

Boots & Coots adopts virtual WAN acceleration to speed backup and disaster recovery

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Boots & Coots, International Well Control, Inc., a well control fire suppression and prevention company headquartered in Houston with offices worldwide, was facing a problem – the amount of data they were replicating multiple times each day for data protection was piling up and they were having queuing problems – replication jobs wouldn't have completed before the next job was scheduled to begin. After deploying Certeon's aCelera™ Sync WAN optimization software, they were able to replicate data without interruption and reduce their network bandwidth utilization by up to 90 percent.

The problem

Boots & Coots was experiencing the same troubles many organizations do in enabling data protection applications and disaster recovery across a wide-area network (WAN) -- issues such as latency, low bandwidth, network contention, out of order packets and packet loss that interfered with its efforts to meet their recovery time and recovery point objectives (RTO/RPO).

The company was unable to meet its backup windows, it had lost productivity for its IT administrators as they struggled to complete unsuccessful backups and they had to continuously spend for bandwidth that they might not otherwise need.

Dwayne McCoy, IT manager, had installed eight hardware-based WAN acceleration appliances in Boots & Coots offices worldwide to optimize the bandwidth and decrease latency of the replication process. He hoped in deploying these appliances to improve his backup process and be able to meet his recovery time and recovery point objectives. But, he was still experiencing problems.

"The first problem I was trying to solve was replicating a massive amount of data across a relatively small bandwidth," says McCoy. "I have 20MB of bandwidth between my two sites for disaster recovery and it was almost impossible to replicate the data without some type of WAN optimization."

McCoy snapshots about 50GB of data and replicates it across the WAN from Houston to Austin, Texas, using software included with his Dell® EqualLogic® PS Series storage area network (SAN). Depending on the business-criticality of the data, it is snapshotted every 30 minutes to once a day and replicated continuously to the Boots & Coots facility in Austin, Texas.

His RTO for the company's accounting and inventory software and a few file shares required for regulatory compliance is four hours. And his RPO is 30 minutes.

He used the hardware-based WAN acceleration appliances for several years and constantly struggled with three issues: the appliances were expensive, needed to perform better and be easier to deploy. In addition, he was not receiving the level of support that he needed from the vendor.

The solution

McCoy set out on a search for an alternative to his hardware WAN optimization appliances. A veteran of server virtualization – McCoy's IT staff had virtualized all of their servers on five VMware® ESX host computers – McCoy chose Certeon and its aCelera Sync software-based virtual appliance to meet his WAN optimization needs.

"I chose Certeon for several reasons," says McCoy. "Number one was its performance. Number two was the level of support and the quality of the employees that work at Certeon. And, number three was the cost – the aCelera Sync virtual appliance was significantly less than any other competition."

In 2009, McCoy deployed each version of aCelera Sync on its own dedicated ESX server. As a true virtual appliance, aCelera Sync leverages the scalability and ease of use features of virtualized environments. aCelera Sync accelerates data replication by removing network barriers such as low bandwidth, high latency, and network congestion which can cause many of the problems that Boots & Coots was experiencing with their backup environment. "Certeon's product works better than any other WAN optimization solution – it's more cost-effective and it's easier to deploy since it runs as a virtual machine. You download an image and you're done. And, it doesn't get any easier than that."

As a result of deploying aCelera Sync, McCoy has cut his latency between his two disaster recovery sites to 40 milliseconds. And, he says that without aCelera Sync, he wouldn't be able to replicate data and "offer the company up to 30 minutes of data availability and RPO. If I didn't have a WAN optimization appliance I would have to cut the amount of data I replicate in half, if not more."

McCoy adds, "The employees that work at Certeon are different than at any other company. They care. When you call for support, you don't get the typical 'is it plugged in' question. They handle you in a professional way but they are still relaxed. They don't pressure you."

The benefit

Since deploying aCelera Sync, McCoy has experienced a variety of other benefits. Among them are:

- A 90% reduction in backup and replication time, 3x faster than a hardware-based WAN acceleration appliance.
- An 86-92% reduction in network bandwidth utilization.
- A 50% cost savings from using the virtual appliance as opposed to a hardware-based appliance.
- A savings of \$700 a month in network bandwidth alone.
- A savings of \$2,000 a year for maintenance of the WAN optimization appliance.

