SOLUTIONS DATASHEET

Reduce Energy Costs and Go Green with VMware Green IT Solutions and FalconStor Software

The IT Power Crisis

Energy consumption is a critical issue for IT organizations today. Computing equipment has become increasingly dense, energy costs are on the rise and many datacenters simply lack the power or space IT services require. Industry analysts estimate the annual cost of powering a server will soon exceed its acquisition cost.

Underutilized desktop and server hardware is at the root of the problem. Desktops and servers run at average utilization rates of only 8-15 percent yet while idle consume nearly as much power as they do when active. Hardware capacity is typically over-provisioned because it is hard to adjust dynamically. The result is too much hardware that is highly inefficient at delivering IT services.

Consequently, many IT organizations are looking for solutions that can help them reduce their energy costs and consumption while at least maintaining service levels and responsiveness to the business.

Go Green with Virtualization

VMware solutions can help reduce energy costs from the desktop to the datacenter by right-sizing your IT infrastructure. More than 100,000 customers—including all of the Fortune 100—rely on VMware to reduce costs, increase IT efficiency and go green.

- Reduce energy costs by 80 percent
- Dynamically power down servers without affecting applications or end users
- Create a green IT infrastructure while improving reliability, availability and service levels

Reduce Power Costs & Increase Resource Utilization

VMware virtualization gives you the power to right-size your IT infrastructure through server consolidation and dynamic load balancing across a pool of physical servers. By running 10 or more applications in virtual machines on a single x86 server, your IT organization can dramatically increase server utilization and reduce energy costs.

VMware® Distributed Resource Scheduler (DRS), a feature of VMware Infrastructure, continuously monitors capacity and resource requirements across your virtual infrastructure and ensures service levels while minimizing energy consumption. When excess capacity exists, VMware DRS intelligently consolidates workloads onto fewer servers without downtime or disruption and places unneeded servers on standby. When resources are required, VMware DRS brings powered-down hosts back online to ensure service levels are met.

VMware DRS allows IT organizations to right-size IT infrastructure in real-time and minimize power and cooling costs while delivering higher levels of availability and service to end users.

VMware Infrastructure has helped VMware customers reduce their energy costs and consumption by as much as 80 percent.

Improve Energy Efficiency for Corporate Desktop PCs

VMware solutions can also help you improve energy efficiency on the desktop. Many VMware customers are reducing their energy costs by using the VMware Virtual Desktop Infrastructure (VDI) solution to replace underutilized PC desktop hardware with thin clients that consume far less energy and do not need to be replaced as often.

With VMware VDI, administrators get the added manageability and control that comes with centralizing desktop images in the datacenter, while end users get convenient, flexible access to their own complete, customizable desktop.

VMware VDI extends powerful virtual infrastructure capabilities to the desktop, including dynamic workload balancing and distributed power management, which improve availability and efficiency.

Help Pay for Virtualization with Energy Efficiency Incentives

VMware virtualization is a proven solution for increasing energy efficiency, and many major utility providers now offer financial incentives for virtualization-based desktop and server consolidation projects. By participating in these incentive programs, you can achieve even greater financial savings and faster ROI with VMware virtualization solutions. Contact your local utility provider to find out if they offer financial incentives for virtualization-based consolidation projects.

Minimize Your IT Carbon Footprint

VMware virtualization solutions have a positive impact on the environment as well as the financial bottom line. Every server virtualized with VMware is equivalent to removing 4 tons of carbon dioxide (CO_2) from the environment or taking 1.5 cars off the road annually.

Learn More

To learn more about VMware solutions and products, visit http://www.vmware.com or call 1-877-4VMWARE.

Partner Solution Profile

FalconStor Software

FalconStor Software, Inc.
www.falconstor.com

Overview
FalconStor Software, the premier provider of TOTALLY Open™ Data Protection, delivers the industry's most comprehensive data protection and storage virtualization solutions.

Key Business Needs
Today's organizations are adopting virtualization to help consolidate resources, simplify management, and minimize overhead. In order to fully capitalize on virtualization technology, they need to treat virtual environments as they would physical ones, protecting them in a cost-effective way to ensure data availability and rapid recovery. FalconStor makes this possible.

