

BROCADE GLOBAL SERVICES

Industry-leading expertise to design, implement, optimize, and support networking infrastructures



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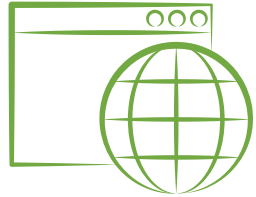
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As an industry leader in data center networking, Brocade enables today's complex, data-intensive businesses to achieve non-stop networking, application optimization, and investment protection. With more than two decades of experience and trusted leadership in networking infrastructure solutions, Brocade® Global Services helps organizations reduce the cost and complexity of their IT environments, gain operational efficiencies, enable cost-effective growth, and reduce business risk.

Organizations look to Brocade Global Services to help them design and deploy solutions for their unique environments. Brocade combines new technology and product expertise with a complete range of services to meet critical business requirements across a wide variety of infrastructures, including Storage Area Network (SAN), IP network, and Ethernet fabric environments. Brocade Global Services is available worldwide, helping to keep organizations running smoothly and efficiently around the clock.

Brocade Global Services offers a broad portfolio of end-to-end services comprising:

- **Technical Support:** Brocade Technical Support offers personalized, preferential, and proactive support to help organizations maximize network availability and performance.
- **Professional Services:** Brocade Professional Services offers best-practice design, implementation, and management expertise to optimize operational efficiency within the data center.



TECHNICAL SUPPORT

Today's business and economic environment is driving new challenges for organizations, placing increased pressure on IT organizations to manage a growing and increasingly complex environment. Many of these organizations rely on Brocade Technical Support to help ensure that their network infrastructures are running smoothly in order to avoid business disruption and minimize risk.

Brocade Technical Support has more than two decades of networking expertise in mission-critical environments, a worldwide support infrastructure with seven technical assistance centers, 180 parts depots in over 40 countries, and a broad partner ecosystem, enabling organizations to focus on their core businesses rather than their networks.

Technical Support for All Brocade SAN and IP Networking Products

Brocade knows that customers have many different support requirements for maintaining complex networks. Brocade Global Services supports these data center fabrics and network infrastructures with flexible, multitiered support plans to meet customers' specific needs.

Brocade Direct Support

Brocade Direct Support provides a flexible and cost-effective approach to ongoing maintenance with a single support contact for all Brocade hardware and software solutions. It enables direct access to technical support expertise, accelerating problem resolution while reducing overall support costs.

Brocade Direct Support includes three support levels (Brocade Essential Support, Brocade Premier Support, and Brocade Premier Choice) with various hardware and software options, providing flexibility, choice, and resiliency to meet each organization's unique support requirements. Refer to Figure 1 for support tier details.

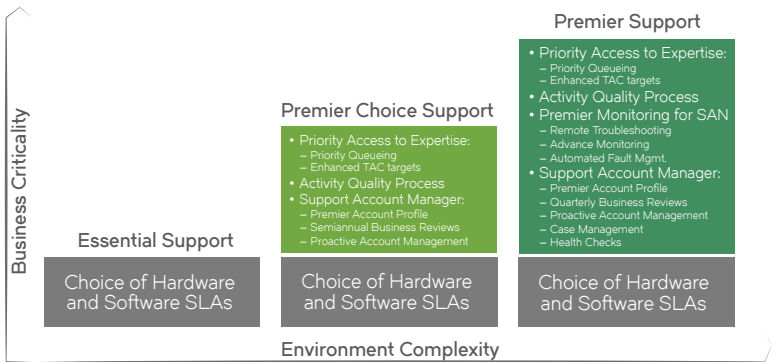


Figure 1. Brocade Direct Support Levels.

Brocade Essential Support

Brocade Essential Support quickly and efficiently addresses customer issues by providing software and hardware troubleshooting support. Brocade Essential Support includes 24x7 access to the Brocade Technical Assistance Center (TAC) (available through phone and the Web), software updates, online self-service tools, and several Service Level Agreement (SLA) options. Refer to Table 1 for SLA options.

Table 1. Summary of Brocade Service Level Agreements (SLAs). 2-hour response times are available in limited locations throughout the United States upon request.

| Support Level Agreements (SLAs) | Technical Assistance Center (TAC) | MyBrocade: Online Self Services, KB, and Case Management | Software Updates and Downloads |
|--|-----------------------------------|--|--------------------------------|
| • 4-hour ^{1,2} Onsite (-4OS) | | | |
| • 4-hour ^{1,2} Parts (-4P) | | | |
| • Next-business-day ^{1,2,3} Onsite (-NBO) | | | |
| • Next-business-day ^{1,2,3} Parts (-NBD) | 24x7 Access | Unlimited | Unlimited |
| • Return to Factory (-RFT) | | | |
| • Remote Support ⁴ (-RMT) | | | |
| • Software Support (-SW) | | | |

¹ Subject to customer providing Brocade with a description of the repair problem, part number, serial number, and return address. To determine if your specific location is within the required distance for a 4-hour or next-business day response please visit www.brocade.com/support-availability.

