

How Cisco IT Achieves Subminute Recovery Point Objective

Fibre Channel over IP solution overcomes latency inherent in long-distance replication.

BUSINESS BENEFITS

- RPO of less than one minute
- RTO measured in minutes instead of hours
- Single SAN view of four data centers

“FCIP creates huge benefits for business continuity at Cisco. It improved RTO, reduced our RPO to under 60 seconds, simplified data mobility by enabling us to offload database replication from the hosts to the storage arrays, and enabled us to centralize SAN management.”

– Rich Harper, ERP Storage Architect for Cisco IT’s Enterprise Storage Services Group

Cisco Systems® maintains mission-critical production ERP databases in San Jose, California and a disaster recovery (DR) and development site 3000 miles away in Research Triangle Park (RTP), North Carolina. During failover, Cisco IT strives for the best possible recovery point objective (RPO), which refers to how up-to-date the database is when restored, and recovery time objective (RTO), which refers to how long it takes to bring the DR database online.

Meeting these goals in Cisco’s SAN environment required overcoming the latency inherent in replication over long distances. EMC Symmetrix Remote Data Facility (SRDF), which Cisco used for local database replication, would introduce too much latency for long-distance database replication. And Cisco’s usual electronic journaling process posed problems of its own, including the high management overhead associated with host-based archive-replication

scripts for each database on each host. What’s more, if Cisco failed over the production database to the DR site, the process of failing back required an extended outage while the entire database was replicated back to the primary site.

Using fibre channel over IP (FCIP) with EMC SRDF/A (asynchronous), Cisco achieved sub-minute RPO over the 3000-mile distance. EMC SRDF/A can sustain a long-distance, consistent production image between databases and also avoids latency.

Greatly reduced RTO. Cisco also now enjoys an RTO measured in minutes instead of hours.

Faster database refreshes. When necessary, Cisco IT can refresh a 4TB database over the WAN in approximately two hours compared to 24 hours previously.

Better WAN utilization. By transferring relatively small archive logs and redo logs—which Cisco’s OC-12 corporate WAN can accommodate—Cisco achieved the same RPO possible if it also transferred the larger data volumes, which would have required an upgrade to OC-48.

Conservation of host resources. Frame-to-frame transfers avoid the need to assign host resources to replication tasks. And in RTP, Cisco IT no longer needs to assign a partition to a development host for DR.

Incremental relationship between production and DR databases enables failback without downtime

Case Study: http://www.cisco.com/en/US/about/ciscoitwork/case_studies.html

FOR MORE INFORMATION

To read the entire case study or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT www.cisco.com/go/ciscoit

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