Perhaps the most telling benefit of deploying Certeon's WAN acceleration solution is McCoy's closing comment: "If I did not have WAN optimization, I couldn't replicate data. I would have to have a fiber-optic connection between Houston and Austin and the cost wouldn't even be worth it. It just wouldn't work."

As for future plans, McCoy is bent on replacing all his hardware-based WAN optimization appliances with Certeon's aCelera Sync. "aCelera Sync is working as it should. It does everything it's supposed to do and is has better performance, is more cost-effective and has better support."

[Click here to view our interview with Dwayne McCoy, IT Manager, Boots & Coots.](#)

SSG-NOW Assessment

Storage Strategies NOW has looked at a variety of replication tools and given the impact this tool can have on a customer like Boots & Coats, we believe that the Certeon aCelera Sync product is in the category of “must evaluate” for enterprise customers. Easy to install, virtualized, centrally managed, and highly effective makes this product unique at its price point.

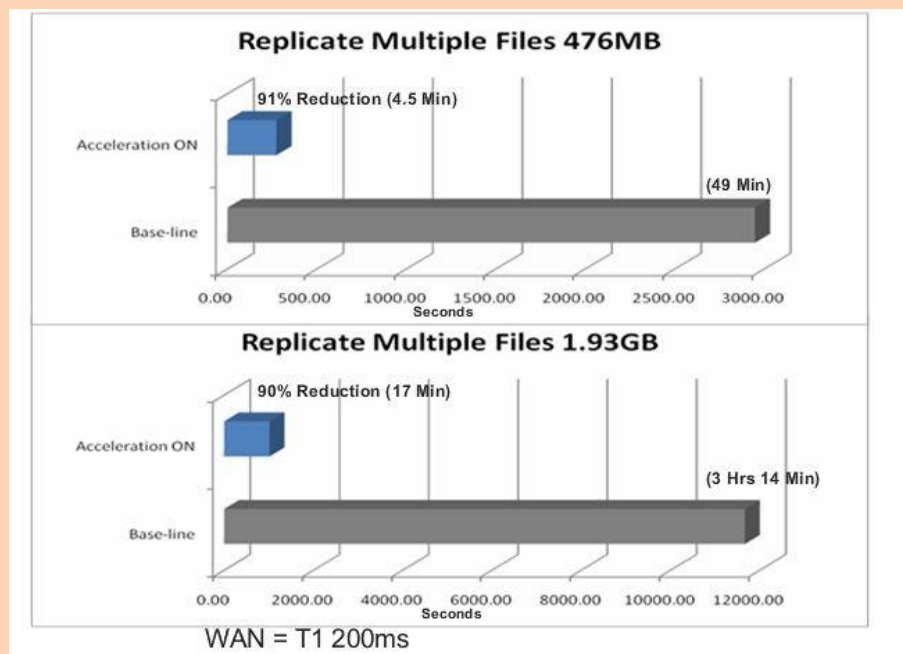
Market view

Application acceleration can improve backup, data deduplication, replication and mirroring application performance by as much as 95% and bandwidth cost by 60% by using the following technologies – compression, Quality of Service (QoS), TCP optimization and traffic shaping and prioritization.

With compression, the number of bits transmitted is reduced and excess information in the communication stream is removed, thereby speeding the backup applications in place. Quality of Service limits application access to the WAN – applications such as data recovery that need access can be assigned priority over less business-critical applications. TCP acceleration improves response time when TCP mistakes latency for congestion and tries to throttle back the rate at which data is sent. Traffic shaping and prioritization limits the amount of bandwidth different traffic types are allocated – data recovery operations can be granted not only a higher prioritization but more of the bandwidth of the WAN link.

In addition, application acceleration virtual appliances such as Certeon’s aCelera Sync software perform history-based differencing – aCelera Sync’s history store keeps a large amount of previously transmitted patterns, which makes it easy to recognize previously transmitted redundant data and deduplicate it.

Results from Certeon’s labs, show as much as a 91% reduction in data replication time:



All in all, WAN acceleration allows more data to be moved in less time over smaller network pipes. It allows improved disaster recovery service levels for businesses and improves RTO and RPO by shrinking backup windows. And acceleration allows the amount of bandwidth needed to be decreased and delays the acquisition of more bandwidth.