

Fentress Bradburn Architects Improves Productivity, Cuts Costs, and Gains \$431,000 in Benefits with WAN Accelerator

IN BRIEF

- **Goal:** For Fentress Bradburn Architects to share large CAD files between disparate U.S.-based offices and with their India-based business partner, and increase collaboration without buying extra bandwidth or additional servers.
- **Solution:** Riverbed Steelhead WAN Accelerators (also sold as HP StorageWorks Enterprise File Service [EFS] WAN Accelerator).
- **Results:** A cumulative, projected five-year net benefit of \$430,892, driven by increased productivity, bandwidth savings, and avoiding having to buy and maintain new servers. An ROI of 1386% and a payback period of four months. Its branch office and partner in India can collaborate on major projects with the main office as if they were all in the same location.

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NOTE: This case study was authored by the Case Study Forum. The Case Study Forum is dedicated to writing and publishing case studies for the IT community.

Fentress Bradburn Architects recently entered a period of high growth, in which it opened a branch office in Washington, D.C., and entered into a working relationship with an architectural firm in India. It wanted its branch office and partner in India to be able to collaborate on large projects with its main office, but was unable to do so because it was taking those in remote offices too long to open CAD and related documents due to bandwidth issues. Fentress Bradburn was considering spending significant amounts of money on buying T3 lines to solve the problem. Instead, it turned to Riverbed Steelhead WAN Accelerators (also sold by Hewlett-Packard Company as the HP StorageWorks Enterprise File Service [EFS] WAN Accelerator). Files that previously took 15 minutes to load now load in less than 15 seconds, productivity has increased, and disparate offices can collaborate on large graphic-intense projects. Fentress Bradburn will realize a cumulative, projected five-year net benefit of \$430,892 from the implementation, driven by bandwidth savings, increased productivity, and avoiding having to buy and maintain new servers. The project will yield an ROI of 1386% and has a payback period of four months.

Benefits

Objective	Benefits Achieved
Speed up the sharing of large CAD documents and other files between offices	Large CAD and related files that took 15 minutes to load previously, now load in less than 15 seconds.
Eliminate having to maintain separate data sets for individual offices	Previously, Fentress Bradburn Architects had to maintain separate data sets, which caused serious problems, including having to manage different versions of the same files. Now only one data set needs to be maintained.
Reduce the need to back up data from multiple sites	Because only one data set is maintained, Fentress Bradburn Architects no longer needs to back up several sets of data, or transport tape backups between offices.
Improve productivity by allowing collaboration among distant offices	Large documents can be easily shared among remote offices, allowing architects to more easily collaborate on projects, leading to productivity gains – a projected, cumulative productivity savings of \$375,000 over five years.
Reduce bandwidth costs	By buying WAN accelerators rather than additional bandwidth, Fentress Bradburn will save a projected, cumulative \$45,000 in bandwidth costs over five years.

The Challenge: Increase Interoffice Collaboration and Share Large Files without Buying Extra Bandwidth

Fentress Bradburn Architects has a long history of using technology in its architectural, design, and planning work – it was one of the first architectural firms to install a CAD system in the early 1980s. It has continued that tradition, and when it expanded to open an office in Washington, D.C., and began a working partnership with an architectural firm in India, it was looking to use technology to allow architects in all offices to collaborate on large, complex projects.

Fentress Bradburn took the next step by fully adopting Building Information Modeling. This new approach allows everyone working on a project to collaborate using a single building model. Using the approach, design teams can focus a significant portion of their effort on resolving conflicts before they happen in the field. Fentress Bradburn has been helping pioneer this emerging technology. But with a single-model approach comes many different files known as design elements and sheet files. Because a single sheet file calls up many other files, the combined file sizes can be quite large – an architect may have to load five files, each of which may take up 10 megabytes. Those files were being called up across the company Wide Area Network (WAN) and Virtual Private Network (VPN). This was causing a serious problem because it could take up to 15 minutes for a single set of files to load for an architect in India or the Washington D.C. office.

“It could take up to 15 minutes for our architects to load a file, and we couldn’t afford to keep working that way. We had to find a solution, but didn’t want to have to spend extra money on more bandwidth.”

MICHAEL RINKEN

IT MANAGER

FENTRESS BRADBURN ARCHITECTS

To work around the problem, some architects were storing files locally, rather than accessing them from the office network. But this led to version control problems – there could be several different versions of the same file in existence, and architects working on the same project could end up working on different versions of the same design.

