

Improving SLAs with Faster Processing Powered by HGST FlashMAX[®] II and HGST Virident Share Software

LINK4

Challenge

With hundreds of sales people and thousands of transactions each month, Link4's IT team was having trouble keeping up with the commission process and the 24-hour SLA at month-end close using its existing Storage Area Network.

Solution

This solution featured two FlashMAX 1.1TB cards, one per server, pooled together with HGST Virident Share software. The PCIe flash cards were installed in the existing two database nodes. The servers were connected using two, back-to-back, InfiniBand links for low-latency access to the flash storage across the servers.

Benefits

HGST Virident Share software allows a RAC cluster to use FlashMAX II PCIe SSDs inside the database servers as a shared primary storage, a unique capability in the industry for PCIe flash cards.

LINK4 TU SA is the leader of the direct insurance market in Poland. It launched its operations in January 2003, as the first company to sell motor insurance exclusively via phone and Internet. LINK4 offers motor, housing and tourist insurance to individual customers. Its business model is based on phone and Internet distribution of policies and centralized individual premium calculation. Both of these sales channels are available to and targeted at every driver in Poland.

As a result insurance prices offered by LINK4 are often lower than those from traditional insurance companies. Advanced technology means 24-hour access to professional services and post-accident assistance at a single telephone number – 22 444 44 44 – from anywhere in Poland. Customers can quickly and effortlessly insure their cars, receive helpful assistance in case of an accident and in repairing damaged cars (or they can choose to receive compensation for it). Being a Link4 customer means help will reach you within maximum 30 minutes regardless of where you are. If your car is stolen or you want to file a claim you can report it immediately by the phone, even if you don't have the car registration documents with you.

LINK4 has received numerous awards and honors; it is the first Polish direct insurance company to obtain the ISO 9001:2001 certificate in claims management.

LINK4 has its registered office in Warsaw, at Postępu 15. It operates 24 hours a day, 7 days a week, 365 days a year, at a single telephone number (0-22) 444 44 44. In mid-2007, LINK4's parent company formed a joint venture with the British insurance group Royal & Sun Alliance. The company is a member of the Business Centre Club – an organization of entrepreneurs founded in 1991. An invitation to join BCC was sent to LINK4 in recognition of its reliability and credibility as well as appreciation of its merchant ethics and professional conduct.

For Poland's leading provider of on-line direct insurance, a happy sales representative is a productive sales representative, and one of the best ways to keep reps happy is to pay them commissions, accurately and on time. With hundreds of sales people and thousands of transactions each month, LINK4's IT team was having trouble keeping up with the commission process and the 24-hour SLA at month-end close using

its existing Storage Area Network. That's when Wojciech Twaróg, IT Relationship Manager, turned to HGST, a Western Digital company, for a unique shared storage solution featuring HGST FlashMAX II hardware and HGST Virident Share software. The result was Flash Platform with an impressive 5x improvement in performance with a minimal investment of time and money.

“The effort was minimal and the results were impressive. We saw 5x improvement in response times and avoided a significant expense for a SAN upgrade.”

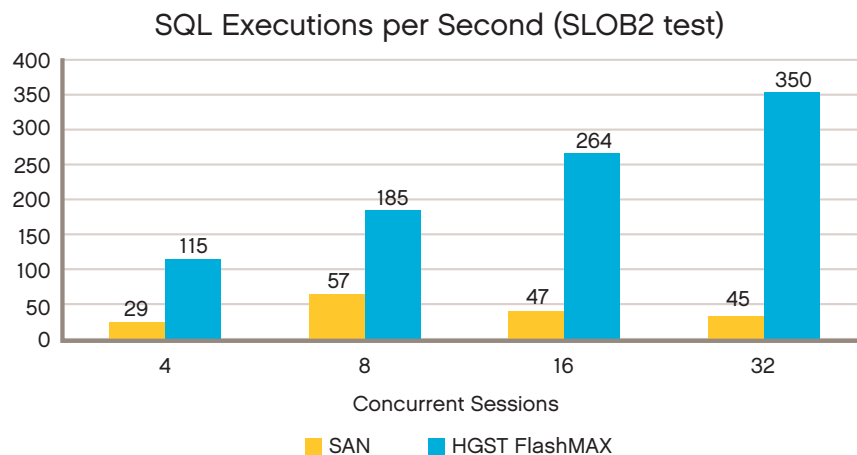
– Wojciech Twaróg, IT Relationship Manager