² Additional limitations and/or restrictions may apply. Hardware delivery times are based on a single point of failure incident. Delivery times for failures including but not limited to non-standard/variable configuration unit replacements, oversized/heavy weight items, or non-single point of failures may fall outside the posted SLA. Non-mechanical supplies and accessories (e.g. sheet metal, rack mounts, hinges, etc.) are excluded from the delivery SLA. Software version levels on replacement hardware may require upgrade/downgrade based on your current operating environment.

³ Next-business-day delivery is available when Brocade determines a replacement is required by 2:00 p.m. local time and customer distance from the nearest parts distribution center is within commercial carrier's standard next-business-day delivery area (some restrictions may apply). If customer location is outside the commercial carrier's next-business-day delivery area parts will ship the same or next day (2:00 p.m. local time cutoff for same day shipping, some restrictions may apply). Delivery times may vary due to customs and local regulations which are outside of Brocade control. Customers may be responsible for importation costs, brokerage fees, import duties, and taxes. Next-business-day is not available on selected holidays.

⁴ Available only for Brocade hardware products with Assurance Limited Lifetime Warranty (ALLW).

Brocade Premier Choice Support

Brocade Premier Choice Support is the middle tier support offering from Brocade; it provides customers with a subset of the proactive features included in Brocade Premier Support. In addition to all the features in Brocade Essential Support, Brocade Premier Choice Support customers also receive:

- Brocade Premier account profile
- Semi-annual business support reviews
- Accelerated escalation management (TBNs)
- Priority access to expertise (priority queuing and enhanced TAC SLAs)
- Access to the Brocade Activity Quality Process (AQP) twice a year
- Software recommendations for upgrades and releases
- Access to the Brocade Services Add-on Menu
- Unlimited⁵ access to Web-based training courses

Brocade Premier Choice Support includes a Support Account Manager (SAM) who is responsible for implementing preventative measures and ensuring optimal customer experience. Brocade Premier Choice SAMs provide guidance for optimizing Brocade networking infrastructures and help customers identify and understand the features available in each product releases.

⁵ Does not include Web-based versions of instructor-led course titles.

Brocade Premier Support

Brocade Premier Support is the highest level of support offered by Brocade. In addition to all the features included in Brocade Essential Support, Brocade Premier Support includes personalized, preferential, and proactive support features such as:

- Premier account profile
- Quarterly business support reviews
- Accelerated escalation management (TBNs)
- Priority access to expertise (priority queuing and enhanced TAC SLAs)
- Unlimited access to the Activity Quality Process (AQP)
- Software recommendations for upgrades and releases
- Access to the Brocade Services Add-on Menu
- Proactive bug notifications
- Network health checks
- Premier monitoring for SAN devices (including Remote Troubleshooting, Fault Management, and Proactive Monitoring)
- Unlimited⁶ access to Web-based training courses

Brocade Premier Support also includes a Brocade SAM. Brocade SAMs are knowledgeable about the customer's network topology and serves as a single point of contact for all Brocade Technical Support activities. As a key escalation contact for all Brocade software and hardware issues, Brocade SAMs coordinate activities between the customer and Brocade Technical Support engineers, streamlining communication and accelerating problem resolution. They also keep customers informed about key support matters by proactively communicating and coordinating with them on a regular basis.

⁶ Does not include Web-based versions of instructor-led course titles.

“My SAM couldn’t be more critical to my environment. I love having a single point of contact for all issues.”

—Storage Manager, Online Marketplace Company

For more information about Brocade Direct Support, visit www.brocade.com/technical-support.

Brocade Supplemental Support

Brocade Supplemental Support is for Brocade Premier Choice and Brocade Premier Support customers only. It is designed to augment existing support plans from Brocade OEM Partners and Brocade Solution Providers by providing customers direct access to Brocade Technical Support resources on a 24x7 basis. Brocade Supplemental Support provides easy access to software fixes and upgrades, helping organizations avoid problems while benefiting from new features and enhancements. Brocade Supplemental Support customers must have an existing support plan with a Brocade OEM Partner or Brocade Solution Provider that covers their hardware at a minimum. For more information about Brocade Supplemental Support, visit www.brocade.com/technical-support.

The Brocade Services Add-On Menu

Customers have their own unique requirements when it comes the type of support they need and how they receive it. To better cater to all types of customer environments, the Brocade Support portfolio now includes an add-on menu of features to supplement base support contracts. Customers with Brocade Premier Support receive the benefits of proactive and preferential support firsthand. The Brocade Services Add-On Menu builds on these same principles to provide additional flexibility with a set of features that reduce downtime and augment customer environments.

Table 2. Brocade Services Add-On Menu Items.

| Brocade Services Add-On Menu Item | Description |
|--|--|
| Fast Pass to Expertise ¹ | Accelerated access to expert Brocade engineers |
| Designated Business TAC ¹ | Access to TAC engineers specializing in business segments |
| U.S. Citizen TAC ¹ | Access to U.S. citizen-only TAC engineers |
| Secure Service | Replacement products without having to return defective device |
| Security-Cleared Resources | Access to Brocade resources with security clearances |
| Onsite Support Engineer (OSE) | Access to a full-time onsite support expert |
| Network Monitoring Service (NMS) for SAN | Remote Troubleshooting, Fault Management, Proactive Monitoring, and more |
| Professional Services by Day | Professional services in daily increments |
| Testing as a Service (TaaS) | Network Augmentation Proof of Concept |
| Training Units | Convenient method of payment for Brocade Education courses |

¹ Add-on subject to availability.

