



OneCommand™ Vision

Optimize competitiveness by maximizing application and infrastructure performance, availability and utilization

**OPTIMIZE
RESOURCE
UTILIZATION
AND MAXIMIZE
I/O PERFORMANCE
AND AVAILABILITY**

Virtualization and cloud architectures now come hand-in-hand, delivering infrastructure as a service in private, public and hybrid forms. With virtualization driving up infrastructure utilization and cloud computing significantly increasing the amount of resource sharing among departments (private cloud) and clients (public cloud), I/O availability and performance are stressed to extreme levels, creating an I/O problem. I/O contention throughout the system has become the critical blind spot. Emulex OneCommand Vision is the solution.

OneCommand Vision is an intelligent application that provides proactive I/O management within data center and cloud environments. OneCommand Vision gives IT and cloud administrators the ability to maximize I/O resource utilization and proactively enhance performance and availability by monitoring and analyzing various I/O performance metrics within the infrastructure. This includes the collection of end-to-end I/O latency, various protocol events and other critical performance metrics. OneCommand Vision's non-intrusive software architecture integrates easily into existing data center environments, shortening time-to-resolution from days to hours for even the most complex infrastructure problems.

OneCommand Vision is designed for use in heterogeneous network environments, providing broad operating system (OS) support and interoperability with Emulex and non-Emulex brand adapters. Its distributed deployment model delivers superior scalability and a comprehensive global view of I/O status, making it the solution of choice for IT administrators.

Enhance your OneCommand Vision deployment with Emulex I/O Performance and Availability Service (IPAS). Emulex IPAS maximizes your return on investment (ROI) by providing the next level of predictable application performance and availability, higher infrastructure utilization and lower operational costs. By engaging Emulex or partner professional services for an IPAS Baseline or IPAS Advanced service, you can characterize your existing performance, discover where your I/O performance is suffering and how to fix it. For more information, go to www.emulex.com/products/software-solutions.html.

Emulex OneCommand Vision is the first I/O management tool that proactively monitors I/O from the application's perspective, allowing data center managers to:

- Manage I/O performance from the origination of the I/O request—the application; wire performance metrics, such as exchange completion times, are more interesting the closer they are to the actual application, but nothing is a better assessment of storage I/O impact than the view from the application
- Manage I/O availability and redundancy based on what is visible and available to the application, accounting for disruptions unseen when simply monitoring downstream configurations
- Establish real-world performance baselines critical for the management of I/O availability and performance service level agreements (SLAs), including situations where storage infrastructure is migrating to a public or private cloud
- View dashboards and reports to quickly assess I/O availability and performance across the entire infrastructure or specific groups within the environment
- Expedite true problem management by combining I/O availability and performance data with the forensic capability provided by OneCommand Vision Analytics and Correlation Engine (ACE)
- Increase the utilization of existing infrastructure without violating established SLAs, thereby avoiding unnecessary infrastructure purchases

Optimize I/O performance and availability

- Industry's only non-intrusive, heterogeneous I/O management solution with cutting edge LUN SLA management
- Receive alerts on end-to-end I/O performance not visible to traditional, siloed management solutions
- Monitor, analyze and improve I/O performance and availability at:
 - Application layer
 - Server level
 - Fabric layer
 - Storage layer



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SPECIFICATIONS

Availability

- OneCommand Vision is available through select Emulex distributors and reseller partners. For more information, please visit www.emulex.com or call an Emulex sales representative at 877-359-3263.

Hypervisor Enabled OS

- IBM AIX
- Linux KVM
- Oracle Solaris
- VMware ESX
- Windows Hyper-V

Non-hypervisor Enabled OS

- Linux (Redhat, SUSE, Oracle)
- Windows

Adapter Support

- Emulex Fibre Channel and FCoE adapters
- QLogic® Fibre Channel and FCoE adapters
- Other 3rd Party Fibre Channel and FCoE adapters

Protocol Support

- Fibre Channel
- FCoE

Intelligent Feature Modules (IFMs)

Emulex OneCommand Vision is comprised of multiple intelligent feature modules that together present a comprehensive end-to-end view of I/O performance and health.

