Building Disaster Recovery for virtual environments

Marek Pyka
CEO
ITC-Partners Sp. z o.o.
Sometimes you need more than a rack

Some example of disaster...
Some disaster, we can not predict...
But, we can always try...
Only 36% are using or piloting private cloud

30% can deploy on public or private cloud, as warranted
How secure are virtual environments?

Disaster recovery solutions...
Fabric components
Storage options

Windows Server 2012 R2
- Storage spaces
- Server Message Block 3.0 (SMB3) and Hyper-V SMB support
- Cluster storage volume
- Scale-out file server
- Online disk dedupe and tiered storage

VDI storage configuration
- Direct-attached, central SMB, or central CSV / SAN
- Storage location of User Profile Disks, parent virtual hard disk, and virtual machines can be configured separately for each collection
- Optimum use of high I/O operations per second versus high volume storage
VRS - Technical Preview Scenarios

Stretch Cluster

NODE1 in HVCLUS
NODE2 in HVCLUS
NODE3 in HVCLUS
NODE4 in HVCLUS

Manhattan DC
Jersey City DC

Server to Server

SRV1
SRV2

SR over SMB3
Host components
Hyper-V Replica

Windows Server 2012 R2

High Availability | Hyper-V Replication | Disaster Recovery

Site A

Physical server 1

Physical server 2

Hyper-V Replica

OR

Synchronous or asynchronous replication between storage systems

Site B

Physical server 3
Protection and recovery of assets across datacenters

**VM replication with Hyper-V Replica**
- Configurable syncs down to 30 seconds
- Tertiary site support
- Seamless integration with Hyper-V and clustering

**Recovery orchestration with Windows Azure Hyper-V Recovery Manager**
- At-scale disaster recovery with Windows Azure-enabled process automation
Microsoft Migration Accelerator

Customer 1 Datacenter

- Mobility Service
- Master Target (MT)
- Process Server (PS)
- The Migration Accelerator (MA)
- Configuration Server (CS)

Microsoft Azure

MMA Multitenant Portal

Orchestration

Data Channel
Proactively plan for automated remediation of infrastructure failures

System Center 2012 R2

Runbook Authoring | Automated Remediation

Proactive processes

Benefits

- Improved SLA support
- Supports compliance
- Process traceability
- Improved productivity
- Captures best practices
- Improved operational ROI
Guests components
Challenges of Guest Clustering

- Infrastructure Administrators
- VMs and Services are provisioned, but physical resources are opaque to users
- Enabling Guest Clustering requires a hole to physical infrastructure
Guest Clustering with Shared VHDX

- Introducing Shared VHDX Virtual Disks
  - Virtual disks that can be shared without presenting real LUNs to tenants
- Enabling Guest Clustering
  - Eases operations and management
  - Provides a business opportunity
Business application monitoring

Windows Server 2012 R2 | System Center 2012 R2 | Windows Azure

IIS | Operations Manager | GSM

Global Service Monitor

Virtualization platform
- Hyper-V

Compute
- WS
- WS
- ESX
- LINUX

Storage

Network

On-premises
- Software defined datacenter

VPN Device
Microsoft StorSimple Hybrid Cloud Storage

Connects On-Premises Servers to Azure Storage in Minutes with No Application Modification

Benefits

- Consolidates primary, archive, backup, DR thru seamless integration with Azure
- Cloud snapshots = revolutionary speed, simplicity and reliability for backup and recovery
- Reduces enterprise storage TCO by 60–80%
- Storage de-duplicated, compressed and encrypted before writing to Azure Storage.

aka.ms/StorSimpleDemo
Cloud Snapshots Provide Rapid Recovery

Windows Azure

Cloud Snapshots

Production Data

Enterprise Data Center 1
Connect many servers to cloud storage and scale data sets with StorSimple solution

Production Data

Enterprise Data Center 2
Rapidly recover to any data center (location independent) via mounting the cloud
Sumary
Security compliance strategy

- Security goals set in context of business and industry requirements
- Security analytics & best practices deployed to detect and respond to threats
- Benchmarked to a high bar of certifications and accreditations to ensure compliance
- Continual monitoring, test and audit

Security Compliance Framework

- Business Objectives
- Industry Standards & Regulations
- Test and audit
- Security analytics
- Security benchmark analysis
- Risk management best practices
- Certificates and Attestations
FAQ?
marek.pyka@itc-partnes.pl