Each add-on menu item is sold separately in addition to Brocade Premier Choice. For more details about the Brocade Services Add-On Menu, refer to the Brocade Services Add-On Menu Data Sheet.

Fast Pass to Expertise

Brocade understands that many of its Brocade Premier Support customers work tirelessly on troubleshooting issues prior to contacting Brocade. This offer is available to help customers who call in with critical cases after extensive troubleshooting internally. Fast Pass to Expertise provides customers with Severity Level 1 and Severity Level 2 cases faster access to the most experienced engineers at Brocade.

Customers with this service should call the TAC as they normally would with a Severity Level 1 and Severity Level 2 case. Once it has been confirmed that the case is critical and the customer has done the necessary troubleshooting on their end, the customer will be immediately routed to an expert-level engineer who will then drive the case to resolution. After the case is flagged as a Fast Pass case, all future calls with that serial number will get routed directly to an expert.

Designated Business TAC

Brocade recognizes that many of its support customers come from similar industries and leverage many of the same Brocade product solutions. Due to these similarities, Brocade has created designated TAC groups to identify, support, and resolve customer issues faster.

Designated TAC teams stay current with customer network typologies and have regular interaction with the Brocade SAM to stay up to date with the customer environment. This increased level of familiarity with the account helps streamline communication, resolve issues faster, and avoid problems. Customers with this offering open cases through their normal channels and then get routed quickly to their designated TAC team.

U.S. Citizen TAC

As security requirements expand and become more stringent, Brocade provides the support offerings to meet them, including a targeted support offering for customers that require U.S.-citizen support only.

The U.S. Citizen TAC offering is available to U.S. federal customers that can only be assisted by Brocade TAC engineers who are U.S. citizens. Customers with this service that call into Brocade will be routed to a designated TAC staffed with U.S. citizens only.

Secure Service

Brocade offers a Secure Service option for customers with secure environments. Secure Service is an add-on to the existing support contract, which allows customers to receive replacement products without requiring the return of the defective product. Customers are responsible for destroying the existing hardware and providing proof of destruction documentation. Hardware delivery times are in accordance with the contract Service Level Agreement.

Security-Cleared Resources

Customers with unique security requirements will receive security clearances to utilize Brocade resources such as OSEs, SAMs, and BRCs. Secured resources from Brocade can accommodate a wide variety of the clearance levels and stay up-to-date with clearance requirements.

Onsite Support Engineer

In today's business climate, IT organizations with growing and complex networking infrastructures often find themselves short on time and resources—making it difficult to meet the needs of the business while performing daily support and management activities. As increasing headcount is not always an option, this service includes a Brocade Onsite Support Engineer (OSE), in addition to the services of a Brocade Premier Support agreement. Brocade OSEs work side by side with a customer's IT staff, providing onsite technical expertise to keep Brocade Storage Area Network (SAN) and IP networking environments running smoothly.

Brocade OSEs are senior technical professionals who have in-depth expertise and certifications in Brocade hardware and software products. As focused support contacts for all Brocade solutions, Brocade OSEs facilitate communication and provide proactive coordination of problem escalation and change activities, accelerating resolution, and improving operational efficiency. These engineers have access to vast Brocade resources and can leverage strategic Brocade partnerships to quickly troubleshoot and resolve issues in complex environments.

Network Monitoring Service for SAN

With the Brocade Network Monitoring Service (NMS) for SAN, organizations can reduce downtime significantly, leading to cost savings and increased productivity. Brocade NMS consists of four core components designed to maximize network availability and performance:

- **Automated Fault Management:** One-way SNMP trap for forwarding and filtering that enables Brocade to view and proactively respond to issues.
- **Proactive Device Monitoring:** Two-way SNMP polling that ensures connectivity or environment threshold exceptions.
- **Remote Troubleshooting:** Remote access through secure shell that accelerates diagnostic data collection, reducing the burden of capturing and sending diagnostic data to Brocade.
- **Advanced Analytics:** A real-time dashboard accessible through MyBrocade provides visibility and the insight required to be proactive, predictive, and transparent in network management.

Professional Services by Day

Professional Services by Day is an allowance of days that grants customers' access to Brocade Professional Services whenever they want. The timing of change activities or implementations can be unpredictable, and a reserve of Professional Services days helps ensure that Brocade services will be there when needed. Customers that purchase Professional Services by Day can use it for a variety of onsite or remote services including implementations, configurations, and health check activities related to Brocade SAN or IP hardware and software products.

Professional Services by Day is limited to one working week consisting of five (5) consecutive days of service assistance. Brocade requires an initial planning meeting with the customer to understand and document specific customer requirements and confirm the scope of work. Scheduling Professional Services by Day must be requested at least ten (10) business days prior to any Brocade resources being assigned.

