Electronic Imaging System Streamlines Document Storage & Retrieval Process

Willamette system replaces manual storage of 2 million original documents annually in warehouses and filing cabinets, saving time and money and freeing up office space.

By Ken Patrick, Editorial Director

Willamette Industries, currently operating as a wholly-owned subsidiary of Weyerhaeuser Co., has completed the implementation of a large-scale, company-wide electronic document storage and retrieval solution. The new system is designed to electronically process financial accounting documents that previously were maintained in warehouses and filing cabinets throughout the company.

With 19 scanner-based stations installed at various production/converting plants and offices, the new high-capacity storage system is replacing manual storage of more than 2 million documents annually. These include invoices, workman's compensation, customer credit, timber deeds and other sales related documents.

In addition to reducing employee-hours being spent to manually file and retrieve documents, the new electronic imaging system is significantly reducing physical space that was required to store documents. Also, for purposes of disaster recovery, electronic imaging assures that all documents will be safe far into the future.

By slashing document retrieval time, the electronic system is cutting overall accounting related costs, and also allows customers and suppliers to access their account information instantly via the Internet. Providing Internet access to customer records has improved customer relations and made it easy for customers to track their deliveries on a real time basis.

Weyerhaeuser-Willamette Integration Underway

Willamette Industries (Portland, OR) was acquired by Weyerhaeuser Co. (Federal Way, WA) earlier this year. Currently, Willamette is operating as a wholly-owned subsidiary of Weyerhaeuser, with integration teams just this month completing plans for combining the two companies. Willamette's operations will be fully merged with Weyerhaeuser during the next 12 months.

The combination creates a company that would have had sales of approximately $19 billion in 2001 and will have leadership positions in all of its major product lines:

- World's largest producer of softwood market pulp
- World's largest producer of softwood and hardwood lumber
- World's largest producer of engineered lumber products
- World's second largest in containerboard and kraft paper
- World's second largest in printing and writing paper
- Own or manages more than 40 million acres of forestland for sustainable wood production.

The electronic imaging project was begun in the summer of 1998 and went live the following October, according to Laura Roast, systems analysts. Willamette completed installation of the final two systems in March. Systems are now installed at six communications papers plants, four regional offices, five converting plants, and one each at credit and purchasing offices in Oregon. Two of the systems are used for development purposes by the optical storage support staff.

System Design, Structure

The old manual storage and retrieval process being used by the company was one that people perform every day, which included time spent to go to the filing cabinets, copy documents, fax or send them to the person that requested them, and then re-file the documents. The time to complete this function could be dramatically longer if there was a need to go to off-site storage to find the documents, in which case, the difficulty of finding the boxes with the correct documents made the process doubly complex.

During its investigation of an electronic storage and retrieval system to reduce document storage overhead costs and increase employee productivity, Willamette contacted Cosmos Technology/NCS, a local value added reseller of imaging systems. Cosmos/NCS agreed that imaging technology could address the company's challenges, and recommended the installation of a Fujitsu scanner-based document storage and retrieval system. The 19 systems that were subsequently installed use Fujitsu high-end scanners, either model M3097DE or M4097VRS.

As shown in **Figure 1**, the Fujitsu scanner at each station is connected to a dedicated Compaq PC computer, with Kofax Ascent V5 software used to support the uploading and OCR functions. All stations connect through what Roast calls the "tree"—a Novel wide area network (WAN). A network server, and in some cases multiple servers, are located at each site.

Gauss Interprise document/record management software uploads the scanned TIF files over the network to an IBM AS400 mid-range computer system. Connected to the AS400 is an IBM 3995 Jukebox for storage of images on optical platters. All scanned documents and "cold" reports are stored on the PC hard drives for 24 hours before being sent in a batch process to the Jukebox.

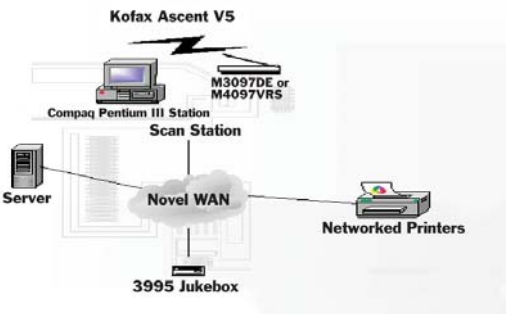

Figure 1. Each station, with a scanner, dedicated computer (including software for the uploading and OCR functions), and network servers, connects through the company's "tree" WAN system.

While storage of the images is on optical platters in the Jukebox, indices for the documents are maintained on the AS400 system, which is currently taking up some 42 gigabytes of storage space…and growing, Roast explains. She notes that this is primarily because most stored documents have not yet met the required retention times (for example, seven years for invoices), since the system went live in 1998.

To date, some 2 million scanned indices have been entered into the system. Roast says that the Gauss Interprise system tracks the number of indices and not the actual number of pages scanned. Documents can have any number of pages. An Accounts Payable vendor invoice, for example, typically has one index, but can have as many as 10 pages or more, including backup material, she notes. Scanned images are currently taking up 143,000 megabytes on the optical platters, while there are some 9.1 million pages of cold reports currently in optical storage.

