COMMUNITY BANK INVESTS IN SILVER PEAK TO OPTIMIZE EQUALLOGIC REPLICATION

Hitting the speed of light might be impossible, but don't tell that to The Community Bank in Massachusetts. The local lending institution improved its EqualLogic replication times by 2,400 percent, dropping from a week-and-a-half to a matter of hours, all without purchasing additional bandwidth.

Like a lot of mid-size enterprises, The Community Bank was looking for a way to protect its mission-critical data from loss whether due to a CEO's too nimble fingers or a direct meteor hit. A Dell EqualLogic iSCSI Storage Area Network (SAN) provided just the answer, enabling the Bank to replicate five-minute snapshots of the data to a server.

Replicating data to the server was nearly instantaneous – as long as the server was located within the same data center. But when the Bank planned to move the server to a Disaster Recovery (DR) location just 10 miles away, testing showed that replication times would soar to 10 days, far exceeding the Bank's RPO of 8 hours.

At first, purchasing additional bandwidth seemed like the logical solution. The primary site had a 10 Mbps circuit to the MPLS network, largely dedicated to replication with some traffic from less critical applications. The DR site had a dedicated 10 Mbps circuit, too, with other branches connected at T1 speeds (1.544 Mbps).

Upon further inspection, The Community Bank determined that purchasing additional bandwidth would cost at least another $2,500 per month at the headquarters and the DR site. In addition, more bandwidth does not always equate to better performance when packet delivery issues are present on the WAN.

Instead, a trusted partner of The Community Bank, KCF Consulting, recommended that the bank investigate Silver Peak as a complement to their EqualLogic replication. Such an approach would reduce data replication times by compensating for limitations in the WAN while providing The Community Bank even greater flexibility in the design of its DR solution.

A SMART INVESTMENT

Silver Peak is uniquely qualified to address these replication challenges. The three core technologies of any Silver Peak WAN optimization solution – Network Integrity, Network Acceleration, and Network Memory – tackle the challenges that inhibit replication across MPLS networks:

Network Integrity enables organizations to reduce costs of their DR plans by selecting a less expensive network connection, such as an Internet connection or an MPLS service instead of a leased line, which might have higher incidents of packet loss than a leased line. This is possible because Network Integrity corrects in real-time the packet loss commonly found on shared networks using Silver Peak's Forward Error Correction (FEC). Packet Order Correction (POC), the second part of Silver Peak's Network Integrity features, will reorder Out of Order Packets (OOPs) helping to reduce or even eliminate network packet retransmission, which reduces an application's maximum throughput. Advanced Quality of Service (QoS) techniques also prioritize traffic and guarantee network resources.

Network Acceleration enables organization to place DR sites as close or as far from the site primary site as necessary without regard to constraints imposed by network latency. Network Acceleration addresses latency problems by overcoming TCP's limitations in passing large data volumes. Network Acceleration uses techniques such as window scaling and selective acknowledgements; Network Acceleration also corrects CIFS chattiness, which was an issue for certain applications sharing the line with EqualLogic.

Network Memory enables organization to get more out of their DR connections. Network Memory is Silver Peak's patent-pending solution for deduplication over the WAN, which reduces the volume of data replicated over the WAN. With Network Memory, the Silver Peak appliances inspect all traffic sent between the bank's headquarters and the DR site, storing that information as a local instance. Repetitive information is then delivered locally rather than being sent across the WAN, improving application performance and WAN utilization.

A STRONG YIELD

The Community Bank decided to test the Silver Peak solution by replicating 135 GB of EqualLogic data across a 9.5 Mbps tunnel between the headquarters and the DR site.

"There's no way this will all finish tonight!" said The Community Banks' IT manager prior to the test. Just 5.5 hours later the replication job finished, however, showing a 52 Mbps average throughput over the WAN.

The reason for this significant improvement in performance was a mix of factors. The bank had over 20% out of order packets (OOP) on their MPLS WAN, which was undermining throughput. Silver Peak's Network Integrity features reduced this to zero. What's more Silver Peak's Network Memory reduced the 135 GB traffic transmitted on the line to under 20 GB, improving available WAN bandwidth by over 85%.

But great performance wasn't the only benefit of Silver Peak. With Silver Peak's web-based user interface, The Community Bank received unparalleled insight into the performance of their WAN, including detailed statistics pertaining to bandwidth, latency, lost/out of order packets, and application performance. "We found out more about our traffic with Silver Peak than we did with third party monitoring tools," said the IT manager.

BOTTOM LINE

The Community Bank chose to deploy Silver Peak's solution in all locations, and expects to see a complete return on investment within 11 months. Performance continues to be very strong "This box has been even better than we had hoped," said the IT manager.

With the Silver Peak-EqualLogic replication solution, The Community Bank realized faster replication at a lower price point than alternative approaches, enabling the company to meet its strict RPO guidelines. What's more, the organization positioned itself for the future so it could improve the performance of all future applications with little or no additional investment. By deploying Silver Peak with EqualLogic, The Community Bank made a solid investment that will yield significant IT gains for many years to come.

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