

DOT HILL™

CASE STUDY

## SecureTek Leverages "Battle Tested and Approved" Dot Hill™ Products

Deep in the heart of Texas, SecureTek Group is doing its part to support our troops both state side and abroad. The company produces modular data centers using virtualization and thin client technology. Its Tech Pak solutions, which are scalable, manageable, deployable and available at a fraction of current infrastructure costs, have been installed the world over in support of war fighter integration and training requirements.

Known as Tech Pak solutions, SecureTek's modular data centers combine a high-speed server, high-capacity storage, IP network, SAN fabric, Keyboard Video Monitor (KVM) management station and uninterruptible power supplies to create a rugged, compact, portable data center environment. As a critical part of this offering, SecureTek chose Dot Hill System's high-performance Fibre Channel RAID solutions to stand and deliver on data storage requirements for its military customers.

Through this partnership, SecureTek and Dot Hill offer the military next generation data center operations that never back down.

### **SecureTek: Delivering Virtualization to the Front Lines**

The key to SecureTek's success in meeting the needs of its military customers is virtualization and thin client technology. "Virtualization technology enables government agencies and military installations to increase the efficiency and cost effectiveness of their IT operations," said Kelly Ross, executive vice president of SecureTek.

"While virtualization in and of itself is relatively simple, making it work is another story. It's the getting from Point A to Point B that's hard. You have to understand the client's networks, thin client and virtualization technologies, operating systems, and how to integrate all of these things very tightly. We provide this expertise and a big picture strategy that provides a clear roadmap and detailed project plan," Ross said.

So what qualifies SecureTek to deliver these solutions? The company has a master consulting agreement with Sun Microsystems and is very seasoned in working with Sun Solaris/ UNIX and Windows environments. SecureTek also has five engineers on staff who are certified in VMware. Additionally, in July 2007, SecureTek announced a partnership with Westar Aerospace & Defense Group, Inc., a QinetiQ North America company, to better support its Department of Defense (DoD) and mission-oriented government customers. The partnership enables SecureTek to leverage Westar's expertise in system engineering, software solutions, logistics information management, and IT technical services to support customers who use its enterprise hardware products and systems.

case study

# Rugged

"It's not just about technical expertise; it's also about the approach," said Ross. "While the technology and tools have evolved tremendously over the past few years, especially with the efforts of VMware, each project that SecureTek works on tends to be a custom. Rather than taking a shotgun approach and trying to do everything, we take a more focused approach and start with several small projects, talking to users in the field to make sure the right technology is applied to address the client's needs."

**The Dot Hill 2730 and 5730: Heavy Firepower, Small Form Factor, MIL-SPEC Storage Solutions**

Combining a high-speed server, high-capacity storage and uninterruptible power supplies, SecureTek's Tech Pak solutions provide a rugged, compact, portable data center environment. The solutions can operate from the controlled environment of a data center, or be transported and quickly assembled in the most remote locations. Dot Hill's 2730 and 5730 Fibre Channel products were chosen due to their scalability, flexibility, software features, ruggedness and affordability.

The Dot Hill 2730 has been adopted by a wide range of OEM partners as the foundation for best-in-class storage solutions. Ideal for a broad range of applications, the 2730 features the choice of two or four 4Gb Fibre Channel host interfaces and both Serial-ATA (SATA) and Serial Attached SCSI (SAS) disk drives with industry leading uptime. The 2730 offers scalability and flexibility, enabling customers to expand up to 56 high-performance SAS, low cost SATA-II drives or any combination of the two, for tiered storage implementations. The Dot Hill 5730 builds on the unprecedented feature set of the 2730, providing NEBS and MIL-STD 810f certification, DC power, extended capacity up to 108 drives, as well as some extended software features.

Ross says SecureTek's Army client was impressed with Dot Hill's 2730 product right from the start. "This product offers many features that are ideal for this market - size, disk drive density, redundancy in controllers and power suppliers. It provides tremendous capacity in a 2U form factor, and we like that the disk drives stack horizontally as opposed to vertically.

Figure 1:  
SecureTek's Modular Tech Pak Data Center



With one controller unit and up to four JBOD units (each 2U) the expansion capabilities meet all of our customers' needs. The unique battery-free cache in Dot Hill's products also lend themselves well to remote environments requiring higher reliability and less maintenance. The initial Tech Pak was released and has been well received using Dot Hill's 2730; however, we are very excited to release the next generation of the Tech Pak using the 5730. The higher performance 5730, with NEBS and MIL-STD 810f certifications as well as double expansion capacity of the 2730, is a perfect fit for the rugged and remote military applications targeted for the Tech Pak product."

Ross says he also appreciates the data management tools that are built into Dot Hill's entry level products. "With many storage solutions, there are added software licenses for just about everything. With Dot Hill, our customers don't have to pay for add-on features, which is a big plus."