The HGST Flash Platform Solution was deployed in an Oracle RAC 11.2 environment running on Oracle Linux 6 with UEK kernel. Leveraging Oracle's Automatic Storage Management (ASM) as the volume manager, HGST Virident Share software allows a RAC cluster to use FlashMAX II PCIe SSDs inside the database servers as a shared primary storage, a unique capability in the industry for PCIe flash cards.

This solution featured two FlashMAX II 1.1TB devices, one per server, pooled together with HGST Virident Share software. The PCIe flash cards were installed in the existing two database nodes. The servers were connected using two back-to-back, InfiniBand links for low-latency access to the flash storage across the servers. The hardware upgrade of the database servers was done while the cluster was still running the production database. Then the database was copied from the SAN to the new primary flash storage.

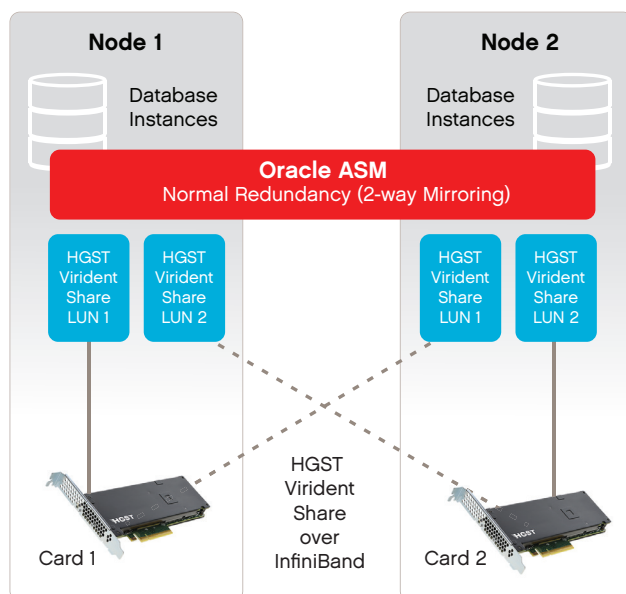
“The effort was minimal and the results were impressive,” stated Wojciech. “We saw 5x improvement in response times and avoided a significant expense for a SAN upgrade.”

Later LINK4 performed SLOB2 tests and saw 3x to 23x higher SQL executions per second compared to the SAN.



“We are pleased with the support we receive from HGST. There was some minor tuning that they did to improve performance, but generally, the solution worked right out of the box,” said Wojciech. “We have been in production for several months with no issues.”

The environment at LINK4 leverages a 2-node RAC cluster with HGST Virident Share software that creates a shared pool of storage for ASM. A logical diagram of the solution is shown above.



*HGST Virident Share provides low latency shared access to flash
Oracle ASM provides volume management and data mirroring.*

For more information on HGST's Oracle and Oracle RAC solutions please visit HGST at www.hgst.com or learn more at the following link.

http://linux.oracle.com/pls/apex/f?p=102:2:3729061132951830::NO::P2_VC_ID:649

© 2014 HGST, Inc., 3403 Yerba Buena Road, San Jose, CA 95135 USA. Produced in the United States. All rights reserved 8/14. Other trademarks are the property of their respective companies.

FlashMAX is a registered trademark of HGST, Inc. and its affiliates in the United States and/or other countries.

HGST trademarks are intended and authorized for use only in countries and jurisdictions in which HGST has obtained the rights to use, market and advertise the brand. Contact HGST for additional information. HGST shall not be liable to third parties for unauthorized use of this document or unauthorized use of its trademarks.

References in this publication to HGST's products, programs, or services do not imply that HGST intends to make these available in all countries in which it operates. Product specifications provided are sample specifications and do not constitute a warranty. Information is true as of the date of publication and is subject to change. Actual specifications for unique part numbers may vary.

Please visit the Support section of our website, www.hgst.com/support, for additional information on product specifications. Photographs may show design models.