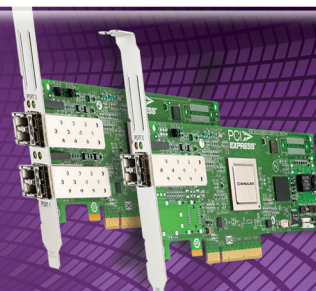




HBAnyware for Solaris SAN Foundation Suite Platform



SUBHEAD?

At a Glance

Emulex recently released a new version of its flagship host bus adapter (HBA) management solution, HBAnyware, for the Solaris SAN Foundation Suite (SFS) platform (Leadville). Emulex HBAnyware is a powerful adapter management application designed for efficient, scalable administration of FC HBAs and FCoE CNAs on enterprise-class storage area networks (SAN).

Technology

- Emulex HBAnyware HBA management application
- Sun-branded Emulex LightPulse® Fibre Channel HBAs
- Emulex LightPulse Fibre Channel HBAs and FCoE CNAs

Applications

- Solaris SAN Foundation Suite (SFS) based servers

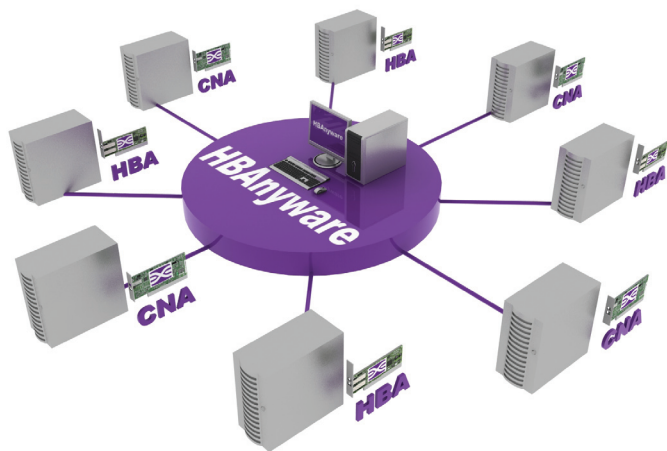
Emulex is the only Sun-branded Fibre Channel (FC) HBA vendor offering a complete product line ranging from standard form factor 4Gb/s HBAs to the modular 20-port Network Express Module for Sun Blades. Emulex award-winning LightPulse® Fibre Channel I/O connectivity solutions provide the flexibility, interoperability and manageability needed for complex, highly scalable heterogeneous SANs.

Emulex recently released a new version of its flagship HBA management solution, HBAnyware, for the Solaris SAN Foundation Suite (SFS) platform (Leadville). Emulex HBAnyware is a powerful management application designed for efficient, scalable administration of LightPulse adapters on enterprise class SANs. Independent studies have found that HBAnyware is more intuitive, more scalable and offers greater functionality than competitive adapter management solutions.¹

With HBAnyware, data center administrators can now improve SAN administration efficiency, productivity and availability through streamlined configuration, unified adapter management and helpful diagnostics.

Key Benefits of HBAnyware

- **Improve management efficiency**—The ability to centrally discover, monitor and manage all adapters across the SAN in a consolidated fashion instead of on a server-by-server basis is a big step forward in management efficiency. HBAnyware provides centralized management of Emulex LightPulse Fibre Channel HBAs and FCoE CNAs in the SAN. An Emulex exclusive feature enables adapter discovery and management via Fibre Channel or TCP-IP networks, providing greater administration flexibility, while access control features enhance security by preventing accidental or malicious modifications to Emulex LightPulse adapters. Emulex Vport mapping capability enables server and storage administrators to quickly identify Vport to VM associations in VMware ESX environments from a single management window. Competitive solutions require the administrators to gather information from disparate management applications to obtain VPort to VM associations. These capabilities help increase management efficiency and improve SAN availability.



¹ Demartek, "Emulex HBAnyware Software Evaluation", <http://www.emulex.com/white/hba/HBAnywareSoftEval.pdf>, January 2007

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- Leverage management automation**—As a matter of best practices, experienced storage administrators typically establish and fine-tune standard configurations and then propagate them uniformly across their SANs. HBAnyware automates key management tasks for unparalleled efficiency in adapter configuration and management. Driver profiles and firmware updates can easily be replicated and propagated onto other LightPulse adapters using HBAnyware's batch mode feature. In addition, the rich command line interface (CLI) provides powerful scripting capabilities to automate complex or customize administration tasks.

