

Voltaire® Unified Fabric Manager™ Software

Managing Scale-Out



Scale-Out Fabric Management with Voltaire Unified Fabric Manager

Voltaire's Unified Fabric Manager™ (UFM™) is a powerful platform for managing scale-out computing environments. UFM enables data center operators to efficiently monitor and operate the entire fabric, boost application performance and maximize fabric resource utilization.

While other tools are device-oriented and involve manual processes, UFM's application centric approach is bridging the gap between servers, applications and fabric elements, thus enabling administrators to manage and optimize the smallest to the largest and most performance-demanding clusters.

Manage Scale-Out with UFM's Application-Centric Approach

Voltaire UFM uses a revolutionary fabric model to manage today's fabrics as a set of business related entities such as time critical applications or services. UFM's management infrastructure enables fabric monitoring and performance optimization on the application-logical level rather than just at the individual port or device level, providing:

- Improved visibility into fabric performance and potential bottlenecks
- Improved performance due to application-centric optimizations
- Quicker troubleshooting time due to advanced event management
- Efficient management of dynamic and multi-tenant environments
- Higher utilization of fabric resources

Fabric Visibility & Control

UFM includes an advanced granular monitoring engine that provides real time access to switch and host data, enabling:

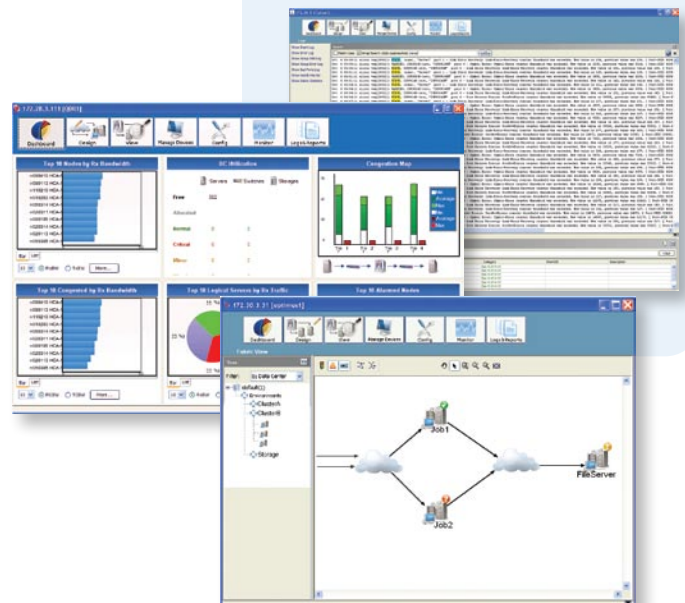
- Cluster-wide monitoring of fabric health and performance
- Real-time identification of fabric-related errors and failures
- Quick problem resolution via granular threshold-based alerts
- Fabric utilization dashboard

Identify Bottlenecks

Fabric congestion is difficult to detect when using traditional management tools, resulting in unnoticed congestion and fabric under-utilization. UFM's unique congestion tracking feature quickly identifies traffic bottlenecks and congestion events spreading over the fabric. This feature enables more accurate problem identification and quicker resolution to:

- Quickly identify topology issues, routing inefficiencies or non optimal node placement
- Allow the administrator to improve fabric topology and configuration
- Enable increased performance and higher fabric utilization

- Application-centric fabric management
- Unlimited scalability across application, database, and storage servers
- Ideal for scientific, commercial HPC, enterprise and cloud applications
- In-depth visibility of traffic behavior, fabric and device health
- Advanced congestion management
- Routing optimization based on workloads and topology
- Configurable threshold-based alarms for instant problem resolution
- Fabric partitioning and Class of Service configuration
- Enables multiple isolated application environments on a shared fabric
- Central device management
- Seamless failover in high-availability mode
- Web services integration API for seamless integration in customer environments



Optimize Performance

Voltaire's routing performance optimization is an innovative and major conceptual shift from static routing (based on path counting) to a traffic pattern-based algorithm.

- UFM optimizes routing algorithms by taking into consideration the fabric topology, the various services and active applications and their characteristics.
- UFM optimization features are built on top of the OpenSM industry standard routing engine. OpenSM provides fast fabric bring-up with leading edge routing algorithms and maximizes the use of available fabric bandwidth.

Maximize Fabric Utilization

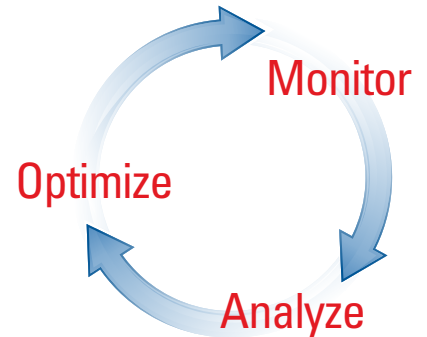
Consolidation of multiple clusters into a single environment with multi-tenant data centers and heterogenic application landscapes requires specific policies for the different parts of the fabric. UFM enables segmentation of the fabric into isolated partitions, increasing traffic security and application performance.

Each partition can be easily associated with a Class of Service (CoS) level, thus ensuring that critical applications receive adequate fabric resources.

Robust, Production-Ready Solution

Fabric-wide maintenance tasks are performed from a central location and improve operational efficiency and control. Group operations such as switch firmware updates are enabled via a single mouse click.

Failovers are handled seamlessly and are transparent to both the user and the applications running on the fabric. This significantly lowers downtime and makes UFM along with Voltaire's products the ultimate management tool for the most demanding data center environments.



Technical Specifications

UFM Software Pre-requisites

- UFM Server
 - ▶ x86_64
 - ▶ 2GB RAM Minimum, 4GB Recommended
 - ▶ 20GB Available Disk Space
 - ▶ HCA: ConnectX DDR/QDR
 - ▶ RedHat 5.1/5.2 or CentOS 5.1/ 5.2
- UFM Host Based Agent
 - ▶ x86_64, Itanium, PowerPC
 - ▶ HCA: ConnectX DDR/QDR
 - ▶ RedHat 5.0/5.1/5.2/5.3; Scientific Linux 5.1/5.2; CentOS 5.1/5.2
- UFM GUI Client: Any host running jre1.6_32

Ordering Information

- Licensing: UFM is licensed per managed device (see table).
- For product purchase please visit www.voltaire.com

Managed Devices

UFM manages a wide range of Voltaire products, including:

- DDR
 - ISR 9024
 - ISR 2012/2004
 - 2036
- QDR
 - 4036
 - 4700
- 10GbE
 - sRB-20210G

Managed Hosts

- Architecture: x86_64, Itanium, PowerPC
- RedHat 5.0/5.1/5.2/5.3; Scientific Linux 5.1/5.2; CentOS 5.1/5.2; Windows
- HCA: ConnectX DDR/QDR



Contact Voltaire to Learn More

1.800.865.8247
info@voltaire.com
www.voltaire.com

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