



Burt Hill Pittsburgh, Pennsylvania

Burt Hill Strengthens “Borderless Organization” Concept with Packeteer® Intelligent Application Classification, Branch Office and Mobile Acceleration Solution, Optimizing Application Delivery to Every Location

Burt Hill (www.burthill.com) is an award-winning international architectural firm whose innovation and leadership since its founding in 1936 has earned the company a ranking of 25th in the prestigious Builder Design World Architecture Top 200 survey in 2005. Operating from nine locations in the U.S. and the United Arab Emirates (UAE), Burt Hill provides architectural, engineering and master planning services with a particular focus on designing energy-efficient buildings based on solid engineering and sound, sustainable design principles.

Owing to the complexity and scope of its project work—ranging from high-rise commercial buildings, hospitals, research centers and higher educational facilities—the company regularly relies on the full spectrum of multi-disciplinary skills in its distributed workforce of over 600 professionals. Projects now routinely span multiple offices to draw upon the expertise of specific employees who could be anywhere in the world. In addition, the shortage of architectural and engineering talent across the industry increasingly requires outsourcing certain aspects of a project to external partners. Achieving such real-time collaboration in a “borderless organization” on a global scale would require Burt Hill to, once again, demonstrate industry leadership.

THE CHALLENGE: Enable a virtual “borderless organization” capable of leveraging available talent anywhere in the world

According to Mark Dietrick, Chief Information Officer at Burt Hill, improving information sharing across the WAN emerged as a top IT priority due to significant file transfer delays, which was not supportive of the company’s goal of fluidly sharing resources between all of its offices. “Our business is all about collaboration where multi-disciplinary teams have to work in concert in real time, no matter where they reside,” said Mark. “This requires a methodology to pinpoint and resolve application performance issues with the right WAN optimization and acceleration technologies. One of our IT charters is to convert our WAN into a virtual worldwide LAN, where the company operates as one contiguous organization without regard for network ‘borders.’”

The file sizes involved are enormous by any standard. Historically, computer-aided design (CAD) systems might generate hundreds of separate project-related files ranging in size from 1 to 5 megabytes each. Burt Hill now uses the latest generation Revit system from Autodesk; Revit employs 3D building information modeling technology that generates a single master project file, which can grow to hundreds of megabytes.

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– Mark Dietrick, CIO

Complicating Burt Hill's situation was its existing, distributed IT infrastructure—with Microsoft Windows servers in each office—as well as its increasingly mobile workforce. Like many organizations, the vast majority of the company's employees work away from the headquarters. And many work in the field, on site or from their homes, occasionally requiring access with slow dial-up connections.

The company realized the complexity of its requirements after evaluating and piloting several available wide area file system (WAFS) acceleration solutions. Most prospective solutions were eliminated from consideration because they offered only an appliance-based WAFS approach for branches; this would have added another branch office device to install, maintain and manage beyond the existing Windows-based storage and server systems already in place. The pilot worked well enough in the limited trial, but failed to scale beyond 20 to 30 users, according to Mark.

THE SOLUTION: Intelligently classify, monitor and accelerate strategic applications for real-time project collaboration

To help realize its ambitious vision of a "borderless organization" Burt Hill turned to its strategic partner, synergIT, Inc. (www.synergit.com), a Pittsburgh-based IT systems integrator with a broad portfolio of IT solutions. Based on Burt Hill's need for WAN acceleration, branch office connectivity and workforce mobility, synergIT recommended Packeteer as the only vendor able to satisfy all three needs. "Given the unique requirements presented by Burt Hill, we developed a short list of qualified vendor solutions pretty quickly," said Keith Kasten, senior account executive with synergIT. Keith particularly values the one-stop-shopping synergIT gets with Packeteer, explaining: "Packeteer is the only vendor that offers a combination of WAN application delivery, branch office and mobile acceleration solutions within a native Windows environment."

To overcome the challenges of transferring huge amounts of CAD and 3D modeling data between each of its domestic and international sites, Burt Hill deployed Packeteer's PacketShaper, iShared™ and Mobiliti™ solutions. By leveraging all three Packeteer product lines to connect its entire branch, remote and mobile workforce, Burt Hill now provides authorized employees immediate access to time-sensitive project data regardless of their location—and without requiring any WAN link upgrades to its network.

