



Emulex and EMC Secure Your Data While Delivering Higher Performance

EMC PowerPath® Encryption with RSA combines with Emulex OneSecure™ adapters for unprecedented data protection

At a Glance

Protecting enterprise information and personal customer data is a high priority for many security conscious companies. The flood of records, web content, documents and digital images poses a challenge to enterprises trying to increase IT performance, decrease IT costs and meet IT regulatory and business compliance policies. With so much data at stake, it helps when industry leaders collaborate to provide simplified data center solutions that help meet enterprise business needs. Emulex OneSecure Fibre Channel adapters combined with EMC PowerPath Encryption and RSA Key Manager provides a data security solution that protects data when created at the server, as well as no matter where it is sent in the network, with one simple solution that can be used for most applications and databases. At the same time, the solution unleashes CPU performance with HBA-assisted encryption processing.

Products

- Emulex OneSecure 8Gb/s Fibre Channel Adapter
- Emulex OneCommand™ Manager
- EMC PowerPath Encryption with RSA

Challenges

- Complying with regulatory requirements for securing data
- Increasing IT performance while decreasing IT costs

Solution Summary

- EMC PowerPath Encryption with RSA Key Manager is combined with Emulex OneSecure to secure data-at-rest or in-flight, while offloading encryption processes to the adapter for increased CPU performance
- Supports heterogeneous data centers, reducing IT management costs
- Delivers a security solution for virtualized and cloud environments to solve the problem of exposing the SAN in virtualized architectures

Compliance

In a recent Enterprise Strategy Group survey,* 72 percent of respondents found government regulations and compliance the biggest motivators for protecting confidential data. Regulatory compliance (e.g., Health Insurance Portability and Accountability Act [HIPAA], European Union Data Protection Directive [EUDPD], or Payment Card Industry Data Security Standard [PCI DSS]) requires securing data-at-rest (on an array or on a disk), in addition to data-in-flight (while it moves across any network, e.g., LAN, WAN, SAN). New regulations require notification to customers when security breaches occur and heavy penalties can now be imposed. Data centers with heterogeneous storage systems spread across local and remote sites need a scalable data security solution that is easy to manage, yet protects data-at-rest and in-transit.

The EMC-Emulex Solution for Enterprise Storage

EMC and Emulex team up to deliver a host-based storage security solution based on best-of-breed software security in conjunction with revolutionary new Emulex OneSecure adapters. EMC PowerPath Encryption with RSA and Emulex OneSecure adapters provide a high performance security solution that delivers maximum SAN protection for minimal cost.

Emulex and EMC are focusing on the following data security items with this solution:

- Addressing compliance and industry regulations such as HIPAA, HiTECH, PCI DSS, SOX, SB 1386, UK DPA, European directive 95/46/EC, as well as internal security requirements for securing information
- Limiting exposure to security breaches (e.g., lost, stolen or compromised disks), such that even if someone is able to access the storage media through an alternate path, the data is still protected to prevent unauthorized access to sensitive information
- Securing data moving through the SAN, from host to SAN switch to array
- Enabling infrastructure compartmentalization, such as to support virtualized, cloud and information service providers

* www.enterprisestrategygroup.com/2010/01/2010-it-spending-intentions-survey

Emulex and EMC Secure Your Data While Delivering Higher Performance

Figure 1 shows how the EMC PowerPath Encryption with RSA and Emulex OneSecure solution works. The PowerPath host can be a physical or virtual server, making this solution ideal for data centers reducing costs through server virtualization.

