BROCADE ADVANCED ACCELERATOR FOR FICON FREQUENTLY ASKED QUESTIONS

Introduction

This document answers frequently asked questions about the Brocade® Advanced Accelerator for FICON®.

- For product information, visit: http://www.brocade.com/solutions-technology/enterprise/connectivity/mainframe/overview.page

General Questions and Answers

Q What is Brocade Advanced Accelerator for FICON?

A Brocade Advanced Accelerator for FICON is a software capability that includes unique emulation support for the IBM z/OS Global Mirror (formerly eXtended Remote Copy, or XRC) application; Tape Pipelining for FICON, ESCON, and Bus & Tag tape and virtual tape systems; as well as acceleration through pipelining of z/OS connections to the Teradata warehousing system—accelerating FICON read and write commands over distance using an IP WAN.

Q What are the key benefits of Brocade Advanced Accelerator for FICON?

A Brocade Advanced Accelerator for FICON reduces the impact of distance (latency) on remote applications. Key benefits include:

- Improved read and write performance over virtually unlimited distance
- Significantly faster tape backup and recovery times over any distance
- Flexibility to place FICON disk and tape where needed, regardless of location, to facilitate consolidation initiatives
- Improved data protection for business continuity and disaster recovery objectives
- Optimized data offload and retrieval from remote data warehouses
- Conserved WAN bandwidth, making more bandwidth available for other applications
- Expanded capabilities for existing investments, reducing costs

Q How does Brocade Advanced Accelerator for FICON work?

A Brocade Advanced Accelerator for FICON uses specialized data management techniques and protocol intelligence to accelerate read and write operations over distance, while maintaining the integrity of command and acknowledgment sequences. For more information about Brocade Advanced Accelerator for FICON, visit www.brocade.com.

Q What Brocade platforms support Brocade Advanced Accelerator for FICON?

A Brocade Advanced Accelerator for FICON can be applied to the Brocade 7800 Extension Switch (4/2 and 16/6 models) or the Brocade FX8-24 Extension Blade installed in the Brocade DCX® Backbone family.

Q What performance improvements does Brocade Advanced Accelerator for FICON provide?

A While each environment is different, Brocade Advanced Accelerator for FICON typically provides up to 40 times better performance over extended distances compared to non-accelerated data flows (shuttle mode). It also provides local-like performance over virtually unlimited distances.

Q When is Brocade Advanced Accelerator for FICON required?

A Organizations that need to extend their FICON channel beyond native FICON maximum distances (drop starts at 100 to 120 kilometers) and utilize an IP WAN would benefit from Brocade Advanced Accelerator for FICON. In general, Brocade Advanced Accelerator for FICON enables organizations to deploy FICON in a far less constrained environment than what the FICON channel supports natively. It is particularly useful as:

- Link delay (distance) increases
- Concurrency decreases (number of concurrent writes)
- Average block size decreases
- The number of application buffers decreases (number of chained writes per channel program)

Q What applications/devices are supported with Brocade Advanced Accelerator for FICON?

A Brocade supports Advanced Accelerator for FICON with Oracle StorageTek VSM systems, as well as all StorageTek FICON tape drives. Brocade also supports IBM z/OS Global Mirror (XRC), IBM VTS (including peer-to-peer VTS), and TS7700 (Hydra) virtual tape systems as well as standalone tape drives. Legacy ESCON and Bus & Tag tape devices are also supported when connected via the Optica Prizm FICON to ESCON converter and ESBT Bus & Tag Interface Module for Prizm. In addition, Brocade supports Teradata data warehousing systems/storage.

Q Is acceleration for FICON a unique capability from Brocade?

A Although XRC emulation is available from the competition, only Brocade offers vendor-qualified read and write Tape and Teradata Pipelining. Brocade pioneered this capability and first offered it on the Brocade USD-X and Brocade M3000 extension platforms. This proven technology is now available on the Brocade 7800 and Brocade FX8-24 products, providing mainframe users with unprecedented performance, data protection, and flexibility for business continuity/disaster recovery and data mobility applications.

