

Data Center Manager (DCM)

Unified Virtual/Physical Data Center Fabric Management



Overview

Virtualization technologies are increasingly being deployed in the data center because of their ability to drive the efficiency and effectiveness of computing and storage resources. However, the dynamic nature of virtualization along with the traditional organizational separation between server and network management teams can lead to management challenges.

In order to create an agile and automated operational model for the virtualized data center, IT administrators require a more comprehensive set of automation capabilities, coupled with increased network visibility and more granular controls. Enterasys Data Center Manager (DCM) addresses these new operational requirements and provides functions that ensure consistent application performance and unified management across the physical and virtual network.

DCM provides IT administrators a transparent, cross-functional service provisioning process that bridges the divide among the server, networking and storage teams, ensuring each has an integrated view of virtual server and network environments. With a unique vendor agnostic approach, DCM supports a variety of virtualization, storage and server platforms, enabling the unification of the physical and virtual network and ensuring networks will have the high availability necessary for critical applications and business data.

Unified Management

Traditionally, data center connectivity spans physical, virtual and storage networks using separate tools and management systems. To unify a data center network, it is necessary to have an integrated view of the network infrastructure, servers, storage systems and applications. The Enterasys Data Center Manager solution is designed to reduce the workload and increase the efficiency of the IT organization. Coordinating the automated assignment of virtual machines (VMs) within both the virtual and physical network fabrics, DCM ensures that proper network resources are allocated when a VM is provisioned, no matter where it is on the network. This is achieved with DCM's unique ability to automatically apply individual policies to various data objects in the switching fabric, solving the challenge of virtual machine sprawl. The use of granular policies, combined with Enterasys flow-based switching, helps users realize the goals of high availability and reliable delivery. With this approach, operational costs are lowered by providing a higher degree of automation as well as system-level management.

Automated unified provisioning improves efficiency in the virtualized data center

Comprehensive virtual machine visibility optimizes resource use and decreases troubleshooting time

Integrated workflow process reduces IT workload and helps control VM sprawl

Vendor agnostic technology supports a variety of virtualization platforms

Simplified compliance addresses data center requirements through policy enforcement and traffic monitoring per VM

Benefits

Lower operational costs

- High degree of automation within physical and virtual environments to streamline data center network provisioning
- Predictable behavior and simplified troubleshooting as a result of consistent configuration throughout the network fabric
- Reduced workload and increased coordination of the network, server and storage teams in an IT organization

Reduced capital costs

- Open, standards-based approach optimizes and leverages investment in the data center infrastructure
- Extensible architecture supporting a variety of hypervisor technologies and vSwitches
- Adaptable to future technological advancements

Improved management control

- Better visibility and ability to audit the network via policy-based management
- More granular visibility over traffic and current/historical data makes it easier to incorporate VMs into the network



**There is nothing more important
than our customers.**

Automated Provisioning

An important part of managing today's virtualized environment is the automatic application of individual and unique policies to various data objects in the switching fabric, including mobile VM sessions, users, applications and storage traffic. Enterasys Data Center Manager establishes network profiles for physical and virtual machines and distributes them within the network fabric, as well as coordinates the profile assignment of virtual machines to ensure consistent delivery of services regardless of the physical location of the VM.

DCM ensures that when network configurations are made, communication between the network and virtual switch (vSwitch) is greatly improved and configuration mismatches are eliminated. Each group within the IT organization has insight across the entire data center – servers, storage and networks. When the networking team makes a change, such as setting the quality of service (QoS) for an application, that change is automatically propagated across the corresponding VM. This cuts down on the manual steps needed when, for example, the server team puts in a request to the networking team for provisioning a new server. Instead, the change can be automatically applied to the network.