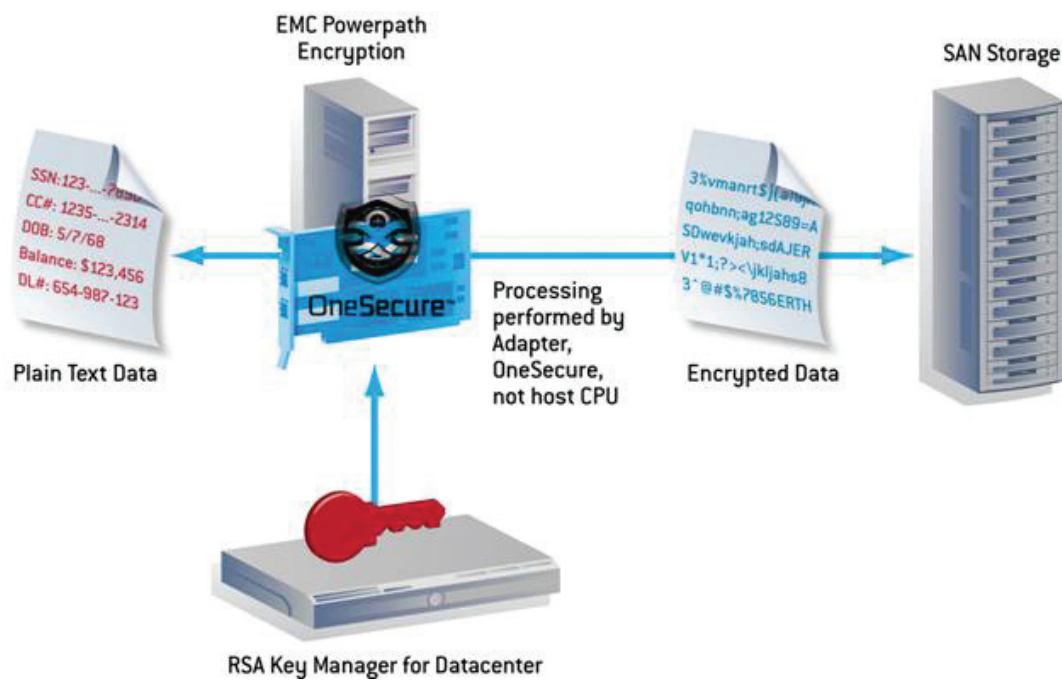


Figure 1 Emulex-EMC solution.

Secure Data: At-Rest, In-Flight and Remote

Enterprises face many threats to the security of their data. Examples are:

- Disks may be exposed to unauthorized users or broken/retired disks may not have undergone a disk DoD erasure or shredding process.
- Privileged users may obtain unauthorized access to data.
- Data may be inadvertently leaked outside the enterprise in email messages or attachments.
- Trojan viruses and other “malware” attacks may provide hackers and criminals with access to corporate systems.

All communications between the PowerPath Encryption and the RSA Key Manager server are encrypted using Secure Sockets Layer (SSL) to protect against insertion, man-in-the-middle and sniffer attacks. The RSA Key Manager client and server are mutually authenticated, to protect against spoofing attacks by unauthorized clients and servers. In addition, the RSA Key Manager server checks the client identity against its authorization rules, to be sure that an encryption key requested by a particular

PowerPath host can be sent to that host. This minimizes the risk of Trojan viruses or other malware acquiring keys that can be used to decrypt sensitive data.

By adding Emulex OneSecure Fibre Channel adapters, the data gets encrypted as close to the data source as possible for maximum data security, a Storage Networking Industry Association (SNIA) Best Practice. Moreover, the data is encrypted in hardware, a National Institute of Standards and Technology (NIST) guideline. Emulex OneSecure uses best-in-class Advanced Encryption Standard (AES) 256-bit encryption algorithms, along with host-to-fabric Fibre Channel-Security Protocol (FC-SP). FC-SP is a security framework which includes protocols to enhance Fibre Channel security in several areas, including authentication of Fibre Channel devices, cryptographically secure key exchange and cryptographically secure communication between Fibre Channel devices. Once the data is encrypted by the Emulex OneSecure adapter, the certificates are stored on the card.

With this solution, you can ensure your data is secure, whether local or remote. The solution works seamlessly with array replication, both local and remote.

