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Case Study

Brocade® Support Link's Best Practice Assessment Takes the Guesswork Out of Your SAN

Review of Three Large Enterprises

This case study reviews three different large enterprises and their experience using the Brocade® Support Link (BSL) Best Practice Assessment (BPA). The Best Practice Assessment is a proactive, comprehensive evaluation and analysis report. It provides validation of SAN design and configuration, health monitoring, and analysis of firmware levels and device compatibility. It also provides a detailed list of identified issues and potential areas of concern, along with easily actionable, recommended solutions. The Best Practice Assessment is available with Brocade Support Link and is included in all Brocade Direct Support and Brocade Supplemental Support plans. BPA includes the following features:

- **Summary Health Status Scorecard:** An easy-to-understand summary of the health and status of your SAN in an easily sharable format for senior management.
- **Actionable Recommendations:** Comprehensive recommendations delivered to the user based on over 25 years of Brocade experience. Includes explanations and specific changes to improve performance and reliability in the SAN. Reduces the need to refer to administration guides or manuals.
- **Fabric Inventory and Port Performance:** A comprehensive spreadsheet of all switches and fabrics within the environment as well as performance metrics for all ports.

Benefits

- Validation of security configurations across all switches in the SAN
- Proactive evaluation and analysis from Brocade experts on the SAN architecture, firmware, and device compatibility
- Improved efficiency and SAN optimization through weekly SAN performance and reliability reports and detailed inventory updates
- Decreased troubleshooting and time to resolution
- Reduction in maintenance time and overall operations costs

Customer 1

A global wireless communications provider.

- Provides voice, data, and video connectivity and services to hundreds of millions of people
- Supports wireless network applications and infrastructure with data centers across North America
- Employs over 100,000 people, serving individuals and businesses globally

Environment

- Infrastructure
  - Open systems supporting voice, data, and video connectivity applications
- Hardware
  - Brocade X6 Directors and Brocade DCX 8510 Directors
  - Pure Storage and NetApp flash storage arrays
- Brocade Support and Services
  - Brocade Premier Support
  - Brocade Support Link (BSL) with Best Practice Assessment (BPA), Automated Case Creation (ACC), and Data Collection Assistant (DCA)

Issue

As a global wireless provider, this customer connects millions of people, companies, and organizations. Operating on a global scale comes with unforeseen complexities that often hide configuration and degrading performance issues until it is too late. In this case, the global wireless provider was not aware of the security and performance issues associated with the misconfiguration of their SAN. Simply by enabling BSL in the customer's SAN environment, the Best Practice Assessment analysis immediately identified the following areas of concern:

- Security settings: SNMP and HTTPS were incorrectly configured on some switches.

  Implementing the SNMP and HTTPS configuration changes greatly improved the security of the 3000+ ports in the SAN.
- Single point of failure: A single port trunk was identified.

  Ensuring that all trunks have at least two links improved the performance and availability of the links between the directors, since multiport trunks load-balance data while also providing failover.

Solution

As a Brocade Premier Support customer, the global wireless provider had deployed BSL and was using BPA. Their first report identified multiple critical items that needed immediate action. The assessment identified potential security and performance configuration issues associated with their SAN. The concise description and recommendation in the BPA report helped the global wireless provider fix the issues in the next scheduled maintenance window, ensuring the security and reliability of the network. After the first report, this global wireless provider specifically stated how valuable they found the analysis included with Brocade Support Link and that the functionality puts Brocade support offerings ahead of other vendors.

Customer 2

A large insurance provider that offers insurance and wealth management products in North America and Europe.