Q What are the competitive advantages of Brocade Advanced Accelerator for FICON on the Brocade 7800 and Brocade FX8-24 platforms?

A Competitive advantages include:

- Industry-leading performance for Fibre Channel over IP (FCIP)-based XRC over any distance
- Industry-leading performance for FCIP-based FICON tape backup and recovery over any distance
- Industry-leading performance for FCIP-based FICON data offload and retrieval over any distance
- The industry's most resilient and robust extension solution for mainframe business continuity/disaster recovery and global data mobility initiatives
- The greatest flexibility for placement of mainframe resources, anywhere in the world
- More than 15 years of trusted Brocade leadership and expertise in mainframe storage networking solutions
- Brocade Professional Services and Brocade Technical Support for mainframe environments

Q Who sells Brocade Advanced Accelerator for FICON?

A OEM-branded Brocade Advanced Accelerator for FICON is available through IBM, HP, and HDS. Brocade-branded Advanced Accelerator for FICON is available through EMC, Oracle, and independent channel partners as well as directly through Brocade.

Q How is Brocade Advanced Accelerator for FICON licensed and priced?

A Brocade Advanced Accelerator for FICON is an optional software license that supports both XRC emulation as well as FICON read and write Tape and Teradata Pipelining. It is licensed per device for the Brocade 7800. It is licensed per slot in the Brocade DCX Backbone family of products. For slot-based licenses, the number of slots to be activated by the license needs to be specified at the time of order, using slots as the unit of measurement. Brocade Advanced Accelerator for FICON functions for the FICON channel over an FCIP tunnel. The Advanced Extension license is a prerequisite on the Brocade 7800 and Brocade DCX Backbone family to enable advanced FCIP features, including Brocade FCIP Trunking and Adaptive Rate Limiting.

Q What Brocade Fabric OS version is required to support the Brocade 7800 or Brocade FX8-24 with Brocade Advanced Accelerator for FICON?

A Brocade Advanced Accelerator for FICON requires Brocade Fabric OS® (FOS) 6.4.0c or higher. Teradata and ESCON/Bus &Tag device support through Optica Prizm and ESBT converters requires Brocade FOS 7.0 or higher.

Q Are Brocade Professional Services and Brocade Technical Support available to end-user customers for Brocade Advanced Accelerator for FICON?

A Yes. Because of its unique expertise in mainframe and FICON networking, Brocade offers its specialized implementation and support services directly to end-user customers. Brocade OEM Partners and Brocade Channel Partners can also leverage Brocade specialized services and support to take advantage of best practices, helping them accelerate deployments and improve customer satisfaction.

Q What does the Brocade Advanced FICON Implementation Service include?

A The Brocade Advanced FICON Implementation Service helps organizations assess their estimated bandwidth needs and implement Brocade extension devices using FICON over FCIP. This service also includes configuration of advanced features such as FCIP Trunking, Adaptive Rate Limiting, and Virtual Fabrics (for Brocade FX8-24 only if required), as well as cascaded FICON configuration. As part of this service, a Brocade expert 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 implement the specific configuration for connections between two or more storage network fabrics.

Q What type of software support is available for Brocade Advanced Accelerator for FICON?

A The purchase of a Brocade-branded Advanced Accelerator for FICON license, like other advanced feature software licenses (such as Integrated Routing), requires the purchase of 24×7 software technical support. This support includes 24×7 direct call and online support as well as access to software updates at no additional charge.

Q How many Brocade FX8-24 blades with Brocade Advanced Accelerator for FICON can be installed in the Brocade DCX Backbone family?

A The Brocade DCX Backbone family can support up to four Brocade FX8-24 Extension Blades with the Brocade Advanced Accelerator for FICON license.

Q Can currently installed Brocade 7800 or Brocade FX8-24 products be upgraded with Brocade Advanced Accelerator for FICON?

