

## CASE STUDY

### SENTINEL Manages ERP Data to Drive Parker Hannifin Hydraulic Filter Division Labeling

Solution: CODESOFT + SENTINEL

Industry: Manufacturing

## Background

The Parker Hannifin Hydraulic Filter Division based in Metamora, Ohio offers a large variety of hydraulic and lube filters, offline and portable filtration systems, fluid analysis and fluid condition monitoring equipment, specialty industrial microfiltration products and replacement elements. Its filter units, monitoring and other peripheral equipment are used in construction, energy, power generation, mining, shipping and other heavy industries.

The Parker Hannifin Hydraulic Filter Division uses a cellular organization rather than a traditional assembly line. Parts move from one cell to another as they progress through the production process. The parts are accompanied by a traveler tag – a job ticket – that moves with the order as it progresses through the plant.

The traveler ticket is an in-process tag that does not include all of the same fields that may be required for a customer label. In order to create and print a customer carton/part label under the old system, an operator would reference the traveler tag, but was required to manually enter much of the information on a terminal. The information had to be requested from the ERP system and then entered in at a local workstation. Understandably, this process led to transcription and keyboarding errors, as well as lost time.

The situation was complicated by the fact that customers had different information requirements for their labels. Sometimes they specified their own part number and there was no way to verify that the information on the customer label matched the order because the part number was not on the tag.

## Challenges

- ✓ Accessing information stored on corporate systems for use in labeling
- ✓ Reformatting ERP records into useable data fields for interactive, on-demand label printing
- ✓ The system had to be transparent to users, accurate, and fast

## Results

- ✓ More consistent printing
- ✓ More accurate data on the label
- ✓ Fewer format errors
- ✓ Better control over the labeling process
- ✓ The ability to move the printing function to the place that makes the most sense



Customers also defined different label formats, so operators had to select the correct label design at the time of print.

Dave Schoeff, Parker Hannifin Hydraulic Filter Division IT Technical Analyst summarizes, “Our problem was that we needed the ability to print barcode labels for our products with minimal user data entry. We had to find a way to encode the customer-requested information and formats, but we needed to use serialized labels from a central database on our server.”

The actual customer/shipping labeling was one of the last steps of the manufacturing process. There were about 15 networked PC workstations on the shop floor that operated in standalone mode running individual copies of TEKLYNX LABELVIEW label design and printing software. A thermal printer was connected to each workstation. The operator manually entered the required label information, selected a label format and design, and printed labels to the local printer in lots ranging from ten to a few hundred.

Explained Schoeff, “We wanted to move to a networked system that gave us better control over where things were printed and the ability to monitor the process. We decided on a centralized hosted solution using a print server that could talk to the different bar code printers. We wanted to be able to plug it into a host system and have it work. We also wanted to be able to extend the application to the Web and to handheld devices.”

Schoeff began shopping around. He heard about a barcode installation at another organization that used an application programming interface (API) that sounded like it would do the job. He tried the suggested software but found the program was slow to print the first label because a large part of the application had to be loaded to the PC at run time to generate a label. This approach took too long and the downloaded software application taxed the capabilities of the older installed workstations and would not work with web-based applications or handhelds.

“We just couldn’t afford the baggage that came with the product,” said Schoeff. “So, I tried to get help from them to see if we could work around the problem. I couldn’t get anyone from their technical department to return my phone calls. I called several times and had no luck.”

## Solution

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Schoeff turned to TEKLYNX and its SENTINEL label print automation software. SENTINEL takes a completely different approach. With SENTINEL, the application runs on a print server and not on the individual workstations. Only an extremely small Extensible Markup Language (XML) program is installed on the workstations.

With the SENTINEL system, a query is sent to the ERP system that initiates a print-to-file command to send the required data to a file folder. SENTINEL harvests the information and uses a built-in mapper application to format the label according to embedded instructions that are sent with the data fields. The instructions direct SENTINEL to select the correct label format from a library of pre-designed labels. It then prints the specified number of labels on the designated network printer. Parker Hannifin Hydraulic Filter Division also uses TEKLYNX CODESOFT label design and integration software to design their labels.

Schoeff wrote the small software interface application that resides on the workstations. “The only thing that’s loaded is my application, and I can make it as little or as big as I want. I can do it on a handheld, I can do it on a web page, and I can do it on a PC. Basically, I’m generating an XML file that I send off to the server. And everything that’s TEKLYNX-related is on the print server. It’s waiting for that file to come and it does its job.”

As for support? Schoeff said, “I had a TEKLYNX application engineer that was assigned to me when I was in trial mode – I hadn’t even written a check. I know he spent at least three hours on the phone with me on different occasions getting my server set up. The way he approached it, I didn’t need much help – he sent me a copy of an XML file and said, ‘Can you make this with your application?’ I said, ‘Yeah, I could do that all day long.’ He said, ‘That’s all you need to do.’ He walked me through setting up a mapper file and I was all set. I can’t say enough about my application engineer.”

## Results

The new process is being rolled out throughout the plant. Now, operators use a Honeywell 2D barcode scanner to scan the traveler ticket. The scanned request is formatted into an XML file and passed to the server.

The server makes the request of the ERP system and monitors the file folder. It then harvests the 20-30 data fields and uses SENTINEL's mapper to correctly select only the required data fields. It formats the label and sends the format and print quantity instructions to the designated Datamax I-4604 printer.

The print request is fulfilled instantly and the operator has no knowledge that an application is running since there is no local processing.

The new process has enabled Parker Hannifin Hydraulic Filter Division to change where the labels are generated. Explained Schoeff, "There's no compelling reason for the operator to generate the label any more. We always knew that it should be generated further upstream when the job is planned. Now, by moving the function a job band or two away from where it used to be, we're able to use less expensive labor to print the labels, rather than having a product expert enter the data."

This process change delivers an additional advantage. Since the labels are printed earlier, the label deck travels with the job through all of the cells allowing more people to notice if there are any errors.

The installation's primary benefits have been delivered. The SENTINEL label process provides more consistent printing, more accurate data on the label, fewer format errors, better control over the process, and the ability to move the printing function to the place that makes the most sense.

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