Executive Overview

BUSINESS PROFILE:

- Burt Hill is an award-winning architectural firm that specializes in designing energy-efficient buildings based on solid engineering and sound, sustainable design principles

INDUSTRY:

- Architecture, Engineering, Interior and Site Design

BUSINESS CHALLENGE:

- Leverage specific talent throughout the organization regardless of location
- Eliminate productivity problems caused by poor performance in the WAN
- Minimize the need for extraordinarily expensive bandwidth in Dubai, UAE
- Enable outsourcing of tasks to external partners in a virtual "borderless organization"

SOLUTION:

- Deployment of Packeteer iShared, PacketShaper and Mobiliti systems for real-time collaboration among all locations in the U.S. and the United Arab Emirates

BENEFITS:

- "Branch Office in a Box" software provides seamless integration with existing IT infrastructure
- Intelligent WAN acceleration reduces the time to transfer large files from minutes to seconds
- Mobile workers are now able to work effectively from laptop PCs utilizing dial-up connections
- Achieved a rapid return on investment from productivity improvements and avoidance of a costly WAN bandwidth upgrade

PacketShapers are being used to intelligently monitor and classify network traffic and optimize application performance between the Dubai, UAE facility, Burt Hill's largest office, and U.S. sites. As a branch-office-in-a-box, or BOB, the iShared system integrates WAFS and intelligent WAN optimization technologies to accelerate application performance and provide bandwidth-enhancing compression. Burt Hill is deploying the software-based FlexInstall version of the iShared platform, enabling the company to utilize existing server hardware in each of its branch offices. The company is also in the process of deploying Packeteer's Mobiliti software to many of its most mobile employees for accelerated access to centralized file servers. By automatically caching recently used file shares, remote and mobile users will have full access even if the link to the source server is temporarily unavailable.

"No other vendor we looked at could provide all three capabilities in support of an intelligent application acceleration solution," Dietrick explains, further elaborating on all three capabilities. "First, we needed a highly cost-effective solution to connect our Dubai and U.S. offices. Given the prohibitive cost of WAN links in the Middle East, we're leveraging the PacketShapers to intelligently identify, accelerate and optimize traffic, while using iShared WAFS in the U.S. to cache file transfers over a relatively inexpensive Internet/VPN connection. Second, we have a Windows-based storage and server infrastructure in place, and because the iShared software is a native Windows solution, we didn't have to install any new appliances. Now, business-critical files open in seconds instead of minutes and that's a huge productivity gain. And finally, the Mobiliti software is unique in that it will let mobile users pick any authorized folder on the network and cache it locally."

THE RESULTS: Dramatically improved performance and productivity without costly infrastructure or WAN bandwidth upgrades

The all-Packeteer solution is yielding significant benefits for Burt Hill. "Construction projects in Dubai are moving at a phenomenal rate," Dietrick claims. "We want to leverage our U.S. resources—knowledge and intelligence—as much as possible to better serve our clients, and save costs and the wear and tear of travel to that region. Now that we have real-time collaboration between the region and the U.S., we can effectively support the firm's international projects from the U.S., which represents significant cost savings. In addition, our marketing department can now centralize on-demand, high-resolution graphics that are cached in each office, which eliminates long delays for very large files to cross the WAN."

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- Keith Kasten,
synergIT, Sr. Account Executive

The ability to avoid an upgrade to WAN services in Dubai—currently the company’s largest office—contributed significantly to the rapid return on investment Burt Hill experiences with the Packeteer solution. A 2 Mbps MPLS connection in Dubai costs the equivalent of 40,000 USD per month. According to Dietrick, it was unrealistic to even consider such an expensive service, which is no longer necessary with the performance gains provided by the PacketShaper systems.

Burt Hill is now also extending its vision of the “borderless organization” to its external partners. The company is placing servers running iShared software in partner offices internationally to replicate its success with real-time collaboration internally. “Demand for worldwide construction projects is booming, and this requires strategic partnerships,” Mark noted. “Supporting these partnerships requires technology that can align project teams on a global basis. We’re making this a reality with Packeteer’s unique approach to erasing the boundaries between the local, branch, remote and mobile workforce.”

Quick Facts

COMPANY PROFILE:

- Burt Hill is an international architecture and engineering design firm whose clients include multinational corporations, government institutions, developers, nonprofit institutions, healthcare providers, colleges and universities. The firm offers a wide range of services, including architecture, engineering, master planning, interior design, landscape and research.

HEADQUARTERS:

- Pittsburgh, Pennsylvania

EMPLOYEES:

- 600+ Professionals

OF REMOTE SITES:

- 9

PERFORMANCE GAINS:

iShared Benchmark

File Size (mb):	6.70
Base Time (min):	3.20
mb/min:	2.09
Cached Time (min):	0.10
mb/min:	600.00

Savings Estimate

Number of Files/Day:	600.00
Approx Size per File (mb):	5.00
Total Data (mb):	3000.00
Base Time (min):	1432.84
Cached Time (min):	44.78
Savings (min/day):	1388.06
Savings (hrs/day):	23.13