A Yes. You can upgrade currently installed products with Brocade Advanced Accelerator for FICON to support remote z/OS Global Mirror (XRC), remote tape, or remote Teradata implementations. To upgrade currently installed Brocade products, simply order the Brocade Advanced Accelerator for FICON license and associated support and services offerings. Before installing Brocade Advanced Accelerator for FICON, make sure that the existing equipment is running Brocade FOS 6.4.0c (Brocade FOS 7.0 for Teradata deployments) or higher.

Q Does the Brocade 7800 4/2 support Brocade Advanced Accelerator for FICON?

A Yes. The Brocade 7800 4/2 can be upgraded through the same process to enable Brocade Advanced Accelerator for FICON as well as FICON CUP.

Q How is Brocade Advanced Accelerator for FICON configured and managed?

A XRC emulation and Tape Pipelining can be configured and managed via Brocade Data Center Fabric Manager (DCFM®) 10.3 or above, using its FCIP configuration interface to set desired emulation parameters. Teradata Pipelining requires Brocade DCFM 11.0 or above. Alternatively, you can use the Command Line Interface (CLI) to configure Brocade Advanced Accelerator for FICON features.

Q Does IBM System z10 (and later) IU pacing enhancements reduce the value of Brocade Advanced Accelerator for FICON?

A No. IBM's enhancements to the IU pacing parameters allow System z10 customers to deploy z/OS Global Mirror over long distances without a significant performance impact. However, this new capability is available only on the new System z10 coupled with the latest DS8000 firmware. Brocade Advanced Accelerator for FICON still has a significant positive impact on performance for pre-z10 processors. While improving IU pacing parameters reduces the need for emulation in some situations, it does not eliminate the need for extension equipment to traverse the IP network. In addition, the IU pacing parameter enhancements do not change the need for emulation in FICON tape and virtual tape environments.

Q Do cascaded FICON environments benefit from Brocade Advanced Accelerator for FICON?

A Cascaded FICON environments can benefit from Brocade Advanced Accelerator for FICON if the directors are cascaded over an FCIP link. If the cascaded environment is over a Fibre Channel Inter-Switch Link (ISL), Brocade Advanced Accelerator for FICON is not applicable.

Q Is Brocade Advanced Accelerator for FICON enabled/disabled at the device or blade level?

A XRC emulation, Tape Pipelining, and Teradata Pipelining can be enabled or disabled on a per-FCIP tunnel basis. XRC emulation, Tape Pipelining, and Teradata Pipelining can also be enabled simultaneously on the same tunnel.

Q Can I configure both Fibre Channel and FICON on the same Brocade 7800 or Brocade FX8-24?

A Yes, you can run both Fibre Channel and FICON applications on the same Brocade 7800 or Brocade FX8-24.

Q What are the technical limitations of XRC emulation and Tape Pipelining for FICON?

A The FICON channel, whether extended via emulation or Tape Pipelining, cannot be routed via Fibre Channel Routing.

The ingress and egress frame events of an accelerated FICON channel must be transmitted and received by the same FCIP tunnel. The Brocade Traffic Isolation and Logical Fabric features can be applied to ensure deterministic paths for FICON commands and responses.

Q Are long-wave SFPs always required for FICON connectivity?

A While not a requirement, long-wave Small Form-Factor Pluggables (SFPs) for FICON are the industry standard. FICON installations generally use single-mode fiber, which in turn drives the use of long-wave SFPs for FICON interfaces on Brocade solutions. It is therefore a good idea to verify which fiber type your systems use.

Q What Brocade solution is appropriate if someone requires FICON extension over Fibre Channel via dark fiber or DWDM?

A FICON extension over Fibre Channel via dark fiber or Dense Wavelength Division Multiplexing (DWDM) is typically for deployments across metro distances, which the FICON channel can natively support with adequate performance. For extension over longer distances, the FICON channel is typically deployed over an IP WAN via an FCIP tunnel. In these situations, organizations can benefit from the Brocade Advanced Accelerator for FICON solution available on the Brocade 7800 and the Brocade DCX Backbone family.

Learn More

Q How do I find out more about Brocade Advanced Accelerator for FICON?

A Contact your Brocade sales representative or Brocade OEM Partner for details. Or visit www.brocade.com.

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