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Simplify FICON infrastructure management and boost performance—with Brocade® Gen 7 Autonomous SAN

Built-in intelligence helps you manage FICON traffic, switching, and fabric integrity.

The mainframe is the workhorse of the data center, thanks to its high reliability and ability to handle large amounts of data. In fact, organizations across every sector still rely on mainframes for their business-critical workloads. As such, their ability to provide continuous availability and performance is more vital than ever. High throughput, quick response time, and optimized utilization are crucial to ensuring that mainframe environments maintain continuous uptime to meet stringent Service Level Agreement (SLA) requirements.

The added challenges of cyber resiliency and disaster recovery have made SAN management even more complex and time-consuming. Active and effective management is needed to avoid resource contention, security breaches, and loss of data. But throwing faster infrastructure at the problem will never be enough. Today's SAN needs to be able to automate actions, simplify operations, and realize performance gains on its own. And with SLAs more costly than ever, who can really afford not to?

Benefits of Brocade Gen 7

Modernizing your FICON infrastructure with Brocade® Gen 7 Fibre Channel delivers far more than just high speeds and low latency. It also lays the foundation for an autonomous SAN that can self-learn, self-optimize, and self-heal to ensure the highest service levels.

Gen 7 Fibre Channel makes FICON environments more automated through a range of tools and features. Activities that used to eat up significant admin time, like prioritizing traffic to prevent network congestion, or partitioning FICON directors into logical switches, can now be completed in just a few clicks.

Upgrading to Brocade Gen 7 today will not only provide greater performance, ease, and security, but also the investment protection you need to keep up with growing demands.

Gen 7 features were thoughtfully designed with the present and future of SAN mainframe environments in mind

Building on 25+ years of mainframe experience, Brocade Gen 7 delivers the highest levels of availability and reliability. The following Gen 7 features makes SAN management for FICON environments easier and faster from setup to troubleshooting.

FICON Logical Switch partitions FICON Directors into logical switches in a few clicks

Port Decommission automatically coordinates safe switching functions with the host

Brocade SANnav™ Management Portal transforms data collected from Brocade FOS into actionable insights, and highlights performance health metrics within a single dashboard

Brocade Traffic Optimizer also automatically prioritizes traffic to prevent network congestion

Autonomous SAN capabilities make it possible for mainframe managers to do more, in less time—even as the complexity, capabilities, and requirements grow.

FICON Logical Switch ensures continuous high integrity

Configuring a FICON Director for use in a mainframe environment used to be a difficult and time-consuming process. Now Gen 7 automatically performs a multitude of administrative functions to deploy the kind of High Integrity Fabric required by FICON environments under a single configuration object.

IBM Z hosts have specific requirements for all devices in the mainframe ecosystem, including FICON Directors. Addressing mode, address binding, in-order delivery, domain identification persistency, and fabric membership stability are all required to ensure a high integrity fabric for mainframe operation.

The Brocade FICON Logical Switch feature collects the configuration elements necessary to define a FICON Director in one operation. This feature automatically includes the functional behaviors and modes in one configuration operation, effectively "pre-configuring" the switch explicitly for FICON use, greatly simplifying setup.

Explicit configuration with FICON Logical Switch

Prior to the introduction of the FICON Logical Switch feature, admins would need to manually configure the necessary functions and modes piecemeal to merely "imply" that the switch was ready for FICON connectivity. But it was also up to the admin to then ensure that each switch was, in fact, ready for use.

Port Decommission saves time and effort

The Port Decommission feature coordinates and communicates the status of a repair action between shared IBM Z host systems. It's an autonomic, integrated function that greatly simplifies daily port/path maintenance while ensuring a safe switching I/O infrastructure. Routine port maintenance that once required significant administrative overhead, as well as the coordination of complex operations, can now be executed seamlessly without operator intervention.

Brocade SANnav makes this simplified process possible. Once an admin selects the port or path to be removed from active service, SANnav coordinates the activities with both the host I/O subsystem and the fabric. It then coordinates the responses from the IBM Z host which sends a confirmation that it has migrated the active workload from the designated port/path. Finally, SANnav removes the port from operation and indicates it is ready for maintenance.