- Provides services and applications for insurance and wealth management products
- Employs over 10,000 people, serving clients across North America and Europe

Environment

- Infrastructure
  - Mainframe and open systems
- Hardware
  - Brocade X6 Directors, Brocade G630 Switches, and Brocade 7840 Extension Switches
  - Cisco UCS servers
  - IBM SVC and Dell EMC VMAX storage arrays
- Brocade Support and Services
  - Brocade Premier Support
  - Brocade Support Link (BSL) with Best Practice Assessment (BPA), Automated Case Creation (ACC), and Fabric Analytics

Issue

The insurance provider recently replaced their legacy 8G SAN infrastructure with 32G Gen 6 products. Although the customer believed that they had configured the new environment correctly, after a month, link issues started to occur with their Cisco UCS servers. After one of the links temporarily went offline, multipathing moved all traffic over to an active link. However, when the original link came back online, traffic was not being routed back to this link. This issue was caused by a misconfiguration of the Slow Drain Device Quarantining (SDDQ) setting on the G630 switches and the UCS rebalance feature not being active.

Solution

The insurance provider is a Brocade Premier Support customer and implemented BSL during the infrastructure refresh process. The analysis included in a Best Practice Assessment report clearly showed that the SDDQ and UCS rebalance features were not active and were misconfigured between the Brocade G630 Switches. The customer has a Support Account Manager (SAM), included with Brocade Premier Support, to serve as their single point of contact for all support-related activities. By reviewing the BPA report findings and recommendations, the SAM was able to help in immediately troubleshooting the issue and correcting the misconfiguration. Since this incident, the insurance provider regularly reviews their BPA reports and has confidence that their SAN configuration is always up to date.

Customer 3

A large stock exchange company in North America that supports daily transactions for derivatives, equity, and fixed-income trades.

- Provides the infrastructure to facilitate the buying and selling of securities and other financial instruments
- Has multiple data centers across North America and Europe

Environment

- Infrastructure
  - Open systems servers, storage, and network
  - Data center that supports business continuity and disaster recovery over dark fiber
  - Third-party IP WAN connections over 500 miles
- Hardware
  - Brocade X6 Directors, Brocade DCX 8510 Directors, and Brocade 6510 Switches in redundant fabrics
  - Cisco UCS servers
  - Pure Storage and Hitachi Vantara storage
- Brocade Support and Services
  - Brocade Premier Support
  - Brocade Support Link (BSL) with Best Practice Assessment (BPA), Automated Case Creation (ACC), and Fabric Analytics

Issue

The large stock exchange company recently implemented Brocade X6 Directors as part of a technology refresh of their legacy Brocade 8G infrastructure. After implementation, the customer wanted to validate that their new devices were configured correctly, but did not have an easy method to identify what should be checked. They needed tools that could easily validate their SAN architecture, firmware, and ongoing configuration changes, both locally and across replication sites over 500 miles away.

Solution

The BPA reports automatically validated the local configuration as well as their remote directors connected over distance via dark fiber. When the large stock exchange company ran the BPA report, it showed that several configuration items were incorrectly set up or completely missing.

Specifically, Brocade Monitoring and Alerting Policy Suite (MAPS) was misconfigured. MAPS is part of the Brocade Fabric Vision® feature set, which proactively monitors the health and performance of the SAN infrastructure to ensure application uptime and availability. The large stock exchange company had MAPS set to a policy that was not appropriate for their environment, reducing the important health and performance notifications due to very high threshold settings. The customer needed to lower the violation thresholds in order to generate alerts earlier and identify any issues in order to reduce the potential impact on the business.

After engaging with the Brocade SAM and reviewing the BPA report, the customer adjusted the MAPS policy, resulting in more aggressive notifications. These changes immediately identified that several of their Cisco UCS servers were running at 100% utilization. Based on recommendations from the BPA report, the customer was able to identify a feature included as part of the X6 technology refresh that they were not utilizing properly.

Summary

The Best Practice Assessment, available as part of Brocade Support Link, simplifies management and helps organizations dramatically reduce the time it takes to identify a problem; and it maximizes the performance and availability of the SAN. The analysis included in the Best Practice Assessment leverages over 25 years of Brocade SAN knowledge to provide customers with the most comprehensive evaluation and analysis possible as well as actionable recommendations to help immediately remediate issues.

To learn more about Brocade Support Link and the Best Practice Assessment report, please visit www.broadcom.com or email us at BSL.Inquiries@broadcom.com.

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