A full list of the Professional Services available and additional terms and conditions can be found in the Professional Services by Day Statement of Work.

Testing as a Service

Testing as a Service (TaaS) provides proactive services from Brocade to help customers augment and enhance their environments. Similar to a Proof of Concept (POC) this service from Brocade will provide customers with confidence that customer-defined configurations and deployments have been thoroughly tested prior to implementation. Also included in TaaS is stress testing and code reviews to confirm that customers' networks meet Brocade best practices.

Training Units

Brocade University uses Training Units (TUs) as a convenient method of payment for public and private Instructor-Led Training (ILT) courses that are conducted in a classroom or virtually. Each TU can be redeemed with Brocade Authorized Training Partners (ATPs) for Brocade University courses. One (1) TU costs \$100 USD, although the actual amount paid for TUs will depend on the route to market and applicable discounts.

TUs help simplify the course payment process and reduce the need for multiple course purchases. For information regarding how many TUs are needed for a specific course, visit the Brocade University page. To purchase TUs, contact your Brocade partner or sales representative. TUs are not an accepted form of payment for Web-Based Training courses.

MyBrocade

Brocade knows that in today's world, many customers spend most of their waking hours online. To accommodate them, Brocade has built MyBrocade, an industry-leading online support portal. MyBrocade provides all Brocade Technical Support customers with instant access to their assets, an extensive knowledge base, and software downloads. MyBrocade is a one-stop-shop for all Brocade support needs and helps organizations improve their ability to conduct business more efficiently.

Key self-service support tools include:

- **My Cases:** An integrated feature located within MyBrocade, My Cases is available to all customers with active Brocade Technical Support agreements and provides access to case and asset management tools that enable organizations to create, update, and track their cases in real time online.

- **Knowledge Base:** Located within MyBrocade, Knowledge Base grants customers access to a wide variety of self-service tools and enhanced search capabilities that include:
 - Search engine for technical issue resolution
 - Product news and content monitored using rich analytics
 - Notifications of articles of interest
 - Ability to browse and subscribe to content channels
 - Product manuals, white papers, FAQs, and Knowledge Base help
 - Brocade resources such as Community Forums, Technical Support Bulletins, and Software Release Notes
- **Software Downloads and Documentation:** Brocade wants to ensure that customers are always up-to-date with the latest software and relevant documentation. The Software Downloads and Documentation module in MyBrocade contains:
 - Firmware updates, new releases, and licensing tools
 - Management applications
 - Management Information Base (MIB) and utilities

To register as a member of MyBrocade, visit <http://my.brocade.com>.

PROFESSIONAL SERVICES AND RESIDENCY SERVICES

Brocade Professional Services provides proven expertise and flexible options to help organizations transition smoothly to a virtualized world where applications and information reside anywhere. Brocade Professional Services is committed to helping organizations overcome challenges and achieve their most strategic business objectives.

Brocade Professional Services offerings enable organizations to continuously tune and optimize their network designs, anticipate future needs, and reduce CapEx and OpEx costs. Changes in business direction, new technologies, and increased customer demand require network maintenance to be adaptable after a successful deployment. The ability to proactively evaluate and take corrective action to maximize network performance on an ongoing basis is critical. As part of Brocade Professional Services, experts will:

- Perform regular network health assessments
- Review device configurations
- Apply Brocade best practices
- Review monitoring and alerting policies
- Tune and optimize Brocade Network Advisor configurations and settings
- Review performance analytics
- Recommend or implement changes based on the above to ensure the network is continuously tuned and optimized based on current and anticipated demands

SAN Infrastructure Services

As the industry's leading data center networking solutions provider, Brocade offers end-to-end professional services to help organizations assess, design, implement, and optimize their Storage Area Network (SAN) environments. Based on years of practical experience and best practices developed in a wide range of multivendor environments, these services are designed to align with key business requirements while minimizing the impact and cost to the entire organization.

SAN Assessment Services

Brocade SAN Assessment Services provide baseline information to accurately scope work, determine risks, and establish an engagement plan within particular technical constraints. These services focus on evaluating the performance, reliability, manageability, and scalability of the data center environment. Whether organizations need to expand, consolidate, integrate, or migrate their SAN fabrics to newer and more advanced equipment, Brocade can provide an assessment of the current environment to identify problem areas, evaluate their potential impact, and recommend improvements.

This service is designed to determine the overall effectiveness of an environment. As part of this service, Brocade experts will:

- Gather key business and technical requirements, document the history of the environment, and help define an ongoing strategy
- Assess the existing design, growth potential, effectiveness, and risk areas within the current environment
- Analyze the health of the environment, identifying items such as the logical and physical topology, device inventory, zoning, bandwidth utilization, and monitoring capabilities

- Propose best practices to help optimize existing environments, including ways to consolidate, migrate, or expand those environments
- Provide a detailed report, an executive presentation, documentation of operational processes, an up-to-date Brocade SAN Health® report, recommendations for improvement, and methods to implement best practices

SAN Design Services

Brocade SAN Design Services focus on minimizing complexity and introducing best practices to optimize environments for current and future requirements. The goal is to transform a tactical operation into a strategic infrastructure that improves efficiency, flexibly supports change, and is highly manageable.

