

# KAPSTONE PAPER AND PACKAGING

**MANUFACTURING ROLLS NON-STOP** at leading North American paper company

KapStone Paper and Packaging makes unbleached kraft paper that goes into the packages, wraps and surfaces that are part of everyday life. The company's production is converted into everything from gift boxes, to paper bags, to subsurfaces for laminate countertops and furniture. Two mills in Charleston, South Carolina and Roanoke Rapids, North Carolina operate around the clock and together are capable of producing 1.3 million tons of paper annually.

## Business Situation

When KapStone bought the two Carolina mills from their previous owners, each mill had a manufacturing execution system (MES) that had been in place for nearly 20 years. The facilities were already looking at technology to replace the outdated systems.

## Business Objectives

Explained CIO Christophe Deslandes, "We had to get off the legacy system. That's why we selected software from MAJIQ. And we had to get new hardware as well." Elixir®, from pulp and paper enterprise software specialist MAJIQ Inc. of Redmond, Washington is the corporate standard for sales order processing (SOP) and MES at other KapStone facilities. Charleston, the larger of the two mills, would be first to replace both its MES software and computer server.

## Quick Facts

### Solution Profile

- Sales order processing (SOP) and manufacturing execution system (MES) for paper mill
- Enables order management, roll production and inventory management, domestic/international shipping, and invoicing
- Supports 882,000 tons of production capacity
- Helps ensure 24/7/365 operation
- Approaches 100% continuous availability

### Products

- Stratus® ftServer® systems
- Stratus ftScalable™ storage
- MAJIQ Elixir® SOP/MES software
- Microsoft® Windows Server® operating system
- Microsoft SQL Server® database software

### Services

- Stratus support services





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**Christophe Deslandes**  
Chief Information Officer  
KapStone Paper and Packaging Corporation

Objectives included:

- Minimize unplanned and planned downtime to support 24/7/365 production lines
- Implement the new system in the shortest amount of time
- Standardize on the same MES application as the rest of KapStone, if possible

System availability was the most important consideration by far, according to KapStone. Plant management was understandably wary of making a change, because the mills had not used a Windows server for its most critical manufacturing application before.

“We considered a conventional server, a cluster, etc. for our server solution. But for the 24/7/365 operation, we were looking for the best uptime assurance we could get,” said Emerson Beach, Director of IT Operations at KapStone.

Based on years of experience at other mills, MAJIQ was able to recommend ftServer systems from Stratus Technologies. MAJIQ is a Stratus reseller. “The teams that Stratus and MAJIQ had working together really made a big difference to us,” Beach noted.

Proven to perform at the computer industry’s highest level of availability, Stratus ftServer systems prevent server downtime and loss of critical data for Microsoft Windows-based applications and databases. ftServer systems build in redundant components that serve as active spares. These duplicate components keep the system running in the event of a problem without anyone having to take action. And, there’s no interruption or data loss.

Stratus ftServer systems also use self-diagnostic technology and proactive monitoring to automatically report potential problems and isolate issues fast.



### Availability Equals Time and Money

Exactly why does availability matter so much to KapStone? Beach explained, “If the MES system stops, we can make reels of paper coming off the paper machines for a little while. But we can’t cut the rolls to match our orders because the size of the pieces comes from the Elixir system. So we only have a little time before we’d have to shut down the paper machines.”

“In the mill, the amount of downtime they felt able to handle was very minimal,” added Beach. “And the new system would be compared to the old VAX Alpha system that performed well.”

Deslandes spelled out what an hour of downtime can cost. “It’s about \$33,000 an hour, per machine. You never recover that because you’re running 24/7/365.” If Charleston’s three production lines were affected, the impact would be nearly \$100,000 for every hour lost.

Restarting the production lines is a significant effort because of the physical and mechanical factors involved. Starting up the paper machines and making sure they run properly can take hours, according to Deslandes.

“Investing in a solution built for maximum uptime takes the risk out of the equation,” Deslandes stated. “With the ftServer system, we were able to tell plant management that we’re putting in a system built not to shut down. It gave them confidence. It’s like mainframe-based reliability.”

**“We haven’t had any hardware issues that have affected production. And we’re very impressed with that.”**

#### Emerson Beach

Director of IT Operations  
KapStone Paper and Packaging Corporation

### Specifically Configured MES In Just Months

KapStone also wanted to avoid having the project stretch out for years. Yet Charleston wanted to use roll tracking, which required integrating Elixir with PLCs (programmable logic controllers) that interface with and control the paper machines and wrap lines on the production floor.

In addition, Charleston has the advantage of sitting next to a seaport freight terminal. That puts the mill in the position to handle its own international shipping instead of always going through a freight forwarder or a broker like most mills.

MAJIQ provided some product development to Elixir to better meet the international shipping requirements while making the process more efficient. The team from MAJIQ managed to implement Elixir in less than 10 months even with the configuration and some product development.

Deslandes observed, “Being able to implement the application and the required product development within months, instead of years like some of our competitors, is an important advantage we got (and continue to get) with MAJIQ. We’ll already be on the next version of our application by the time others only have their first project done.”

Deploying the ftServer hardware was a “plug and play” experience. “We had time to do burn-in for many weeks to make sure the server was well-stabilized before going into production. And the fact that we didn’t have to build a cluster and synchronize it [cluster nodes] helped,” said Deslandes.

Steve Latham, president of MAJIQ, added, “KapStone has an information technology strategy that fits nicely with MAJIQ’s and Stratus’ strengths. The long-term supplier partnership between MAJIQ and Stratus helps give KapStone the confidence that their chosen solution is viable for years to come.”

## Business Impact

The Charleston mill has been using the ftServer hardware, fault-tolerant ftScalable storage and MAJIQ Elixir software since December 2009. The Elixir system supports Charleston's entire production capacity of 882,000 tons of paper annually.

Beach described the results. "With the Elixir software and ftServer hardware, we're able to provide the highest level of availability for the Charleston paper mill." System availability is exceptionally high, approaching 100%. Server reliability compares well with the previous MES. Plus, the ftServer system monitors its own operation and contains problems that would bring other servers to a halt. "We haven't had any hardware issues that have affected production. And we're very impressed with that," said Beach.

He added, "By and large, when there is a server issue we hear from Stratus before we actually even know about it, unless we happen to go up into the computer room and see a red light here or there. The ftServer system keeps going."

Beach added, "Being able to show the mill that we're buying newer technology but we'll still have the same sort of uptime makes a difference on the production floor."

## About Stratus Technologies

In today's always-on world, applications run under increasingly demanding circumstances. With these escalating demands comes greater pressure to prevent even the smallest amount of application downtime. Companies are responding to this need for always-on solutions by searching for technologies that either conform to or enhance their current IT infrastructures.

Stratus Technologies' solutions enable rapid deployment of always-on infrastructures, from enterprise servers to clouds, without any changes to your applications. Stratus products (software and servers) combined with Stratus people, enable customers to prevent downtime before it occurs, ensuring uninterrupted 24/7/365 performance of essential business operations.

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### Christophe Deslandes

Chief Information Officer

KapStone Paper and Packaging Corporation



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