Key Business Benefits
FalconStor provides TOTALLY Open Data Protection solutions that integrate seamlessly with VMware environments to enable you to create a centralized virtual storage infrastructure. These include solutions for business continuity/disaster recovery, backup optimization, and storage virtualization.

Business Results
- WAN-optimized replication with compression and encryption for fast, efficient remote DR, data consolidation, and bandwidth savings
- Thin Provisioning maximizes disk utilization while reducing storage costs
- Centralized management simplifies administration
- Application-aware Snapshot Agents ensure 100% transactional integrity
- Integration with Microsoft Exchange and Lotus Notes for fast message and application recovery

VMware and FalconStor
Integrated, comprehensive FalconStor solutions complement VMware technology to protect all of your data with 100% transactional integrity, delivering the most rapid local and remote recovery.

FalconStor Products
- FalconStor Virtual Tape Library (VTL) Virtual Appliance for VMware Infrastructure
- FalconStor Continuous Data Protector™ (CDP) Virtual Appliance for VMware Infrastructure
- FalconStor Network Storage Server (NSS) Virtual Appliance for VMware Infrastructure
- FalconStor Disaster Recovery (DR) Automation Solutions for VMware Infrastructure

Intelligent storage virtualization for organizations of all sizes and budgets

FalconStor® Network Storage Server (NSS) Virtual Appliance for VMware® Infrastructure

Industry Overview

VMware provides powerful server virtualization for small and medium business (SMB) and remote/branch office (ROBO) environments. In order to ensure high availability in these infrastructures, organizations need to leverage shared storage for disaster recovery (DR). Today's SMB and ROBO environments need a solution that can complement and enhance the capabilities of VMware High Availability, VMware VMotion, and VMware Distributed Resource Scheduler, eliminating the cost and complexity of building a SAN.

Solution Overview

The FalconStor® Network Storage Server (NSS) Virtual Appliance for VMware Infrastructure eliminates all barriers to server virtualization and brings affordable enterprise-class data protection and virtual SAN technology within the reach of any organization. FalconStor NSS Virtual Appliance is a pre-configured, production-ready virtual machine that creates a virtual SAN on a VMware ESX hosts by turning internal disk resources into a shareable pool of storage without the need for external storage arrays, SAN switches, or costly host bus adapters (HBA). Internal disk drives are detected by the software and incorporated into the management console through a simple GUI. Storage can be provisioned and securely allocated via iSCSI over standard Ethernet cabling. To enable high availability (HA), the FalconStor NSS Virtual Appliance can be deployed on two VMware ESX hosts that provide shared storage with each other as well as additional VMware ESX hosts.

By consolidating all the elements of a shared storage environment, the FalconStor NSS Virtual Appliance provides a cost-effective solution that delivers highly available shared storage in a VMware Infrastructure environment. Thin Provisioning technology and space-efficient snapshots further decrease costs by minimizing consumption of physical storage resources.

Solution Benefits

The FalconStor NSS Virtual Appliance provides enterprise-class data protection features including mirroring, replication, and application-aware snapshots that can maintain up to 64 point-in-time copies of each volume. Snapshot images provide 100% transactionally consistent copies of application data for fast recovery, as well as testing, development, auditing, reporting, etc. Thin Replication minimizes bandwidth utilization by sending only unique data blocks over the wire. Built-in compression and encryption further reduce bandwidth consumption and enhance security. Tape backup for multiple remote offices can be consolidated to a central site, eliminating the need for distributed tape autoloaders and associated management headaches, extra tape media costs, and other overhead.

VMware and FalconStor

The FalconStor NSS Virtual Appliance features a unique, TOTALLY Open™ architecture, which allows it to integrate readily with existing infrastructures, including VMware environments and technologies. This virtual appliance creates a virtual SAN on a VMware ESX host by turning internal disk resources into a shareable pool of storage. It enables key enterprise-class VMware features, including VMware VMotion, VMware High Availability, and VMware Distributed Resource Scheduler. FalconStor NSS Virtual Appliance offers fully application-aware snapshots that serve as a secondary source for VMware Consolidated Backup (VCB), limiting the impact on existing VMware ESX production servers.

To learn more about FalconStor solutions, please call 1.866.NOW.FALC or visit www.falconstor.com

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