Results and Benefits

With the new system, document retrieval has improved dramatically, Roast reports, from an estimate of roughly 17-20 minutes per page to only 20 seconds per page. The result, with employees spending far less time filing and retrieving documents, is greater efficiency and higher productivity.

The most significant time saving with the new system, Roast points out, is day-to-day retrieval of information and the fact that documents don't have to be manually managed in a warehouse situation, with each one having to be separately logged-in. "If auditors, for example,

IS team at Willamette's Portland, OR, offices (left to right): Dick Libert, Senior Business Analyst; Laura Roast, Systems Analyst and Team Lead; Tom Carmichael, Senior Support Services Representative.

need information, it's at their fingertips. That's the real power of this system."

Roast adds that, compared with the old manual system, storage of documents with electronic imaging involves a "little give and take." Scanning itself takes up some time, files have to be batched up, a patch code page has to be produced, and the user has to double check to be sure each file did successfully make it to optical storage," she explains, adding, however, that just the disaster recovery benefit alone is significant.

Once documents are scanned in, the optical storage process is audited to ensure that each one is legible and can be retrieved. "The basic auditing requirement is that everything thought to have been scanned really was, that it is legible, and that the indexing system allows it to be easily retrieved. Once this is ensured, the original documents can be shredded," Roast explains. Using tested and approved auditing procedures, many of Willamette's plants are already shredding original documents, freeing up warehouse space, reducing filing cabinets, and regaining needed office space.

Another goal of the new electronic system was to give customers access to scanned account records, allowing them to view proof of delivery documents via the Internet. Roast point out that this quickly reduced the calls once typically made to sales people to investigate delivery issues. "This feature is being used extensively on a daily basis, which has really surprised us," she says. "Our suppliers and customers love it."

System in Operation

In discussing how the new system saves time and money and makes customers happier at the same time, Roast gives several typical examples. One of the company's immediate goals with the new system was to get all invoices, cold or scanned, into optical storage, she explains.

"Most invoices are cold, so we snag a copy for optical storage right from the application it's created in. This is seamless to the user. Every night the batch fills up and we send them to optical storage. If, for example, we have a national account with many locations around the country ordering, say paper bags, that customer would get a bill for each of those invoices. The customer would then typically send one check to pay for the invoices they might have gotten from several of our bag plants.

"Generally, our plants need to see Accounts Receivable invoices that reference orders processed through their respective facilities. In the past, these plants would have to search through file cabinets, pull the invoice, make a copy, fax it, and re-file the document. Now these plants are able to quickly and easily access any invoice across any commodity within the organization—from their desktops. This saves a lot a time and money on a daily basis," Roast explains.

Electronic Imaging System Details

Reseller	Cosmos Technology/NCS
Client & OS	Compaq Pentium III client stations (1 GH, 256K RAM, 20 GB HD w/CD, running Windows 2000), Connected to the Fujitsu scanner and via a Novel WAN, all employees can access the storage and retrieval system.
Scanners	Fujitsu M3097DE and M4097VRS Three people support all scanning systems
Software	Kofax Ascent V5 – supports uploading & OCR
Servers	N/A
Storage	IBM 3995 Jukebox
Network	Novel wide area network (WAN)
Printers	N/A – all systems have access to networked printers
Imaging Applications	Gauss Interprise – Document/Record management Imaging - SpyVision (storage & retrieval)

Accounts Payable vendor invoices are another priority for optical storage, she adds. “This has been especially helpful. For example, when I recently got the maintenance bill for all of our optical storage equipment, my boss asked how this compared with last year’s bill. I was able to instantly pull up last year’s Accounts Payable invoice from my desktop. I didn’t have to call the accounting department and they did not have to pull a document and photocopy it for me.”

With the new system, suppliers are able to use the Internet feature from their desktops to access proof of delivery documents. Typically these users have MS Internet Explorer or Netscape browsers, and need only the imaging software that generally comes with operating systems such as MS Windows. Users are given a sign-on to the system that allows them to get through the company’s firewall and locks them down to viewing only their own proof of delivery documents. “Our suppliers are extremely happy with this feature,” Roast says.

Use of the system by customers and suppliers is “growing every day.” She explains that the optical storage system wasn’t initially designed to replace paper storage. It was primarily intended for archival purposes to replace Microfilm and Microfiche. “But the daily use is phenomenal, both by customers and within the Willamette organization itself.”

Roast explains, for example, that one cold report in particular is in the 12,000-page range. This report, run for all locations, is used to balance the company’s Accounts Receivable system to its general ledger. It was previously being printed every month. “Now that this report is coming to optical, no one is printing it anymore. Everyone is able to see it instantly from their desktops, find exactly what they need, and print those selected pages from their stations. This dramatically reduces the drain on our resources—the actual CPU time of batch jobs having to run. Also, by putting this report on optical, we were able to get rid of a high-speed printer used to print it. ■