Perfonics™ Case Study

Industry: Financial

7/9/2010
Interscape Technologies Inc.

Data Storage Consolidation Planning
and Efficient Migration Planning

Challenge:

One of the largest US based investment bank was planning to migrate a data center from New York to New Jersey due to the lease being up. The data center migration was going to involve over 5000 open systems servers, of which over 2000 were SAN attached to EMC Symmetrix and CLARiiONs. There was over 2 PetaByte of raw storage and multiple tiers of storage on over 22 Symmetrix Arrays running in synchronous SRDF mode and another 25 CLARiiONs with various models. A quick analysis needed to be performed to assess the performance resource and capacity requirements.

As part of the migration project, the Bank also wanted to do a assessment on what assets to keep and which assets to refresh, keeping in mind the total migration plan and the timeframes involved.

Current Storage Infrastructure:

Arrays: 22 Symmetrix (DMX-2000, DMX-3, DMX-4) & 25 CLARiiONs (CX-600, CX-700, CX3-80, CX4-80)
SAN: Multiple Distributed SAN Fabrics
Switches: Cisco (9513) and McData (ED-64M, ED-140M)
Replication: Synchronous SRDF, SRDF/A, SANCopy
Server Count: over 2000
Server OS: Linux, Solaris, AIX, Windows

Solution:

Interscape Technologies Inc worked with EMC Professional Services to leverage the **Perfonics™** toolset to do a full storage assessment from performance requirements and capacity planning perspective. The plan was to do a quick and efficient assessment on all storage arrays, determine the servers attached to them, look at there capacities and performance requirements and come up with a storage consolidation plan to minimize on storage array purchases.

All the performance and configuration data was collected on the client site and ftp'ed to Interscape ftp site for analysis. The team at Interscape used the automated process for Perfonics™ toolset to extract and load the database to enable the performance expert to come up with a detailed Array level consolidation plan. Once the tool was provided the target configurations for the DMX-4 Arrays, the tool created PDF reports to show the best fit consolidation plan

Results:

- Performance and Capacity Planning analysis using Perfonics™ application, we were able to quickly model the best source to target consolidation ratio with increased IO performance.
- 22 Symmetrix DMX models were consolidated into 4 DMX-4 models, optimized for front-end and back-end performance. Analysis was able to prove that using 360 300GB 10K RPM Fibre Channel disks per array will provide
- Perfonics allowed to factor in desired growth headroom for performance and capacity at each component level (FA, DA and Disks).
- Perfonics incorporated IOPS, MBPS, FAN-OUT, Masked device count etc into the modeling thresholds to provide for most efficient target layout
- Detailed Heat Charts showed one page view into the target model
- Target bin file requirements for Symmetrix was generated by Perfonics™
- Detailed Front-End port level plan was laid out server by server to help create the migration plan
- Perfonics generated the storage provisioning and zoning scripts to reduce the number of migration steps during the day of migration
-

In Future:

- Perfonics™ applications SaaS model will be leveraged to provide periodic baseline performance analysis of all storage arrays and server IO profiles. These can be used to provide Line of Business users to satisfy their SLA's
- Perfonics™ application can be used to pro-actively scan server IO profiles at the array level to create a tiering strategy for to enable green storage initiatives by maximizing footprint densities without impacting IO performance