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Automatic fax processing at Dunlop:

Fast Track to Goods Management

By Jan Schulze

Despite the rise in modern e-business technologies, the fax remains a popular medium in sales departments and call centers. Tire manufacturer Dunlop is getting round this by automatically processing incoming fax orders in SAP R/3 using a solution based on the Seeburger Business Integration Server.

Nowadays communication between large enterprises and their suppliers mostly takes place electronically without any media changes, but suppliers very often have to do a great deal by hand. The fax is still a highly valued tool when it comes to processing orders at workshops, assembly plants or wholesalers. But this means that incoming faxes have to be booked in the merchandise management system manually and a high volume of incoming faxes can lead to a significant number of man hours and high costs.

"There was a time when people said the fax was dead," recalls Jürgen Sievers, communications technologies coordinator at Goodyear Dunlop Tires Germany GmbH. But according to his observations, the opposite is actually the case: "In absolute terms, the volume of faxes has remained steady. It is only falling as a percentage since the total volume of communications is constantly on the increase." Many of the tire manufacturer's customers still order by fax, even though these orders are generated directly by the merchandise management systems at larger business partners. To process them, employees at Dunlop's call center have to take the fax printouts back to their desk and enter new orders in SAP R/3 manually. What's more, the company promises that orders received by 6 p.m. will be processed the same day, meaning stress levels can run high in the call center at this busy time. The time spent processing faxes manually only makes the situation worse.

From fax to SAP system directly

To support its employees and ensure a better level of service, Dunlop introduced a system that automatically routes incoming fax orders to the SAP R/3 systems. At the heart of this solution is the "Paper-to-ERP" module in the "Business Integration Server" (BIS) from solution provider Seeburger AG. Of the possible products for automated fax processing, Paper-to-ERP provided Dunlop with a crucial function in the form of database-supported recognition. This enables much higher recognition levels in comparison with pure text recognition or OCR (Optical Character Recognition). "The software compares all recognized fields from an incoming fax with a database. This database is fed with information from our SAP systems and contains product EAN numbers, for instance," says Sievers, explaining how the technology works.

If the recognized data corresponds to the results of the database query, it can be assumed that the recognition has been successful. However, if the system does not find any corresponding entries in the database, the company knows that the recognition process has failed. A pure OCR solution will just generate what is supposedly in the fax, and if there's any doubt at all the system cannot make an automatic decision. For example, a classic problem is differentiating between the figures "1" and "7" which often look very similar on a fax. Any uncertainty would lead to much higher error rates.

A template for every customer

System administrators have to do some preparatory work to ensure the system works properly. First of all, it is absolutely crucial that the Paper-to-ERP module's database, which is created from the SAP systems, is kept maintained. That's why Dunlop opted for the possibility of automatically replicating the data from SAP R/3 on the Seeburger BIS. This rules out the possibility of transfer errors. That said, one of the system's central requirements is slightly more time-consuming. To enable recognition, it is vital to know the location of certain information. Otherwise, the comparison between the recognized and stored information cannot be performed conclusively. Only if, for example, a recognized sequence of figures can be clearly identified as a product number can a comparative database query begin.

"In practice, that means creating a template for every customer in the BIS. Areas on standard faxes from our business partners are assigned a function, so the system knows if a certain field contains the customer number or if the field refers to the quantity of products ordered." That does of course mean that customers always have to use the same form. But Sievers says that this is already the case with around 75% of customers, as the majority of their fax orders are generated directly by their merchandise management systems. However, a Word or Excel document can lead to problems. Administrators at Dunlop need around two to three hours to create a customer template, though Sievers is convinced that the work is worth it: "Our customers don't have to use a special form provided by us. They can continue to use their own order forms, so they're not even aware of the new system. There is no extra work or expense for customers, but their orders are processed much faster."

80-percent recognition rate

Dunlop now processes a great number of incoming faxes automatically. The orders flow into the Seeburger BIS directly. The system then attempts to recognize the data as best it can and creates an order in SAP R/3. But so far no solution can guarantee a 100-percent recognition rate for faxes, so the Paper-to-ERP solution operates with what's known as a split-screen display – one half of the screen displays the original fax for the operator, while the other half shows the SAP input mask. Information that the system does not recognize with absolute certainty is highlighted in color in the order mask. This means an agent can see at a glance if an order has been captured correctly and, as Sievers explains, generally only has to confirm the order: "We have a recognition rate of approx. 80 percent, which even we found surprising." He had previously expected this figure to be closer to 50 or 60 percent. If the recognized data is unclear, the operator can check it against the original fax and make amendments as required. This also ensures that handwritten notes and other information do not go unnoticed.

As every fax is still checked by an employee, Dunlop had to prevent backlogs from occurring during busy periods. The BIS was therefore linked to ACD (Automatic Call Distribution) which distributes incoming calls among employees. If a lot of fax orders are waiting for final approval, the ACD system automatically takes a free call center agent out of the call distribution loop and directs the pending faxes to him for processing. Once the backlog is cleared, the employee is then reintegrated back into normal service.

Return on investment within one year

Sievers is fully satisfied with the Paper-to-ERP solution. He says the entire project including all preliminary considerations lasted around a year and it took as little as four weeks for the manufacturer to implement their chosen system. Tests with three selected customers went without any considerable problems. Now fax orders from 15 customers are routed into the system and processed automatically. And that includes the "tricky cases" and partners with high order volumes. The aim is now to gradually link up 70 percent of Dunlop's 2,500 or so customers to the system.

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And Sievers emphasizes that the employees' response to Paper-to-ERP has been positive. "The fact that the software is easy to operate has certainly contributed to this feeling. I only showed the call center employees once how it works. There was no need for any extra training."

Dunlop has also achieved the project objective of saving time on capturing faxes. "Capturing an order consisting of one or two items previously took around three minutes. But if a fax is completely recognized by Paper-to-ERP, it now only takes 25 seconds," says Sievers. He therefore expects a return on the investment within a year.

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