This service focuses on creating a strategic, best-in-class environment. Brocade provides several design options based on factors such as budget, ability to introduce the latest products, and desire to leverage existing assets. As part of this service, Brocade experts will:

- Analyze the current environment and develop a preliminary design that includes device naming, zoning architecture, device connection strategy, and topology
- Provide design options for leveraging the existing infrastructure, introducing a partial technology refresh or performing a significant technology refresh
- Present their findings to key stakeholders, discuss each option, and provide recommendations for a final design that is tailored to the organization's unique requirements

SAN Implementation and Management Services

Brocade SAN Implementation and Management Services help organizations implement, connect, and manage their environments in the most effective manner. Ongoing monitoring and management are critical to optimizing SAN environments. These services are designed to minimize the time, cost, and risk of deployment and management. Brocade will detail the project scope and prerequisites, the operational impact, resource utilization, and the risk/mitigation plan. Upon completion of the implementation, Brocade documents the new environment. These services include:

- Brocade DCX®, Director, and Switch Implementation Service
- Extension Implementation Services
- Encryption Implementation Services
- SAN Infrastructure Migration Service
- Brocade Network Advisor Implementation Service

Brocade DCX, Director, and Switch Implementation Service

This service is designed for organizations that need assistance installing Brocade data center backbones, directors, and switches into new or existing Brocade Fabric OS® fabrics. As part of this service, Brocade experts will:

- Configure each device based on best practices and specific environmental needs to ensure that the device is ready for implementation
- Upgrade the Brocade Fabric OS level, as appropriate
- Install the data center backbone, director, or switch and validate zoning, functionality, and required components

Extension Implementation Services

As part of these services, Brocade experts will assess the network and application environment, provide an estimated throughput of the extension link, and verify that requirements align with the available capabilities and resources. Brocade will then implement the specific configuration for connections between SAN fabrics. These services are designed to connect mainframe or open systems with SAN environments through FICON and FCIP protocols. These services include:

- **Brocade Advanced FICON Extension Implementation Service:** Helps organizations implement extension switches and blades using Adaptive Rate Limiting, FCIP Trunking, Quality of Service (QoS), Advanced Accelerator for FICON, FICON Management Server, cascaded FICON, and by monitoring test traffic over FCIP.
- **Brocade Advanced FCIP Extension Implementation Service:** Helps organizations implement extension switches and blades using FCIP Trunking, Adaptive Rate Limiting, and FCIP Quality of Service.

Encryption Implementation Services

These services help organizations implement their management, encryption, and security solutions to meet compliance and regulatory requirements for encryption of data-at-rest. Brocade will configure and implement encryption solutions based on best practices and the organization's unique requirements. These services include:

- **Brocade Encryption Switch Implementation Service:** Helps organizations implement encryption switches and blades using standardized multistep implementation processes in standard or high-availability environments.
- **Thales Encryption Manager for Storage Service:** Helps organizations implement the Thales Encryption Manager for Storage (TEMS). The TEMS key manager stores and manages encryption keys for each Brocade encryption switch and blade across an enterprise. Each TEMS key manager is designed for enterprise-class availability and security.

SAN Infrastructure Migration Service

When organizations want to consolidate environments or move from one environment to another, including vendor changes, Brocade can plan, execute, and validate the migration. As part of this service, Brocade experts will:

- Identify the supported migration path and potential levels of disruption
- Assess the source environment and leverage best practices to develop a plan for migrating devices
- Manage the interoperability between fabrics to ensure a smooth migration
- Validate the functionality of the new environment

Brocade Network Advisor Implementation Service

This service helps organizations configure and optimize their management environments. Brocade will first perform a SAN discovery to identify all SAN infrastructure, server, and storage devices to be monitored. Next, a Brocade expert will set up user and group access controls, and configure all zones. As a final step, Brocade will verify the implementation, provide reference documentation, and perform a knowledge transfer.

SAN Fabric Resiliency Services

Brocade SAN Fabric Resiliency Services are designed to align with key business requirements while minimizing the impact and cost to organizations over time. This service provides onsite expertise to analyze the SAN infrastructure elements that contribute to fabric resiliency, followed by a presentation of the recommendations and improvements that could be achieved by implementing the new fabric resiliency functionalities and features. Included in this presentation is the new Brocade Fabric Vision technology, an extension of Brocade Gen 5 Fibre Channel.

After Brocade experts analyze the SAN infrastructure, they can perform the upgrades required to implement the fabric resiliency monitoring features. These features include Brocade Fabric Vision technologies such as Monitoring and Alerting Policy Suite (MAPS) and Flow Vision, as well as Brocade Fabric Watch, bottleneck detection, port fencing, and other advanced functionality.

