



## Brown and Williamson Achieves Greater Asset Utilization Through Consolidation of Servers and Storage Devices Into McDATA-based SAN

### The Organization

Brown and Williamson Tobacco Corporation is the third-largest cigarette manufacturer in the U.S. Its 5,000 employees operate from 25 locations nationwide.

### The Challenge

Brown and Williamson's business growth resulted in an unwieldy group of servers and their direct-attached storage. This led to problems economically managing its data. Initially, the company migrated to a small storage area network to increase host connectivity, but soon found it inadequate to meet its scalability, availability and manageability requirements.

### The Solution

The company migrated to redundant SAN fabrics based on McDATA Directors. It deployed an Intrepid 6140 Director and Intrepid 6064 Director to meet its 99.999 percent availability needs. To manage its expanding SAN, the IT managers installed McDATA's SANavigator software application. B&W uses the McDATA-based SAN exclusively for business-critical data and designated its Brocade SAN to support non-critical data.

### The Benefits

- Substantially consolidated server and storage assets to deliver higher asset utilization and lower their SAN total cost of ownership
- Critical business data guaranteed ultra-high availability for a cap of five minutes per year in unplanned downtime at the SAN core
- Protected capital investments in McDATA Directors against obsolescence-incorporating future technologies easily accomplished
- Able to non-disruptively upgrade firmware without impacting narrow production environment downtime window

Brown and Williamson Tobacco Company (B&W) outgrew its direct attached storage topology in 2001, and chose to migrate to a McDATA switch-based SAN.

The company is using McDATA Intrepid Directors to meet its availability goals and support business-critical data in their heterogeneous SAN. The Intrepid Directors' ultra-high availability, thoughtful road map and heterogeneous environment interoperability were the major reasons B&W selected them over competing solutions.

### The Challenge

Originally, B&W used a direct attached storage (DAS) topology to support business operations. By 2000, this architecture fell behind the information technology (IT) curve, failing to meet the company's requirements for higher availability to data. Moreover, scaling storage, managing and backing it up, and providing enterprise-wide access had become a time-consuming, less-than-economical affair. B&W knew it could better utilize its server and storage assets and evaluated consolidation strategies to achieve this end.

To overcome these challenges, B&W turned to McDATA

Corporation and systems integrator, Champion Solutions Group, to help them deploy McDATA director-based SAN solutions.

## The Solution

The task of implementing a SAN fell to Mark Swaim, Brown and Williamson technical services manager. Swaim adopted a phased approach, migrating multiple SAN environments to what has grown to be dual redundant fabrics to manage his Microsoft Windows and UNIX platforms. B&W operates a heterogeneous environment using McDATA Intrepid™ 6140 (140-port) and (6064 64-port) Directors. At the SAN edges the company uses two McDATA Sphereon™ 3016 Fabric Switches.

These connect to three IBM Sharks and an IBM FastT 700 disk array with an aggregate storage capacity of 20 terabytes. The SAN currently supports 30 hosts with additional servers planned by the end of 2003.

To get the benefits of centralized management, Swaim deployed

## Heterogeneous Environment Device Summary

### Hardware

1 x McDATA 140-port Intrepid 6140 Director 2 gigabits per second, (Gb/s)—supports critical data access  
1 x McDATA 64-port Intrepid 6064 Director (2Gb/s)—supports critical data access  
2 x McDATA 16-port Sphereon 3016 Fabric Switches (1Gb/s)  
3 x IBM Sharks  
1 x IBM FAST-T  
14 x IBM pSeries UNIX servers  
4 x HP/Compaq Windows 2000 servers  
5 x HP N-class and L-class UNIX servers  
Servers: 23 to grow to 50 by end of 2003

### Software

McDATA SANavigator SAN management software

McDATA's SANavigator software application.

## The Benefits

By migrating to 64-port McDATA Directors, B&W achieved several advantages. It significantly increased the number of available ports over the small switch solution by reducing the number of independently managed SANs. This approach also reduced the number of deployed fabric devices needed to serve the same number of end users. With fewer devices to oversee, administering the network became much easier. Additionally, the Directors' incorporate intelligence features to ease manageability. These include running self diagnostics

to identify problems and automatically alarm the appropriate technicians to initiate repair actions.