Additionally, storing files locally led to other problems, such as having to back up files via tape backup, and having to maintain multiple servers. Fentress Bradburn Architects was considering buying extra T3 lines as a way to solve the problem, and possibly buying extra servers as well.

Driving the Need for a New Solution

Fentress Bradburn Architects was looking for a solution that would do the following:

- **Speed file transfers and file sharing between offices.** Having an architect wait up to 15 minutes to open a file created serious problems for the firm, including affecting architects' productivity. The firm wanted to make sure that architects could easily share files and transfer files from office to office, as if they were in the same location.
- **Solve the problem of maintaining separate data sets.** Because file transfers were so slow between offices, architects were storing files locally. This meant that the IT department had to find ways to make sure that the files were synchronized, so that architects were not working on different versions of the same file. If architects worked on different versions of the same file, it could have serious consequences for a project. Fentress Bradburn wanted to centrally store all files for use within each office.
- **Eliminate the need for backing up files in each office.** Backing up files in each location every night via tape backup, and then having to transport the tapes between offices, is a time-consuming, expensive proposition that can easily lead to errors. Fentress Bradburn Architects wanted to back up files only in its main office, not in multiple sites.
- **Allow architects in separate office to collaborate on large projects.** A single project can be made up of several thousand files. This made it extremely difficult for architects to collaborate via long distance because slow file transfers meant that they would have to keep separate versions of the same file. It also wasn't practical for the firm to assign specific architects to specific files, because that would make collaboration impossible.
- **Minimize bandwidth costs and IT administration costs.** Fentress Bradburn Architects did not want to pay the substantial amount of money required to buy extra T3 lines. Additionally, it did not want to buy and maintain extra servers in separate offices, because that would require substantial IT time and costs.

Fentress Bradburn Architects Chooses the WAN Accelerator

Fentress Bradburn Architects purchased Riverbed Steelhead WAN Accelerators (now offered by the Hewlett-Packard Company; called HP StorageWorks Enterprise File Service [EFS] WAN Accelerator) to solve its problems, rather than purchasing extra bandwidth and extra servers. In doing so, the firm did not have to pay substantial extra fees every month for bandwidth, and did not sustain extra IT administrative overhead that new servers would require, such as performing tape backups, and maintaining and troubleshooting servers.

“The WAN accelerators solved our problems without us having to buy extra T3 lines or new servers. Installing it is as easy as plugging it into LAN links and a router. The support has been tremendous as well.”

MICHAEL RINKEN

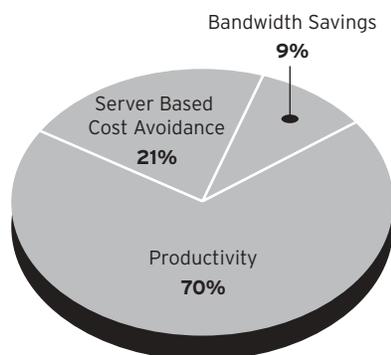
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The core technology in Riverbed’s Steelhead appliances forms the basis for the HP StorageWorks Enterprise File Service (EFS) WAN Accelerator, marketed through HP’s direct sales force and worldwide system of resellers, integrators and other technology partners.

The HP StorageWorks EFS WAN Accelerator is a simple, transparent appliance solution that accelerates applications on WANs by up to 100 times. The solution is built on the industry-standard HP ProLiant server platform and can be easily integrated into any enterprise network and installed in less than ten minutes.

The WAN accelerator addresses all the key factors that slow application performance over WANs: high latency, limited bandwidth, and “chatty” transport and application protocols. It accelerates TCP-based applications on WANs by up to 100 times, and simultaneously expands bandwidth ten-fold, allowing geographically dispersed teams to run applications off central servers and share large documents as if they were all working in the same office. Such dramatic improvements in WAN performance enable CIOs to consolidate remote file servers and other infrastructure into centralized data centers where information can be managed more safely and easily. With the WAN accelerators, companies can realize the benefits of consolidation – improved data security and compliance, and reduced operational costs – without sacrificing the performance their remote users demand.