Ongoing monitoring and management are critical to optimizing SAN environments—and a key part of the SAN Fabric Resiliency Services. By reviewing the behavior of the newly implemented fabric resiliency monitoring features, Brocade experts can take steps to fine-tune the environment, helping to improve monitoring and management, and identify exposures within the SAN environment.

As a final step, Brocade experts will engage in a knowledge transfer session, to address any questions or changes that were completed during the tuning phase. All Brocade best practices on SAN fabric resiliency features will be utilized during the analysis and tuning phases.

Brocade SAN Fabric Resiliency Services include four phases:

- Fabric Resiliency Workshop to detail Brocade best practices for monitoring
- Implementation of any additional functionality to improve monitoring
- Analysis of the overall environment with recommended adjustments
- Tuning and handover to the customer through transfer of information

At the conclusion of the service, the Brocade expert will provide as-built documentation to the organization's staff for future reference.

For more SAN infrastructure resources, visit www.brocade.com/san-services.

IP Infrastructure Services

Today's organizations have increased the demands on their network infrastructures, requiring higher levels of performance, availability, and scalability to take advantage of new IP-based technologies. To increase efficiency and reduce costs, these organizations need intelligent networks that effectively utilize available bandwidth capacity, manage data traffic flow, and ensure network security.

As the industry's leading data center networking solutions provider, Brocade has the experience to help organizations deploy highly scalable, highly reliable, and high-performance next-generation network infrastructures. Brocade offers end-to-end services that help organizations:

- Design best-in-class network environments with flexibility for future growth
- Optimize network performance to address increased data traffic and data growth
- Deploy carrier and service provider, enterprise and campus, data center, and converged Layer 2-7 infrastructure
- Implement best practices to optimize network configuration and management
- Protect investments in existing networks
- Utilize leading-edge technologies and deep technical expertise to build sustainable and highly available next-generation networks

IP Assessment Services

Organizations interested in optimizing their current environments or implementing new networking solutions should first analyze their existing network infrastructures, along with their current and future business requirements. Brocade IP Assessment Services can help organizations identify any specific needs and potential problem areas.

This service utilizes capacity and performance tests to help organizations maximize the value of their networks or assess their readiness for building a next-generation network. As part of the assessment, Brocade experts will:

- Review network architecture and design for performance, availability, security, and manageability
- Evaluate network infrastructure, application delivery, interconnectivity, router and switch configurations, and performance and asset management
- Review application performance goals and problem areas
- Evaluate network performance, including traffic patterns, bandwidth optimization, Internet connectivity, and network vulnerabilities
- Evaluate network security, including compliance issues and best practices
- Perform a Brocade NET Health™ check
- Review network operational processes and relevant staffing needs
- Review overall readiness to meet the requirements of next-generation networking solutions

At the conclusion of this service, Brocade will provide a detailed IP Network Assessment, present the findings, and discuss recommendations and next steps.

IP Design Services

Brocade IP Design Services help organizations develop practical design plans that best match their budgets and schedules. These services offer several design options tailored to an organization's specific needs, whether those needs include a partial technology refresh to leverage existing network infrastructure or a significant technology refresh. As part of this service, Brocade experts will:

- Review any IP Network Infrastructure Assessment results
- Review Brocade NET Health, Brocade Network Advisor, or other third-party tool output or reports for current infrastructure audit data
- Provide design options for leveraging existing infrastructure through a partial or significant technology refresh in areas such as:
 - VPNs
 - Converged networks
(voice and Video over IP [VoIP], virtualization, FCoE)
 - QoS
 - Application delivery
 - Global SLB
 - Network management and performance monitoring and reporting
 - Network security
- Identify and communicate resolution needs for any potential implementation gaps or risks
- Create a plan to guide implementation
- Present the final network design plan

IP Implementation Services

With a final design in place, organizations can begin refining their existing network infrastructures or building new infrastructures to support new applications, services, locations, and more. Brocade IP Implementation Services provide unmatched expertise in helping organizations install, configure, and validate Brocade networking solutions. Depending on the organization's needs, Brocade experts will:

- Review design requirements
- Document and qualify hardware
- Verify power and test interfaces
- Apply code updates as needed
- Identify connection points
- Set compatibility parameters
- Integrate new Brocade devices per the defined connection
- Install and configure Brocade Network Advisor
 - Discover and model infrastructure
 - Populate and perform functionality verification of sub-applications
 - Configure sample sFlow collections
 - Configure security and role-based access control
- Perform functionality validation
- Perform a knowledge transfer
- Provide as-built documentation

For more IP networking resources, visit www.brocade.com/ip-services.

Ethernet Fabric Services

Organizations planning to deploy Brocade VDX® switches and Brocade VCS® Fabric technology can leverage Brocade Ethernet Fabric Services to help architect, design, and deploy a next-generation data center network. These services provide access to Brocade expertise in IP networking, Ethernet fabrics, and Fibre Channel storage while using proven methodologies to minimize risk and optimize network performance.