The McDATA SANavigator software application further contributes to ease of network administration and gives B&W new capabilities not available otherwise. More precisely, the application can pinpoint specific devices that experience problems. Previously, the IT staff had to do significant troubleshooting to isolate a problem.

SANavigator also gives B&W visibility into their fabrics' performance. Swaim recalls that it "Let's us see things we've never been able to observe before. I can pull up graphical

representations of the fabric, print out utilization reports and easily discover new devices in our heterogeneous environment. It's our SAN management tool of choice because it's been a big time-saver."

### **McDATA-based SAN Better Performer**

With McDATA's Directors at its SAN core, the company can count on ultra-high availability to its vital information. The self-healing Intrepid Directors feature redundancy of major components, automatic failover of active components and call-home alerts. Says Swaim, "Five nines availability means we can cap our SAN core unplanned downtime per year at about five minutes. That definitely meets our company's data access requirements." In point of fact, ultra-high availability is so important to Swaim that he's placed all his company's critical business data on McDATA-based SANs exclusively.

A second feature boosting B&W's McDATA SAN performance is the use of nondisruptive code-loads to

update their Director software. "It's a big deal because our windows of opportunity for taking the production environment down are small or nonexistent. That eliminates a lot of planning we would have had to do."

Still another McDATA SAN performance enhancer is fiber channel 2Gb/s connectivity. By deploying 2Gb/s Directors, Swaim has doubled the capacity feeding his 2Gb/s fiber channel IBM Shark 800. This in turn spurred a decision to bring up an IBM p690 Regatta server to match this speed. As a result, the company will be able to replace 12 existing servers with the Regatta and reallocate the displaced resources elsewhere.

The ability to support both 1GB/s and 2GB/s throughputs concurrently with the McDATA directors allows for mixed environments to exist of 1st and 2nd generation fibre-channel connected devices. Moving all of the fibre attached DASD into the McDATA fabric will drastically

reduce the time and effort to replace older technologies with newer, faster, more cost effective equipment.

Scalability is no longer an issue. B&W is able to optimize its usable ports and limit ISLs. It can also leverage the Director's in-the-box scalability, which allows the company to add ports to a chassis in four-port increments.

While enhanced scalability,

***"After checking out the director options, McDATA clearly was the leader in terms of high availability. I am also comfortable with their roadmap for their Intrepid Director series and know that I'll be able to cost-effectively migrate to new technologies like iSCSI as they come down the road."***

***Mark Swaim  
Technical Services Manager  
Brown & Williamson***

availability and manageability are critical to Swaim, so too is extending his IT budget. By using protocol-independent architecture, Intrepid Directors can easily adapt to incorporate emerging technologies as they become available. This allows Swaim to extend the useful life of his Directors, lower his costs to support more stringent company requirements, and thus enhance his documentable return on investment.

## Future Plans

Swaim plans to consolidate his four SAN environments into a single one standardized on McDATA directors and switches. This will take his centralized management to its logical conclusion. By consolidating his SANs, he'll also be able to simplify his architecture by deploying larger port-count Directors to replace fabric switches.

### **Brown and Williamson Tobacco Corporation. [www.brownandwilliamson.com](http://www.brownandwilliamson.com)**

#### **About Brown and Williamson**

Brown & Williamson Tobacco Corporation is the nation's third largest manufacturer and marketer of cigarettes. Its major brands include KOOL, Pall Mall, Lucky Strike, Misty and Capri. For more information, visit us at [www.brownandwilliamson.com](http://www.brownandwilliamson.com).



**McDATA™**  
Care-to-Edge Enterprise Solutions

McDATA Corporate  
380 Interlocken Crescent  
Broomfield, CO 80021  
USA  
800.545.5773  
720.558.8000

McDATA Europe  
Technologiezentrum  
Postfach 10 31  
D-85501 Ottobrunn  
Germany  
(49) 89.607.39776

McDATA Asia Pacific  
8F Nikko Ichiban-cho Bldg.  
13-3 Ichiban-cho, Chiyoda-ku  
Tokyo 102-0082  
Japan  
(81) 3.3512.3671