax solution. They would like to migrate to a solution which holds an electronic copy of the fax and processes the fax contact in a manner similar to the current inbound phone calls. This would assist with the retrieval, tracking and processing of faxes. The need for this solution is being driven by the emergence of the second call center which is currently being built. Because the new call center is being located several time zones away, our client needs an electronic method of delivering faxed orders when resource allocation routes work from one call center to the next.

The initial goal is to automate the process related to inbound sales order faxes. The long term goal will include:

- Implementing an electronic document archive so that fulfilled orders can be quickly located should a regulatory or compliance issue arise
- Replacing the current legacy fax solution connected to their Oracle Forms system for outbound faxes – e.g. faxes for order verification. Our client was looking for a robust solution that would meet their immediate and long term needs.

Benefit/ROI

Our client was able to achieve significant ROI from this project by streamlining the paper process electronically. They eliminated the need for a separate group of agents to process paper based faxes. These agents were integrated into the primary group of agents handling phone and web orders. Load balancing was accomplished allowing their business to grow with minimal addition to their staff.