Through Brocade Ethernet Fabric Services, organizations can:

- Design flexible, fabric-based architectures that are highly secure, scale on-demand, and reduce costs
- Leverage industry best practices and Brocade expertise to accelerate implementation and reduce risk
- Increase network availability and accelerate time to resolution
- Maximize performance, utilization, and agility while reducing OpEx

Ethernet Fabric Assessment Services

Brocade Ethernet Fabric Assessment Services help organizations identify gaps between their current and desired states, and map out a strategy for transitioning to a cloud-optimized, fabric-based networking architecture. As part of the assessment, Brocade experts will:

- Review the current architecture
- Discuss challenges with the existing architecture and how to evolve the network to meet long-term business requirements
- Perform data collection and analysis
- Provide a final report, including recommendations

At the conclusion of this service, Brocade will present its findings to key stakeholders, provide architectural recommendations in a detailed assessment report, and discuss integration options and methods to implement best practices.

Ethernet Fabric Design Services

Brocade Ethernet Fabric Design Services offer several design options tailored to an organization's specific requirements, whether those requirements include a partial technology refresh to leverage existing infrastructure, a significant technology refresh, or a new technology infrastructure. As part of this service, Brocade experts will:

- Review the Ethernet Fabric Assessment results
- Provide design options for leveraging existing infrastructure
- Identify and offer solutions to potential implementation gaps or risks
- Present the final design plan
- Create plans to guide implementation, testing, and migration

Ethernet Fabric Implementation Services

With a final design in place, organizations can begin building their Ethernet fabric networks. Brocade Ethernet Fabric Implementation Services help an organization's technical and business teams configure, implement, and validate Brocade solutions for optimal performance. As part of this service, Brocade experts will:

- Configure a Brocade solution based on best practices
- Implement new Brocade devices
- Perform post-implementation validation
- Perform technical knowledge transfer

Virtual Router Services: Agility in Advanced Routing and Security—For Less

Today's organizations have increased the demands on their virtual environments and network infrastructures, requiring higher levels of performance, availability, and agility to realize the benefits of virtualization. For example, the migration of services to cloud-based architectures presents new challenges that are revolutionizing the way networks are being built and managed.

Similarly, new virtualized business applications and processes that improve collaboration and productivity—along with the dramatic growth of cloud-based architectures—all require higher levels of agility and security. Moreover, consolidation and virtualization initiatives are further driving the need for higher network scalability.

To increase efficiency and reduce costs, these organizations need intelligent networks that effectively utilize available resources, manage data traffic flow, and ensure network security. Organizations that plan to build next-generation virtual networks can benefit from best practices and expertise to address these critical requirements.

As the industry's leading data center networking and cloud-based solutions provider, Brocade has the expertise to help organizations deploy highly scalable, highly reliable, and high-performance next-generation network infrastructures.

Brocade offers end-to-end services that help organizations:

- Design best-in-class network environments with flexibility for future growth
- Optimize network performance to address increased data traffic and data growth
- Deploy carrier and service provider, enterprise and campus, data center, and converged Layer 2-7 infrastructure
- Implement best practices to optimize network configuration and management
- Protect investments in existing networks
- Utilize leading-edge technologies and deep technical expertise to build sustainable and highly available next-generation networks

Virtual Router Assessment Services

Organizations interested in optimizing their current environments or implementing new networking solutions should begin by analyzing their existing network infrastructure, along with their current and future business requirements. Brocade Virtual Router Assessment Services can help organizations identify any specific needs and potential problem areas. This service is designed to help organizations assess their readiness for deploying new virtual routing systems, as well as their readiness for migrating from traditional hardware-based architectures to a virtual routing and security architecture. As part of this service, Brocade experts will:

- Review the current Virtual Machine (VM) architecture
- Review application performance goals and problem areas
- Evaluate network performance, including traffic patterns, bandwidth optimization, Internet connectivity, network vulnerabilities, and security policies
- Evaluate network security and firewall and VPN policies, including compliance issues and best practices
- Review overall readiness to meet the requirements of next-generation VM mobility and networking solutions

Upon completion, Brocade will provide a detailed Virtual Router Readiness Assessment, present the results, and discuss recommendations and next steps.

Virtual Router Design Services

After analyzing their unique requirements, organizations can begin planning for new networking solutions. Brocade Virtual Router Design Services help these organizations develop practical design plans that best match their budgets and schedules. These services offer several design options tailored to an organization's specific needs, whether those needs include a partial technology refresh to leverage existing network infrastructure or a significant technology refresh. As part of the Brocade Virtual Router Design Services, Brocade experts will:

- Review any assessment results
- Review Brocade NET Health, Brocade Network Advisor, or other third-party tool output and reports for current infrastructure audit data
- Provide design options for leveraging existing infrastructure and new virtual environments through a partial or significant technology refresh in areas such as:
 - VPNs
 - Converged networks
 - QoS
 - Network security
- Identify and communicate resolution needs for any potential implementation gaps or risks
- Create a plan to guide implementation
- Present the final network design plan

Virtual Router Implementation Services

With a final design in place, organizations can begin refining their existing network infrastructures or building new infrastructures to support new applications, services, locations, and more. Brocade Virtual Router Implementation Services provide unmatched expertise in helping organizations install, configure, and validate Brocade networking solutions. This service leverages Brocade expertise to help organizations implement their Brocade network devices. As part of this service, Brocade experts will:

- Review design requirements
- Install the virtual router operating system
- Document and qualify design details
- Verify and test interfaces
- Apply code updates as necessary
- Configure and validate new virtual instances and routers
- Identify connection points
- Set compatibility parameters
- Integrate new Brocade instances as per the defined connection
- Perform functionality validation
- Perform a knowledge transfer

Brocade Resident Consultant

Brocade Resident Consultants are onsite experts assigned to help organizations optimize their network infrastructures in order to achieve key business objectives.

