



## GreenPages Virtualizes Infrastructure, Upgrades Network and Servers, and Transitions End-of-life Applications



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### KEY HIGHLIGHTS

#### Challenge

- Virtualized network dependent on end-of-life Virtual Iron software
- Demanding 24/7/365 IT environment limits opportunities to migrate

#### Technology

##### Main Data Center:

- Two new HP DL-385 G7 servers
- Re-used EMC Clariion CX-310C SAN
- vSphere 4.1 Advanced Edition on each server
- vCenter 4.1 on one server
- Two Citrix servers run network of thin clients

##### Disaster recovery center:

- Two HP DL-380 servers re-used from earlier system
- EMC AX-150 SAN
- vSphere 4.1 Advanced Edition
- vCenter Standard Management Server
- Double-Take replication software for backup

#### Results

- Decommissioned Virtual Iron environment
- Replaced Virtual Iron with VMware vSphere 4.1 virtualized network
- Installed two new HP servers in the main data center
- Reconfigured two existing servers in the DR center
- Similar VMware infrastructure in data center and DR center simplified licensing and implementation
- Successful knowledge transfer to IT staff on vSphere administration and functionality

### Lincoln Paper and Tissue

Lincoln Paper and Tissue is a leading U.S. manufacturer of high quality paper and tissue products located in Lincoln, Maine. The company specializes in heavy paper stock used for business and index cards, high-quality vellum bristol paper, and deep-dyed tissue paper used to make napkins, towels, table covers, and other specialty products.

#### Customer Challenge

Lincoln paper was standardized on Virtual Iron (a provider of server virtualization management software). Virtual Iron had been purchased by Oracle and was no longer being developed or supported with future licensing. Lincoln needed to explore other virtualization software options.

Jeff Hayward, Lincoln’s IT Director, explained that the IT environment in a manufacturing plant is especially demanding because of the relentless time pressure. “Because we are operating in a 24/7/365 manufacturing environment, there are not a lot of time slots available for making big changes to the network.”

About 400 employees work at the company’s campus in Lincoln, Maine which includes several production buildings. The main data center is located in one of the production buildings and is linked by a fiber optic cable to a separate DR (disaster recovery) facility.

Because Lincoln understands that their employees can’t be experts in every single area, the company relies on consultants and value added resellers. For this project, Lincoln was looking for both project design and implementation help.

#### Technology Solution

Lincoln Paper contacted a similar mill for whom GreenPages had successfully set up a network. After the positive recommendation, Lincoln Paper invited GreenPages to evaluate its own network. After a careful survey, GreenPages recommended that the Virtual Iron environment be decommissioned and the old Virtual Iron servers be reconfigured for use as hosts for VMware vSphere at the company’s DR site.

GreenPages recommended that similar VMware infrastructures be set up in both the main IT center and the disaster recovery facility. Because of the similar licensing and implementation requirements, the transition would be simplified.

GreenPages developed a game plan that would migrate and implement the least critical functions first. This allowed Lincoln to see if everything was working correctly before integrating the mission critical functions such as time and attendance reporting.




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## Successful Result

**Main Data Center:** GreenPages configured and installed two new HP DL-385 G7 servers in the main IT data center. vSphere 4.1 Advanced Edition was installed on each server and vCenter 4.1 was set up as a virtual machine on one server. XenApp was used to host the applications on the central servers. An EMC Clariion CX-310C SAN from the company’s earlier system was re-used.

The network also includes two Citrix servers which feed a network of thin clients located throughout the factory in control rooms and break rooms. Because the clients are all set up the same way, users have the advantage of using a consistent interface. “Using the thin clients is a tremendous advantage as we can now do all of our safety training virtually,” added Hayward.

**Disaster Recovery Center:** GreenPages reconfigured two HP DL-380 servers and an EMC AX-150 SAN. GreenPages installed vSphere 4.1 Advanced Edition and vCenter Standard Management Server, and utilized Double-Take technology to replicate all mission-critical data.

As part of the transition process, GreenPages migrated each of the existing Virtual Iron servers over to one of the virtual servers on the new network—a “V to V” conversion. GreenPages used a VMware utility for this which saved Hayward and his group a lot of time and effort.

“The engineer that GreenPages sent us was phenomenal. It’s nice to know the guy working on the project onsite knows what he’s talking about,” Hayward said.

“Part of the training took a little longer than planned, but GreenPages just altered their schedule and stayed over until the next day. Whenever we had a follow-up question or a ‘punch list’ item, we were able to get in touch with the same engineer and get answers to our questions quickly.”

Hayward said he expects to continue moving functions into the virtualized network. “When we first started with virtualization, we thought that it really shouldn’t be used for mission-critical functions. Now we realize that we really ought to work toward getting everything on there.”