Once maintenance operations have been completed, the port/path is returned to full operational status through the Port Recommission function. As with the decommission operation, SANnav coordinates and communicates the recommission action with the IBM Z host to ensure it occurs error-free.

Safe Switching with Port Decommission

The Brocade Port Decommission feature automates multisystem operational changes to channels, FICON switches, and I/O devices while protecting access to critical system resources.

Brocade SANnav Management Portal eliminates guesswork

New features in Brocade Gen 7 streamline many of the most tedious, difficult, and time-consuming management tasks while laying the foundation for an autonomous SAN.

Brocade SANnav turns millions of data points collected and analyzed by Brocade Fabric Operating System (FOS) into actionable intelligence. It also monitors applications across the network and tracks the performance of devices—switches, hosts, and DASDs—within the fabric. It does all this in the background, without needing any special configuration. With insight into the fabric, Brocade products can automatically detect abnormal traffic patterns and areas of performance degradation. Countless cycles of manual analysis can be eliminated. But it's not just about automating existing tasks; Brocade's self-learning capabilities are essential as the volume and complexity of data spirals far beyond the capabilities of humans to manage.

Brocade SANnav is also your control window into this autonomous SAN, providing 360-degree visibility and control. You can set up and provision a fabric on Gen 7 infrastructure in just a few clicks, and pinpoint slow-drain devices as soon as the first warning signs appear. It provides instant access to key health characteristics across the SAN including throughput metrics, FICON inventory, and node identification data, and also features tools to simplify key workflows, like configuration, zoning, deployment, and troubleshooting.

Workflow-driven FICON management with Brocade SANnav Management Portal

Brocade SANnav Management Portal provides a simplified way to create, configure and manage FICON fabrics. Brocade SANnav guides the user through each step from selecting the switches and directors that make up the fabric, to configuring the domain IDs, selecting the ports for each FICON Logical Switch, and configuring the link addresses. A process that once took hours can be minutes!

Traffic Optimizer enables non-stop performance and reliability

Running legacy infrastructure alongside newer devices is a common cause of congestion on the SAN. Unless traffic is actively managed, older generations technologies can cause bottlenecks that impact response times and application performance. Brocade Gen 7 Fibre Channel understands traffic flows and actively segregates like-traffic to optimize performance and resources. Doing this automatically provides priority data paths to mission-critical traffic that share similar or identical traffic characteristics ensuring that slower traffic will not hinder the performance of higher speed traffic. With Traffic Optimizer working in the background, you don't have to keep a constant watch to catch slowdowns or redirect traffic. The SAN does it all for you.

Avoid slowdowns with Traffic Optimizer

In mainframe environments, Traffic Optimizer automatically detects and groups like workloads together, creating separate performance groups that run over virtual channels. By segregating traffic in this way, Traffic Optimizer eliminates oversubscription and congestion issues caused by mismatched speeds and prioritizes mission-critical traffic to improve application performance.

Protect existing investments

Migration should never equate to wasted investment. That's why Brocade Gen 7 makes it easy to run FICON and FCP data traffic concurrently on the same network. And, as we just saw, Traffic Optimizer also helps you to run old and new generations of hardware on the same network—without risking congestion.

The mixed blade support of the Brocade X7 Director adds to this, enabling you to mix and match Gen 6 and Gen 7 blades in the same chassis. And if you already have a Gen 6 Director, you can equally extend its life and add Gen 7 blades to gain the advantage of Gen 7 right away.

Upgrade to Gen 7 to realize the benefits today

Gen 7 infrastructure will give the SAN an instant leap in performance, even if you only want to replace part of your network. But low latency and high speeds are just part of the story. It is the complete package of Gen 7 features, functionality, and support that will enable you to depend on that performance day in, day out.

Whether your current infrastructure is at Gen 5 or Gen 6, or a mixture of both, upgrading to Brocade Gen 7 Fibre Channel is the right choice for FICON networks.

When looking to the future, it goes without saying that size and complexity of storage networks will continue to grow. Without sufficient planning, the volume of data and frequency of transactions could reduce your ability to effectively manage your FICON infrastructure. By laying the foundation of the autonomous SAN now with Gen 7, you can be ready to handle the traffic of tomorrow.

Want to learn more?

Check out 7 Reasons to Host Your Mainframe SAN on Brocade Gen 7

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