Brocade Resident Consultants provide subject matter expertise in the areas of equipment upgrades, equipment consolidation, migration to new equipment, and advanced technology implementations. Leveraging this knowledge, they help optimize customers' network infrastructures, improving overall network reliability and management capabilities, while minimizing risks of disruption or unplanned downtime. At the same time, Brocade Resident Consultants enable customers to maximize the value of their investments by applying best practices and avoiding known pitfalls that can delay hardware adoption and transformation of complex network deployments.

Innovation

Brocade Resident Consultants provide innovative solutions for network infrastructures by bridging the gap between the customer and Brocade product engineering. They provide onsite expertise with:

- Infrastructure gaps and best practices analysis
- Brocade architectural and design options
- Information transfer of Brocade technology and product innovation strategies
- Lessons learned and recommendations for improvement

Transformation

Brocade Resident Consultants provide transformation services when migrating or upgrading network infrastructures, enabling customers to execute implementation strategies and prepare for future technology demands. Activities include:

- Reducing complexity of the network and operations
- Planning future architectural enhancements for reliability
- Enabling future growth and expansion
- Reducing risks of network downtime
- Increasing reliability with proven and tested configurations
- Ensuring the necessary firmware or OS upgrades to enable architecture optimization

Optimization

Brocade Resident Consultants provide network infrastructure optimization services by proactively conducting operational and architectural reviews of customer network environments. They work with the organization's networking team to enable continuous operations and simplified management by:

- Providing improved monitoring capabilities
- Interpreting results for error thresholds and implementing best practices to enable network optimization
- Providing alerting mechanisms for operational improvements
- Detecting errors and providing the corrective form of action
- Transferring knowledge and informally training networking staff
- Providing ongoing operational business reviews for planning and performance enhancements

Onsite Services for Every Environment

Brocade Resident Consultants provide continuous access to Brocade expertise in all areas of technology and product solutions, including:

- **SAN complex solutions:** Brocade Resident Consultants are experts in the deployment of complex networking infrastructures for SAN environments. Leveraging experience in FICON, extension, encryption, and complex SAN migrations, Brocade Resident Consultants can optimize SAN environments to meet growing business objectives while simplifying deployments, migrations, or upgrades.
- **IP network complex solutions:** Brocade Resident Consultants provide IP network infrastructure expertise to help organizations deploy highly scalable and highly reliable IP networking infrastructures that are more efficient and capable of meeting the demands of new IP-based technologies.
- **Ethernet fabric solutions:** Brocade Resident Consultants deliver expertise in Ethernet fabric solutions, enabling organizations to reduce network complexity and operational costs. Brocade Resident Consultants are well-equipped to design and integrate next-generation solutions for virtualized data centers, helping organizations build a scalable cloud infrastructure.

For more information, visit <http://www.brocade.com/services-support/professional-services/resident-consultant/index.page>.

EDUCATION AND CERTIFICATION

Brocade has developed a wide range of product and technology training services, including instructor-led and virtual classroom training, as well as Web-based courses. Achieving Brocade certification demonstrates a mastery of Brocade products and technologies.



Brocade University

Brocade training courses help customers gain in-depth knowledge of Brocade products, optimize their Brocade-based IT infrastructure, and solve critical business challenges using Brocade technology. Students may choose to follow recommended curriculum paths based on SAN, IP Layer 2/3, IP Layer 4/7, Ethernet fabric, or Software-Defined Networking (SDN). All instructor-led and virtual classroom courses are delivered by a Brocade ATP. ATP locations are available throughout North America, Europe, and the Asia Pacific.

For the current course schedule, visit www.brocade.com/education/course-schedule/index.page.

Certification and Accreditation

Brocade University offers a wide variety of certifications and accreditations recognized industry-wide. The program offers multiple tracks, including FICON, Data Center, Internetworking, and Converged. Each track includes credentials at Introductory, Intermediate, and Advanced levels. Students who complete three out of the four tracks are awarded the highest level of Brocade Certification, the Brocade Distinguished Architect.

For more information, visit <http://www.brocade.com/education/certification-accreditation/index.page>.

Authorized Training Partners

The Brocade University Authorized Training Partner (ATP) program certifies qualified instructors to deliver Brocade University courses. Every ATP has at least one certified Brocade Technical Instructor.

For more information, visit <http://www.brocade.com/education/product-training/authorized-training-partners/index.page>.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

To learn more about Brocade solutions, contact your Brocade Sales Representative or Brocade Partner or visit www.brocade.com.

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