# Battery-free cache

As a key go-to-market partner for Dot Hill, Ross says that Dot Hill has been very open with its product roadmap. "We like where the product roadmap is going - with faster speeds, and support for larger disk drives on the horizon." Ross says while he knows SecureTek is certainly not the largest Dot Hill partner, he is very bullish on the outlook for the type of virtualization use and expertise SecureTek offers. Additionally, Ross anticipates some very large opportunities in the near future as they continue to build relationships with their current client base and see some key deployments come to fruition on the horizon.

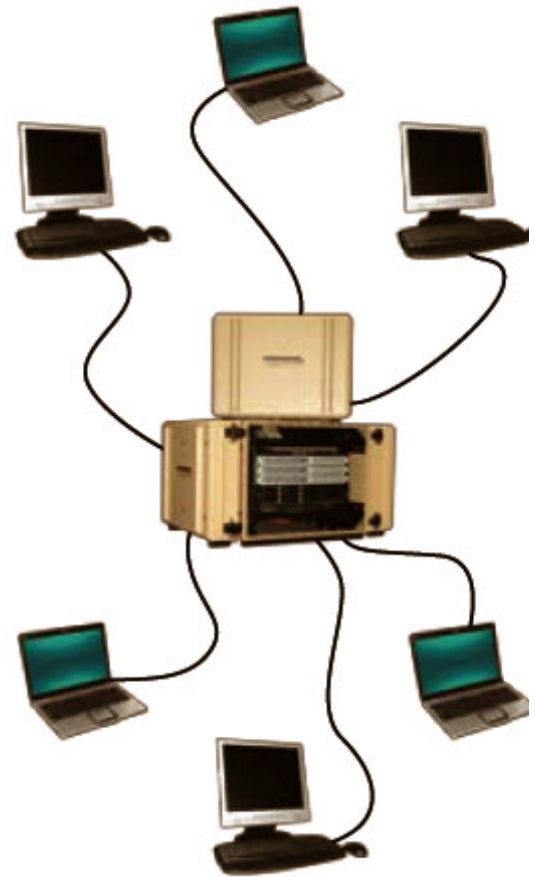
**Virtualization: The Secret Weapon for Streamlining Information Technology**

Ross is also bullish on VMware and its continued adoption. Already, through the power of VMware software and virtualization solutions, governments have been able to centrally manage their computing, storage and network environments while increasing server utilization, performance and system uptime, and reducing the cost and complexity of delivering enterprise class services. And this, is just the beginning, says Ross.

"VMware continues to expand the capabilities of the software and we expect there are many innovative applications for virtualization technology on the horizon." Ross sees continued growth in virtualized users desktops and virtualization of storage via thin provisioning. "With data growing at ever increasing rates, it's the way of the future - with the amount of money you can save, you have to look at [virtualization technology]."

For military applications - especially those in the field - Ross explains that creating a 'stateless device' or thin client topology is ideal. "If a grenade lands in your camp, it's better to lose half your thin clients than half your PCs. Also, the cost and effort to maintain PCs is significant when you're half a world away." To help relieve this burden, Ross says some vendors have resorted to establishing IT vending machines. In military installations in Bagdad, for example, authorized personnel can obtain components such as video cards, memory and disk drives via such vending machines.

Figure 2:  
Virtualization with the Tech Pak Solution



But in the end, there's still the downtime, money and the manpower costs that must be factored into the overall equation. This is where thin clients and virtualization really pays off down the line - when you're "off the upgrade train, and you can take this money and invest its elsewhere."

# Virtualization

## Ready for Any Situation with High Availability and Data Backup

And this is yet another reason Ross is satisfied with the Dot Hill products - because they are ideal storage solutions to meet the needs of today and tomorrow's virtual environments having various high availability features, and overall system scalability.

Dot Hill's SimulCache™ technology leverages redundant RAID controllers, thus eliminating the performance degradation associated with conventional cache mirroring. The implementation of a high-speed dedicated PCI-Express bus streamlines write performance resulting in superior overall system responsiveness driving faster application throughput. Dot Hill's R/Evolution architecture products also provide the ability to address multiple application needs; as needs dictate, storage cache parameters can be tuned on a volume by volume basis - accommodating a wide range of storage requirements within a single array.

Additionally, Dot Hill's snapshot technology, known as AssuredSnap,™ provides a unique automated approach of looking in virtual machines, which results in improved data availability and business continuity. AssuredSnap creates a point-in-time virtual copy of data that the system can roll back to, in the event of data loss or corruption. All snapshots are preserved in the event of a roll back; AssuredSnap also features a unique roll forward capability. AssuredSnap features include writeable snapshots for real-time data mining, rapid application development, the preservation of original and written data, and snapshot reset for scripted backups.

To support future growth and market needs, Ross says SecureTek plans incorporate Dot Hill RAID technology into its larger data center packs that feature 72" racks. For his part, Ross is thankful to partner with Dot Hill and leverage the company's "battle tested and approved" storage technology.

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**Kelly Ross**  
executive vice president  
SecureTek Group

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## Contact us

For more information on Dot Hill storage solutions, visit Dot Hill's website at [www.dothill.com](http://www.dothill.com)

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