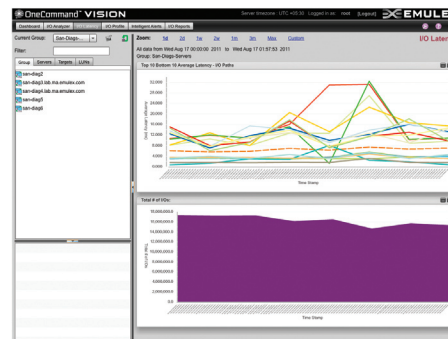
Dashboard

New in 2.0! The Dashboard module provides a convenient summary view of potential performance issues. The Dashboard features several reports that highlight resources potentially experiencing resource performance or availability issues.



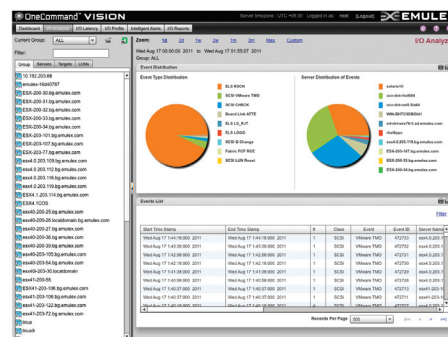
I/O Latency

The I/O Latency module shows the application view of the end-to-end I/O completion times. I/O latency changes are one of the key early indicators of performance issues for all I/O paths across the enterprise.



I/O Analyzer

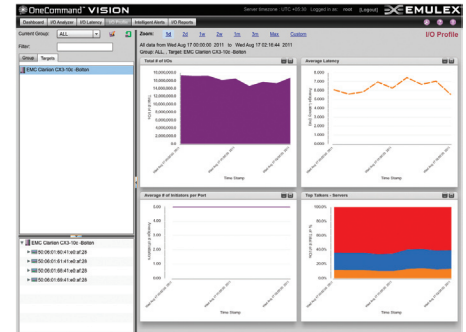
OneCommand Vision enables IT administrators to quickly resolve and even predict complex data center performance and availability issues by providing deep SCSI and wire protocol analysis to highlight hidden system issues that normally go undetected until after a major outage event.



OneCommand Vision proactively collects and analyzes important protocol events, such as busy errors from the switch or storage, queue full errors from the storage, or link and process-level errors, enabling administrators to quickly resolve and prevent the most complex data center outages.

I/O Profile

The I/O Profile module presents essential characteristics of the I/O transactions and storage infrastructure configuration, which can be critical in identifying I/O bottlenecks and availability issues within the storage network. This enables IT administrators to properly load-balance their storage infrastructure.



I/O Profile provides historical roll-ups of multiple metrics, including:

- Total number of I/O**—Shows real-time data on the I/O traffic volume for a specific storage port. The amount of I/O instructions that are successfully sent to the storage is a key indicator of potential bottlenecks within the various I/O handling layers.
- Average number of Initiators per port**—Reveals the amount of servers connected to a storage array or target port. An improper server-to-storage connection ratio will cause an over-subscription condition that negatively impacts network performance and applications availability.
- Top talkers**—Reveals which servers are sending the most I/O to the storage ports. This allows administrators to quickly offload overburdened storage infrastructure, resulting in a more load-balanced network.

Intelligent Alerts

OneCommand Vision collects and analyzes specific conditions that occur relative to I/O latency, I/O volume, and protocol errors for all I/O paths across the enterprise. Customizable thresholds with adjustable priorities enable administrators to proactively identify and resolve I/O bottlenecks and availability problems.

I/O Reports

The I/O Reports module provides a daily snapshot of several key performance and provisioning metrics, enabling proactive and efficient management across the enterprise. Reports are generated daily and provide pertinent information about the size, availability, performance and utilization of the monitored environment.



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