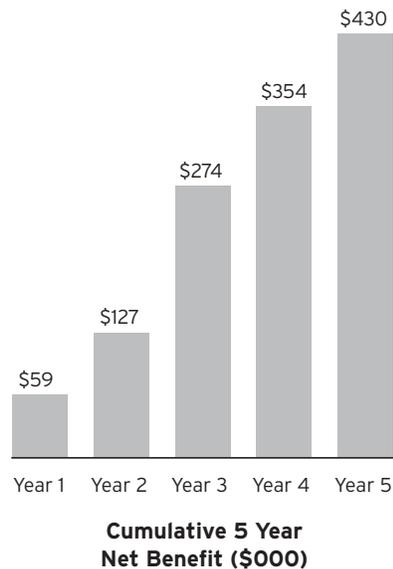


Cumulative 5 Year Net Benefit = \$430,892

The Bottom Line for Fentress Bradburn Architects

A detailed analysis of the implementation shows that Fentress Bradburn Architects will gain a projected, cumulative five-year net benefit of \$430,892 from the solution, driven by bandwidth savings, avoiding having to buy and maintain new servers, elimination of multiple tape backups, and increased productivity due to faster file

Fentress Bradburn Architects' bottom line for the project: A cumulative, projected five-year net benefit of \$430,892 driven by increased productivity, bandwidth savings, and avoiding having to buy and maintain new servers. The project has an ROI of 1386%, and a payback period of four months.



transfers and improved collaboration. The solution will have an ROI of 1386%, and has a payback period of four months.

The largest savings will be in increased architect productivity, because architects in remote offices can open files more quickly, and collaborate much more easily. A file that used to take as long as 15 minutes to open can now be opened in less than 15 seconds. Collaboration has been improved because architects can now work on the same projects and files without regard to which office in which they are located. Version control is no longer a problem – only one version of each file exists. The total productivity savings over five years is a projected \$375,000.

The solution allowed Fentress Bradburn Architects to avoid buying new file servers, which will lead to a projected \$108,500 in savings over five years, including avoided IT administrative costs. The firm no longer has to perform tape backups, and because it did not buy extra servers, IT staff will not have to troubleshoot and maintain servers, and perform a wide variety of administrative tasks, such as patching servers, adding virus protection, and installing software.

Fentress Bradburn Architects will also save a projected \$45,000 over five years in bandwidth costs. Because the WAN accelerator has sped up file transfers, there is no need for extra bandwidth.

The following chart provides a detailed, five-year analysis.

Project Summary							
ROI	1386%						
Payback Period (in months)	4						
Cumulative Net Value	\$430,892						
Project Costs							
	Start Up	Year 1	Year 2	Year 3	Year 4	Year 5	
Hardware	\$33,504	\$0	\$0	\$11,168	\$0	\$11,168	
Support		\$7,371	\$7,371	\$7,371	\$9,828	\$9,828	
TOTAL PROJECT COSTS	\$33,504	\$7,371	\$7,371	\$18,539	\$9,828	\$20,996	
Benefits							
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
Bandwidth Savings		\$0	\$0	\$15,000	\$15,000	\$15,000	\$45,000
Productivity		\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$375,000
Server Based Cost Avoidance		\$25,500	\$0	\$76,000	\$0	\$7,000	\$108,500
TOTAL BENEFITS		\$100,500	\$75,000	\$166,000	\$90,000	\$97,000	\$528,500
Financial Analysis							
	Start Up	Year 1	Year 2	Year 3	Year 4	Year 5	
Net Value	(\$33,504)	\$93,129	\$67,629	\$147,461	\$80,172	\$76,004	
Cumulative Net Value	(\$33,504)	\$59,625	\$127,254	\$274,715	\$354,888	\$430,892	
Net Present Value	\$358,653						
Payback Period (in months)	4						
ROI	1386%						
Internal Rate of Return	270%						

Fentress Bradburn Architects Looks to the Future

Thanks to the WAN accelerators, Fentress Bradburn Architects will be able to better collaborate internally on large new projects, and will be able to grow its practice without having to add to its IT staff.

“The WAN accelerators make collaboration much easier. Employees don’t feel as if they have any technical impediments to getting their work done.”

MICHAEL RINKEN

IT MANAGER

FENTRESS BRADBURN ARCHITECTS

Perhaps the most important result of the implementation is the way that the WAN accelerators have helped make staff in remote offices feel as if they were a core part of the firm.

“It makes people feel as if they’re all part of the same office, not separated by distances,” says Michael Rinken, IT Manager, Fentress Bradburn Architects, “Before, we had to worry about how to compartmentalize business process per office, but the WAN accelerators have taken that away, and we can now focus on what makes the company as a whole more productive. It makes communications among offices much easier. As far as staff in other offices goes, we don’t think of them as being remote – it’s as if they’re working in the building next door.”