The organizational benefits of DCM include:

- Streamlining virtual network configuration to reduce the chance of errors as well as enable faster troubleshooting
- Eliminating the need to constantly communicate network or virtual network changes between teams
- Ensuring consistent network policy across all data center clusters

Visibility, Tracking and Monitoring

Tracking and monitoring the virtual machine inventory of a typical data center can be challenging and time consuming. IT administrators often find it difficult to know how many VMs are on the network, when they were deployed and by whom. Discovering which resources were allocated to the VMs and what operating system images they are running becomes even more problematic. To make the provisioning and management of VMs efficient, inventory information must be integrated with network management.

Enterasys Data Center Manager provides real-time VM asset monitoring and historical location tracking within the Enterasys Network Management Suite (NMS). NMS delivers the centralized visibility, granular control and automation required for the efficient management of this capability. NMS is distinctive for granularity that goes beyond ports and VLANs down to individual users, applications and protocols. Built upon open standards, it can integrate with third-party enterprise management platforms. NMS enables staff to avoid time-consuming manual switch-by-switch configuration tasks.

DCM brings the integrated tracking of a virtual machine and its applications to NMS. The synchronization of asset information into NMS through DCM allows the network team to have full visibility into VM-specific asset data for all the major hypervisors, including vSphere and/or XENCenter and/or Microsoft Hyper-V via Windows Server 2008.

Operationally, NMS with DCM lowers costs by automating virtual network modifications and improving management control with granular visibility of network traffic and virtual machine data.

Integrated Workflow Process

Enterasys Data Center Manager integrates with existing workflow and lifecycle tools to provide cradle-to-grave visibility into virtualized and physical assets, and to automate the physical and virtual network configurations for virtual machines. DCM requires no software installation on the hypervisors. Instead, it leverages each vendor's APIs and Enterasys published APIs to provide automated inventory discovery and control of the hypervisor switch (VMware, Citrix XEN, Microsoft Hyper-V) configuration as well as management of the physical network configuration.

DCM is designed to reduce disruption to the IT workflow and increase the efficiency of the organization. IT administrative efforts can be decreased with the automation of routine tasks and integration of existing management systems. User-based and application-based policies save time and avoid costly errors when compared to traditional port-based and VLAN-based access control list (ACL) methods for network security and application provisioning. The end result is an automated data center which ensures resiliency, performance and data integrity.

Vendor Agnostic Technology

Enterasys Data Center Manager interfaces directly with the native operating system. Server and VM visibility and control are provided without bias to the server or operating system vendor. IT administrators have the freedom to choose the server vendor that best fits their requirements. DCM integrates with popular server virtualization products from Citrix, Microsoft and VMware. This capability is unique to Enterasys, providing the IT organization with unparalleled flexibility to choose from any of the leading server virtualization vendors.

Simplified Compliance

Given the security and compliance mandates for data center design, the Enterasys network infrastructure provides built-in security functionality for auditing data center networks. This functionality assists in tracking compliance with PCI, Sarbanes Oxley, ISO 17799 and other key industry regulations without the need for add-on appliances.

Enterasys Data Center Manager allows administrators to determine who has access to network resources, which devices can access the network and when, as well as the compliance level of each end system attempting to access the network.

DCM enables control of VM-to-VM communication and leverages hardware-based unsampled NetFlow, provided by the Enterasys S-Series, for application and behavior monitoring. By automating provisioning processes, increasing network visibility and flagging control deficiencies, DCM helps to simplify compliance and the costs associated with it.

Service Overview

Enterasys Data Center Manager helps IT administrators understand the current state of the network and determine resource availability to ensure that their business objectives are met. DCM is delivered through a combination of NMS, middleware and integration services that interact with virtualization-enabled switches from Enterasys. This offering also includes planning, product specific configuration, integration, and end-to-end testing of network communications. The Enterasys Professional Services organization provides the following services:

- Implementation of software that integrates with the Enterasys NMS API as well as with the virtual infrastructure API
- Configuration of the Enterasys NMS components
- Virtual infrastructure integration with Enterasys NMS. This part of the service performs the integration between VMware vSphere/Citrix XenCenter/MS Hyper-V and Enterasys.

