Better Business Continuity with VMware Virtual Infrastructure and FalconStor

Business Continuity Challenges

Implementing plans to ensure business continuity for key IT services is a requirement for organizations today. Downtime of important applications is a costly proposition and extended downtime can even be fatal—industry research finds that a significant number of companies that experience extended interruption to IT services soon go out of business.

While most organizations recognize the importance of business continuity, their ability to provide high availability and disaster recovery for key applications is often constrained by the following challenges:

- **High costs.** Many business continuity solutions require significant investment in additional hardware, software and services. Disaster recovery plans in particular often require duplicating data center infrastructure, resulting in a proliferation of costly, underutilized servers.

- **Failure to meet recovery time and availability goals.**
  Due to the cost and complexity of business continuity solutions, organizations are often forced to compromise on solutions that are unlikely to meet goals for availability and recovery time objectives.

- **Overly complex and unreliable solutions.** Requiring significant equipment and personnel resources, the complexity of specialized solutions make them difficult to maintain and harder to ensure that sufficient staff are trained and available when needed.

Higher Availability with VMware Virtual Infrastructure

VMware's groundbreaking VMotion technology allows IT administrators to move running virtual machines (software containers that hold a complete operating system and applications) from one physical server to another without downtime. This capability makes it possible to conduct zero-downtime hardware maintenance by simply using VMotion to move running applications to other physical servers as needed.

Support for redundant network and storage interface cards is built into VMware® ESX Server, allowing network and storage interface cards to be shared by multiple virtual machines on a server.

Better Disaster Recovery with Virtual Infrastructure

VMware virtual machines are hardware-independent and thus any physical server can serve as a recovery target for any virtual machine. As a result organizations can significantly reduce the cost of hardware for disaster recovery by repurposing underutilized existing servers for recovery targets and disaster recovery testing.

With VMware virtual infrastructure, complex multi-step procedures using specialized software for bare-metal recovery and operating system recovery can be simplified to single-step file recovery. Because virtual machines are completely encapsulated in a small number of files, they can be restored to any hardware. This encapsulation property also makes it possible to use third-party replication software to replicate entire virtual machines to a recovery site, reducing recovery time to just a few hours.

Virtual infrastructure enables a more reliable disaster recovery plan. Because it simplifies disaster recovery processes, the ability to meet time-to-recovery targets is improved, testing of disaster recovery plans is simpler, and training personnel in disaster recovery procedures is easier.

Benefits of Business Continuity Solutions with Virtual Infrastructure

Customers who have used VMware virtual infrastructure to improve their business continuity plans have realized benefits including the following:

- **Reduced downtime.** Customers can eliminate much of their planned downtime with a virtual infrastructure solution. They can also prevent and reduce unplanned downtime, including dramatic reductions in time to recovery for disaster scenarios.

- **Lower costs.** Virtual infrastructure makes it possible for companies to implement better business continuity at a lower cost by slashing the need for additional hardware and specialized software.

- **Simplified processes.** Virtual infrastructure removes the complexity of maintaining duplicate physical systems for disaster recovery. It also eliminates and streamlines much of the recovery process.

Learn More

To learn more about VMware solutions and products, visit our Web site at http://www.vmware.com or contact us at us at 1-877-4VMWARE.

VMWARE CERTIFIED

VIRTUAL APPLIANCE

Key Highlights
FalconStor Software
www.falconstor.com

Overview
FalconStor delivers proven, comprehensive data protection solutions that facilitate the recovery of business-critical data with speed, integrity, and simplicity.

Key Business Needs
- Data growing as much as 60% per year
- Disappearing backup windows
- Need faster more reliable backup
- Need more granular recovery points than once a day
- Recovery of physical or virtual servers is too slow

Key Business Benefits
- Fast, simple backup/recovery with 100% integrity
- Recover from any point in time
- One platform for physical, virtual, local, remote protection
- Complete storage hardware independence

Business Results
- Fast recovery in 10 minutes or less
- Continuous access to data during outage
- Eliminates backup windows
- Reduces WAN replication by 70-90%
- Leverages existing storage hardware

VMware and FalconStor
FalconStor provides comprehensive data protection for VMware, offering integrated backup and DR services for physical and virtual machines. Our solutions optimize backup/recovery by eliminating backup windows and host performance impact.

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

FalconStor CDP Virtual Appliance for VMware Infrastructure: Integrated backup/recovery for physical and virtual machines

Recover applications from hardware or software failures in 10 minutes

Industry Overview

VMware virtualization technology is popular among CTOs, IT directors, and administrators for its ability to consolidate servers, minimize space utilization, and streamline management. However, virtual servers require the same level of data protection as physical ones do in order to minimize data loss and service downtime in the event of hardware or software failure. The business continuity challenge presented lies in shrinking backup windows, complex and slow recovery procedures, the difficulty of backup validation and effective disaster recovery (DR) planning, and expanding IT environments which include physical/virtual systems and local/remote offices. Companies need a simple, cost-effective solution to ensure business continuity.

Solution Overview

FalconStor Continuous Data Protection (CDP) Virtual Appliance for VMware Infrastructure is a cost-effective, simple-to-use client/server-based backup/recovery tool that completely protects systems, data, files, databases, email, and applications of both physical servers and virtual machines in local and remote sites.

The CDP Virtual Appliance for VMware Infrastructure integrates with the VMware ESX Server, enabling fast recovery with 100% data integrity. FalconStor DiskSafe™ and database agents run on a Windows server to capture changed data blocks made to a system or disk without impacting application performance. It mirrors data in real-time to the backend CDP server via iSCSI and takes point-in-time snapshots that enable users to roll back to a desired point and quickly recover data. The back-end CDP server retains up to 255 snapshots, which can be mounted directly for backup, verification, testing, and recovery in moments regardless of database size.

In the event of disaster, users can follow simple steps to recover services and ensure business continuity in 5 to 10 minutes. Users can:

- Recover a lost file or database in a minute
- Recover a virtual machine in 2 minutes
- Recover a mailbox in 3 minutes
- Recover a SAN storage in 5 minutevs
- Recover a physical server disk in 5 minutes
- Recover a physical server in 10 minutes
- Recover the services from a DR site in 30 minutes

Solution Benefits

Fast recovery with 100% transactional integrity. Users can recover services from any hardware or software failure – such as a lost file, system, or crashed server – in minutes. Database and messaging agents ensure data integrity during the snapshot process. Up to 255 snapshot recovery points can be used directly without lengthy file system checking.

Ease of use and management. The CDP Virtual Appliance is a unified solution for both local backup/recovery and remote DR. Its flexible architecture enables data recovery from a local or remote CDP server.

VMware and FalconStor

The CDP Virtual Appliance protects physical and virtual servers simultaneously using VMware ESX Server as the recovery platform. The CDP mirrored disk can be directly provided to the virtual machine via RDM, eliminating the need for time-consuming VMDK conversion and service downtime. It leverages VMware Converter to insert the drivers and tool, enabling physical-to-virtual (P2V) recovery of a crashed physical server in 10 minutes. In addition, it enables virtual-to-virtual (V2V) recovery of a crashed guest system in just 2 minutes. This enables companies to meet SLAs and saves the hardware cost of standby servers.

For more information please visit www.falconstor.com.