Hospital Data Center Manager (DCM)

For Today's Healthcare Environment

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 a health 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 AND SECURITY

- 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

- Secure delivery of VDI applications to mobile devices

vmware® PARTNER
TECHNOLOGY ALLIANCE

CITRIX ready™

Automated unified provisioning improves efficiency in the virtualized data center

User based policy management for VDI improves security and efficiency in a VDI data center deployment

Comprehensive virtual machine and VDI 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

Overview

With the growth of medical applications such as electronic records, pharmacy and imaging systems, virtualization technologies are increasingly being deployed in hospital data centers 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 hospital data center, health IT administrators require a more comprehensive set of automation capabilities, coupled with increased network visibility and more granular controls. Extreme Networks 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 health 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.

Extreme® networks

In addition to server, storage and network virtualization, the VDI (Virtual Desktop Infrastructures) add-on enables standard desktops to be virtual machines. Employees and clincians can access their virtual desktop from various devices like their physical desktops, laptops, thin clients, mobile devices, tablets, or smartphones. This provides a secure mechanism to support mobile devices and BYOD (Bring Your Own Device) initiatives. There are many advantages to using VDI including improved service to the user and reduced operational cost for the support organization. Enterprise security is strengthened since the data is kept within the data center and is not stored on the device itself. Support costs decrease because patch management and recovery are centralized and the device accessing the desktop can easily be replaced with no configuration required. VDI also turns the access control model upside down – from client side enforcement to server/VM side enforcement. It is key to keep the same controls in place in the data center as in a typical fat client environment. The VDI Integration based on DCM enables user based policy management in the VDI data center to address this requirement.

Unified Management

Traditionally, hospital 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 Extreme Networks Data Center Manager solution is designed to reduce the workload and increase the efficiency of the hospital 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 Extreme Networks 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 Provisioning

An important part of managing a hospital'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. Extreme Networks 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. Hospital 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.

Extreme Networks Data Center Manager provides real-time VM asset monitoring and historical location tracking within NetSight™, Extreme Networks management solution. NetSight delivers the centralized visibility, granular control and automation required for the efficient management of this capability. NetSight 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. NetSight 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 NetSight. The synchronization of asset information into NetSight 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, NetSight 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

Extreme Networks 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 Extreme Networks 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

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

Extreme Networks 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 Extreme Networks 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

Extreme Networks 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 NetSight, middleware and integration services that interact with virtualization-enabled switches from Extreme Networks. This offering also includes planning, product specific configuration, integration, and end-to-end testing of network communications. The Extreme Networks Professional Services organization provides the following services:

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

DATA CENTER MANAGER LEVELS OF SERVICE:

Basic Remote Implementation: PS-DCM-BasicRemote works with NetSight configuration and modeling to conduct the basic virtual data center integration in visibility mode. 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 Extreme Networks Netsight Server. Visibility mode focuses on a simple data exchange for better network visibility. It only updates custom data and annotation fields.

Enabled features:

- Custom end systems info data updates (NetSight)
- Remote info data updates (Annotations, Plugins)
- Delivery of this service will be remote via vpn link

Advanced Implementation: PS-DCM-ESU works with NetSight 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 Extreme Networks NetSight Server. Upon implementation, a maximum of 5 VM roles including rules will be created to show and validate the overall architecture.

VDI integration: PS-DCM-VDI is an add-on option that enables assignment of user-based policies per virtual desktop for virtual desktops running Citrix XenDesktop or VMWare View.

The integration with XenDesktop is a one-way integration: username information is retrieved on virtual desktops and used

within the Extreme Networks NAC and Mobile IAM and nothing is written from NetSight to XenDesktop or even actively changed any configuration within XenDesktop. The username from XenDesktop can also be used to automatically assign a policy to each user as you could do with any 802.1X or Kerberos username.

The deployment is limited to 500 virtual desktops for the DCM basic service and 5000 for the DCM advanced service.

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

Extreme Networks offers the integration software free of charge to partners with the datacenter certification. The software and services can also be obtained via an Extreme Networks Data Center partner.

Requirements

Extreme Networks Data Center Manager leverages an Extreme Networks NetSight deployment with authentication via Mobile IAM or NAC appliances in the data center and requires the following hardware and software elements to be implemented prior to the arrival of the Extreme Networks Professional Services Engineer:

- Fully functional NetSight system and NAC, Mobile IAM appliances with access to the hypervisor management APIs. It is recommend to have dedicated physical NAC, Mobile IAM appliances for this but not mandatory. Sharing NAC, Mobile IAM appliances with the access network deployment or using VM-based NAC, Mobile IAM appliances is possible.

- VMware vSphere 5.5, 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 products are the S-Series, Summit Series or 7100 Series to accommodate the authentication of the number of end systems (VM) per port and per chassis.

- Remote VPN connection or collaboration session for the remote install modes.

MINIMUM REQUIREMENTS

- Extreme Networks NetSight 6.0, including NAC Manager

- Extreme Networks 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 ESXi with vSphere SDK

- Optional: VMware vCenter Server Standard for vSphere with license "VMware vSphere 5.5 Enterprise Plus" for using distributed vswitches (if VM isolation is required) or higher

REQUIREMENTS FOR USE WITH CITRIX XEN

- XenServer with XenCenter

REQUIREMENTS FOR USE WITH VMWARE VIEW

All of the VMware vCenter, ESXi requirements apply. The integration of VMware View does not require any special tool or software to integrate beyond the DCM integration. The virtual desktops simply need to be configured to use 802.1x and users have to use the View Client to access those desktops via PCoIP in order to allow user-based authentication. Extreme Networks S-Series, Summit Series and 7100 Series are suitable to authenticate each virtual desktop individually and apply a policy based on the username. In addition, standard DCM operation may be used to provision a rule for the connected port group of each VM, if user authentication via 802.1x is not available. Please see the VMware View VDI documentation for further information regarding the setup procedure

XENDESKTOP ADAPTER – ADDITIONAL REQUIREMENTS

- XenDesktop

- Windows Powershell 2.0 and Microsoft .NET Framework 3.5 SP1 or later

- Extreme Networks DCM XenDesktop Agent

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, Mobile IAM implementation - with Authentication, Authorization or/and with Assessment and Remediation

- Integration of all network components into Extreme Networks Netsight including topology and alarm/event configuration

- Network Maintenance

Data Center Manager Terms and Conditions

If Extreme Networks 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.

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

http://www.ExtremeNetworks.com/support/Professional_Services_Terms_and_Conditions.aspx

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

Ordering Information

PART NUMBER	DESCRIPTION
DCM-Basic	Data Center Manager Software Only - Does not include support or installation
PS-DCM-BasicRemote	Data Center Manager Remote Installation in Visibility Mode
PS-DCM-ESU	On-Site installation of the Extreme Networks Data Center Manager
PS-DCM-VDI	Extreme Networks PS NetSight Data Center Manager – VDI add-on for PS-DCM-ESU

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