Emulex and EMC Secure Your Data While Delivering Higher Performance

High Performance

Data encryption typically comes with a performance penalty. However, with the Emulex-EMC solution, encryption processing occurs on the HBA, thereby freeing up the CPU for critical application processing. Applications that benefit from this HBA-assisted encryption solution include CPU intensive applications such as:

- SQL Server
- Oracle Database

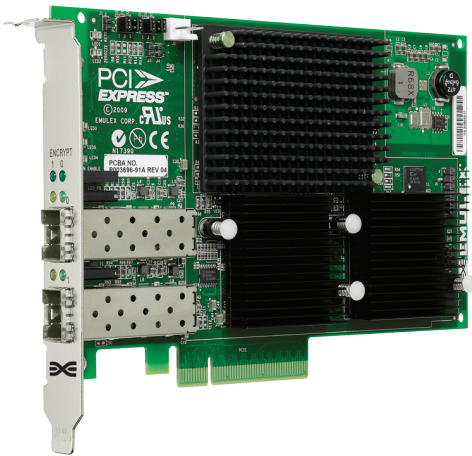


Figure 2 LPSse12002-E 8Gb/s HBA.

Easy Deployment and Management

Emulex OneSecure adapters and EMC PowerPath Encryption with RSA is a drop-in solution that provides immediate compliance with regulatory requirements, such as HIPAA and PCI DSS. Data center administrators need only deploy new adapter firmware, with minimal server reboots.

With an EMC PowerPath license, you can easily download the software for installation to achieve transparent data encryption. PowerPath virtual logical devices are implemented as pseudo devices below the file system and logical volume level and above the physical device level. Therefore, no application changes are needed to use PowerPath Encryption with RSA to encrypt data written to a disk device and decrypt data read from it. RSA Key Manager handles the creation, assignment, deletion and management of keys that is essential to any enterprise-class encryption solution.

Both companies are committed to delivering scalable solutions that support heterogeneous storage arrays. Moreover, Emulex OneCommand management application provides centralized adapter management to reduce IT costs in managing all Emulex adapters across the data center. EMC PowerPath Encryption with RSA provides centralized key management, reducing the complexity and cost in encryption deployments across the enterprise by not requiring management of multiple point solutions.

Next Steps

For more information, please contact EMC at www.emc.com or Emulex at www.emulex.com.

About Emulex

Emulex is the leader in converged networking solutions for the data center. Our Connectivity Continuum architecture provides intelligent networking services that transition today's infrastructure into tomorrow's unified network ecosystem. Emulex provides a single framework that intelligently connects every server, network and storage device within the data center. Through strategic collaboration and integrated partner solutions, Emulex provides its customers with industry leading business value, operational flexibility and strategic advantage. Emulex is listed on the New York Stock Exchange (NYSE:ELX) and has corporate headquarters in Costa Mesa, California. News releases and other information about Emulex Corporation are available at www.emulex.com.

About EMC

EMC Corporation (NYSE: EMC) is the world's leading developer and provider of information infrastructure technology and solutions that enable organizations of all sizes to transform the way they compete and create value from their information. Information about EMC's products and services can be found at www.emc.com.

Emulex and EMC Secure Your Data While Delivering Higher Performance



World Headquarters 3333 Susan Street, Costa Mesa, CA 92626 +1 714 662 5600
Wokingham, UK +44 (0) 118 977 2929 | **Munich, Germany** +49 (0) 89 97007 177
Paris, France +33 (0) 158 580 022 | **Beijing, China** +86 10 68499547
Tokyo, Japan +81-3-5325-3261 | **Bangalore, India** +91 80 40156789

Connect with Emulex

 twitter.com/emulex  friendfeed.com/emulex  bit.ly/emulexlinks  bit.ly/emulexfb

www.emulex.com

©2010 Emulex, Inc. All rights reserved. This document refers to various companies and products by their trade names. In most, if not all cases, their respective companies claim these designations as trademarks or registered trademarks. This information is provided for reference only. Although this information is believed to be accurate and reliable at the time of publication, Emulex assumes no responsibility for errors or omissions. Emulex reserves the right to make changes or corrections without notice. This report is the property of Emulex and may not be duplicated without permission from the Company.