Data Center Manager Levels of Service:

Basic Implementation: PS-DCM-basic works with NMS configuration and modeling to conduct the basic virtual data center integration. It is limited to a maximum of 10 hosts, a single Hypervisor Technology (VMware vSphere, Citrix XENServer or MS Hyper-V), 100 VMs on the network, and a single Enterasys NMS Server. Upon implementation, a maximum of 2 VM roles including rules will be created to show and validate the overall architecture.

Advanced Implementation: PS-DCM-advanced works with NMS configuration and modeling to conduct the virtual datacenter integration. It is limited to a maximum of 50 hosts, any number of supported Hypervisor Technologies (VMware vSphere, Citrix XENServer, MS Hyper-V), 1,000 VMs on the network, and a single Enterasys NMS Server. Upon implementation, a maximum of 5 VM roles including rules will be created to show and validate the overall architecture.

DCM implementations beyond the basic and advanced deployments are possible. Please consult your Enterasys Sales Representative for assistance.

Requirements

Enterasys Data Center Manager leverages an Enterasys NMS deployment with authentication via NAC appliances in the data center and requires the following hardware and software elements to be implemented prior to the arrival of the Enterasys Professional Services Engineer:

- Fully functional NMS system and NAC appliances as described before with access to the hypervisor management APIs. It is recommend to have dedicated physical NAC appliances for this but not mandatory. Sharing NAC appliances with the access network deployment or using VM-based NAC appliances is possible.
- VMWare vSphere 4, Microsoft Windows Server 2008 R2 with Hyper-V or XenServer 5.5 is required in order to support the necessary APIs
- Hardware for the management components must be provided by the customer. The recommended product is the S-Series with S150 or S155 class modules. Minimum requirement is either an S-Series with S130 class modules and license upgrades for per port capacity or N-Series with similar license upgrades to accommodate the authentication of the number of endsystems (VM) per port and per chassis.

Minimum requirements

- Enterasys NMS version 3.3.1.25 or higher, including NAC Manager
- Java 6 Update 18 or higher
- Enterasys switches with appropriate scale (number of sessions) of the multi-user authentication and policy feature at connected server ports

Requirements for use with VMware

- VMware ESX 4.0 or higher
- Optional: VMware vCenter Server 4 Standard for vSphere with license "VMware vSphere 4 Enterprise Plus" for using distributed vswitches (if VM isolation is required) or higher

Requirements for use with Citrix XEN

- XenServer 5.5 with XENCenter or higher

Requirements for use with Microsoft Hyper-V

- Windows Server 2008 R2 with Hyper-V support
- A domain user account with Administrator rights on the server (to access the COM objects remotely) or in the Remote Users group
- The following two services must be running on the server: Server Service and Remote Registry Service

Exclusions

The service to be delivered will be limited to the functions and scale as stated herein. The following activities are not part of the scope of work. If needed, these items can be ordered and purchased separately.

- NAC implementation - with Authentication, Authorization or/and with Assessment and Remediation
- Integration of all network components into Enterasys NMS including topology and alarm/event configuration
- Network Maintenance

Data Center Manager Terms and Conditions

If Enterasys Data Center Manager is offered as a product in the future, the cost of the DCM implementation service will be credited towards the purchase of the NMS suite based product. The credit cannot exceed the total value of the DCM product.

Enterasys Professional Services Terms and Conditions are located on the Enterasys website at:

http://www.enterasys.com/products/terms/Professional_Services_Terms_and_Conditions.pdf

These terms shall govern all services provided pursuant to this solution.

Ordering Information

Part Number	Description
PS-DCM-basic	Enterasys PS NMS Data Center Manager DCM – basic
PS-DCM-advanced	Enterasys PS NMS Data Center Manager DCM – advanced

Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**, or +1-978-684-1000 and visit us on the Web at enterasys.com



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