Voltaire® Unified Fabric Manager™ Software

Managing Scale-Out Ethernet Fabrics

Scale-Out Fabric Management with Voltaire Unified Fabric Manager

Voltaire's Unified Fabric Manager™ (UFM™) software is a powerful platform for managing scale-out computing environments. UFM enables data center operators to efficiently provision, monitor and operate the modern data center fabric. UFM boosts application performance and ensures that fabric utilization is optimized at all times.

UFM for the Next Generation Data Center

The dynamic nature of today's virtualized data center and cloud computing environments is creating new application performance and network management challenges. While advanced management applications have been developed to consolidate and virtualize both server computing and storage, networking concepts have not advanced at the same pace to address these challenges.

Resolving these challenges requires a new kind of network management solution that can bridge the gap between servers, applications, and fabric elements in a virtualized data center environment.

Fabric as a Service Approach

While other tools are device-oriented and involve manual processes, UFM uses a revolutionary fabric model to group devices and easily apply policies that are correlated to the application. 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:

- Automatic fabric provisioning to enable dynamic and virtualized cloud environments
- Unique engine for end-to-end fabric policy according to workload needs
- Fabric SLA provisioning and monitoring
- Seamless change and migration control
- API designed for integration with service orchestrators for automatic and seamless fabric provisioning and service-oriented monitoring

Intelligent Fabric Resource Management

UFM's unique end-to-end fabric policy engine correlates fabric policy to application needs in the most optimal way. UFM is aware of the capabilities that each component offers and deploys fabric-wide policy such as VLANing and QoS according to the capabilites of each device in the fabric.

Server Virtualization and Virtual Machine Migration

UFM is aware of virtual servers and treats them simliar to physical servers. The fabric policy engine enables connectivity and fabric policy to virtual servers as well. Upon VM migration, UFM keeps the connectivity and policy intact – providing a seamless migration environment for the application.

Solution Benefits

- Simplifies the management of large or complex environments
- Service oriented model enables end users to manage service requirements and not devices
- End-to-end service provisioning across the fabric – for physical and virtual devices
- Seamlessly manages VM migration scenarios
- In-depth visibility into fabric performance and health
- Provides preventive maintenance and "soft degradation" alerts
- Quickly troubleshoots performance and connectivity problems
- Open API for easy integration in advanced data center management frameworks

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Fabric Visibility & Control

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

- Real-time identification of fabric-related errors and failures
- Real-time insight into fabric performance and potential bottlenecks
- Preventive maintenance via granular threshold-based alerts
- Workload correlated information such as bandwidth utilization or fabric health events per workload
- Alert forwarding via SNMP Traps to third party monitoring systems

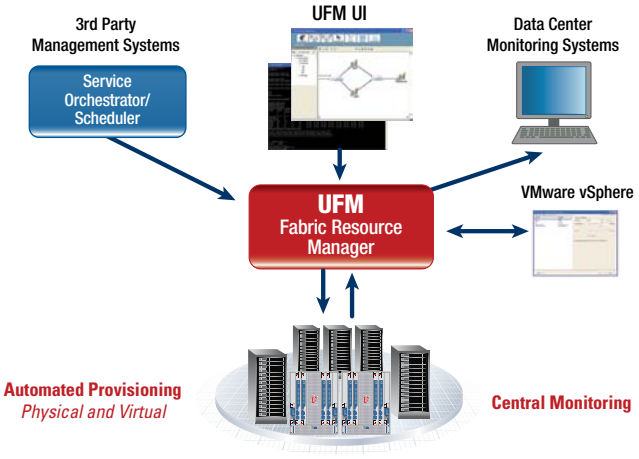
Solve Traffic Bottlenecks

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
- Correlate monitored data to application/service level, enabling quick and effective fabric analysis

Integration with Data Center Management Tools

UFM provides an open and extensible object model to describe data center infrastructure and conduct relevant actions. In addition, it includes a service-oriented architecture that exposes a rich set of web services (WSDL), enabling integration with service orchestrators and resource managers to manage next generation fabrics.



Enterprise Grade Platform

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 the ultimate management tool for the most demanding data center environments.

Technical Specifications

UFM Software Prerequisites

- UFM Server
  - x86_64
  - 2GB RAM Minimum, 4GB Recommended
  - 20GB Available Disk Space
  - HCA: ConnectX DDR/QDR
  - RedHat 5.4/5.5; CentOS 5.4/5.5
  - SLES 11 SP1
- UFM Host Based Agent
  - x86_64
  - HCA: ConnectX DDR/QDR
  - RedHat 5.4/5.5; Scientific Linux 5.4/5.5; CentOS 5.4/5.5
  - SLES 11 SP1
- UFM GUI Client: Any host running jre1.6_32

Managed Devices

UFM manages a wide range of Ethernet products, including:

- Voltaire Ethernet Switches
  - Voltaire Vantage™ 8500, 6048 and 6024
- Third Party Managed Switches
  - BNT G8124
  - HP ProCurve 6600 GX
- VMware Server Virtualization
  - ESX/ESXi 4.1, vCenter 4.1

Ordering Information

- UFM is offered in various packages and licensed per managed fabric node
- For more details please visit voltaire.com/ufm or contact info@voltaire.com

Contact Voltaire to Learn More

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