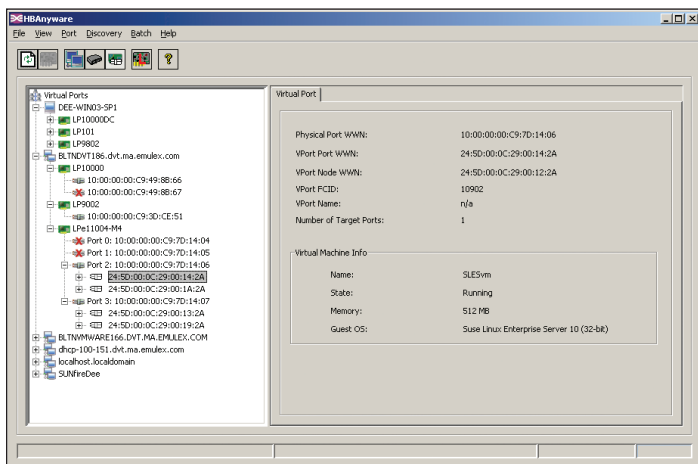


Figure 1 HBAnyware centralized HBA management.

- Enhance ease-of-use**—HBAnyware transparently installs along with the driver for Emulex LightPulse adapters, streamlining deployment and eliminating user intervention. Ease-of-use features like adapter aliasing and view settings enable easier identification and management of Emulex LightPulse adapters within the SAN. In addition to the GUI interface, HBAnyware also provides a command line interface (CLI) option. Some homegrown IT policies and processes require complex and specific administration tasks that do not fit the mold of pre-defined management utilities, no matter how powerful. The Emulex scriptable command-line interface is the perfect answer in these scenarios, providing storage administrators with the flexibility they need to tailor their HBA management actions using customized scripts. HBAnyware can also be accessed via a web browser providing the greatest degree of interface and access flexibility.
- Improve asset utilization**—Virtualization technology is helping organizations reduce operational costs while improving asset utilization. Adapter virtualization complements server virtualization initiatives, enabling the application of SAN best practices, such as LUN masking and zoning. Emulex's HBAnyware application was first in the industry to provide comprehensive virtual adapter

management. SAN administrators can easily configure and manage virtual adapter ports (VPorts) in non-server virtualized environments or use HBAnyware's virtual adapter port discovery function within virtual server environments. In addition, the Vport mapping function displays the virtual adapter port to virtual machine associations, eliminating the need to use multiple management tools, thereby improving management efficiency and increasing resource flexibility.

- Increase SAN availability**—During SAN troubleshooting, the challenge is to quickly and accurately pinpoint the cause of a problem, not only the adapter level, but across the SAN. When troubleshooting a SAN incident, storage administrators often need to check whether any given component in the SAN is fully operational. Being able to do this online without impacting the environment is critical.

Emulex HBAnyware features advanced online diagnostics and customizable reporting tools to enable quick diagnosis and troubleshooting of unexpected SAN issues, on demand and without disruption including end-to-end test functions to validate actual connectivity across the fabric.

Quickly and unequivocally identifying a given HBA on the backplane of a large server or across a stack of rack-mounted servers can not only be challenging, but it exposes the SAN to human errors. HBAnyware's adapter beaconing capability removes this hassle and mitigates associated risks altogether by allowing the storage administrator to quickly identify any specific HBA that needs physical intervention. In addition, HBAnyware's adapter alias function provides for more intuitive device identification by enabling data center administrators to assign specific names to the adapters.

Data center administrators can also minimize the impact of service interruption caused by offline servers. With HBAnyware, the adapter WWN from the offline server can be easily transferred to the adapter of a stand-by server, ensuring maximum server and SAN availability

- Ideal for heterogeneous SANs**—Emulex HBAnyware is a market proven enterprise class application, with support for Windows (Server 2003, Server 2008), Linux (RHEL 4, RHEL 5, SLES 9, SLES 10, Oracle Enterprise Linux 4) and Solaris (8, 9 and 10) operating system platforms. In addition, HBAnyware also supports the major server virtualization platforms such as VMware vSphere, Microsoft Hyper-V and Xex Source.

Conclusion

Emulex management capabilities are geared toward increasing overall productivity and efficiency, helping storage administrators to cope with mounting pressure for managing an ever expanding infrastructure. This directly translates into reduced operating costs and improved total cost of ownership. Availability of HBAnyware on Solaris SAN Foundation Suite platform significantly improves storage management across the overall data center.



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