



How to Build a Local Business Availability Solution: Microsoft Hyper-V

The Intronis ECHOplatform offers the ability to restore workloads running on Microsoft Hyper-V virtual machines (VMs) within minutes after a failure by launching new application instances and connecting these to application data on local backup storage. By design, these services can be deployed using off-the-shelf hardware that suits your business model and your clients' environments. Unlike other platforms, these Intronis solutions require no proprietary hardware, and thus offer high flexibility and margin potential.

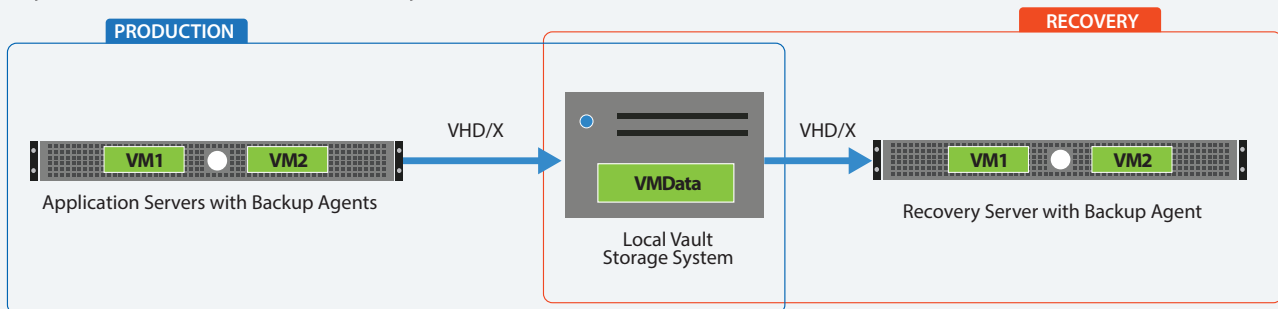
The following is (a.) an overview of the functional components of this local storage architecture, (b.) a brief explanation of the role of each component, and (c.) recommended technical specifications.

(Note: Please refer to similar configuration guides for physical server or VMware vSphere environments.)

Business Availability Service Options for Microsoft Hyper-V

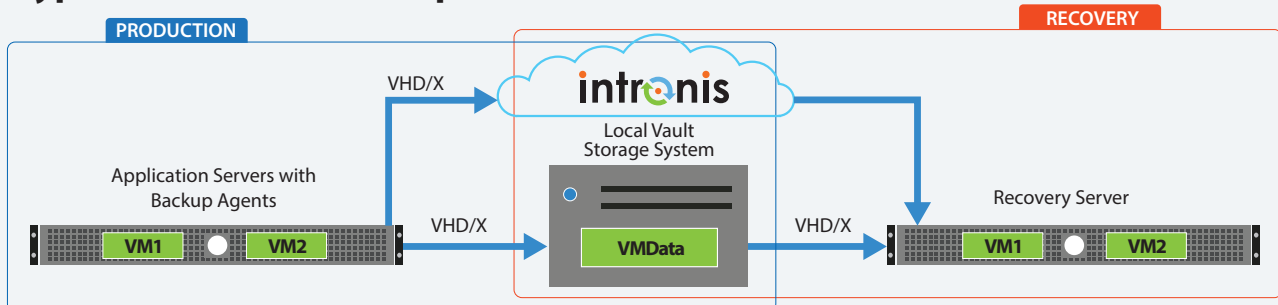
Intronis ECHOplatform supports two image-based services designed to maximize business availability for Hyper-V environments: **Hyper-V Rapid Recovery** and **Hyper-V Standard Backup & Restore**.

Generic Architecture Hyper-V Rapid Recovery



Hyper-V Rapid Recovery is recommended for applications with Recovery Time Objectives (RTOs) within minutes. This service uses Microsoft Hyper-V VMs to run applications connected to image-based backup data in the event of a VM or server failure.

Generic Architecture Hyper-V Standard Backup & Restore



Hyper-V Standard Backup & Restore is recommended for applications with RTOs within hours. This service allows image-based VM data to be backed up to local storage (e.g., to support business continuity strategies), the Intronis cloud (e.g., to support disaster recovery plans), or both, and restored to a server running Microsoft Windows with Hyper-V.





Local Vault Storage System



The function of the **Local Vault Storage System** is to maintain and protect image-based backup data. This data will include a mix of recent and historical image data. In a **Rapid Recovery** scenario, Hyper-V VM data is imported from a local storage system to a **Recovery Server** and then booted. In a **Hyper-V Standard** recovery scenario, virtual machines can be restored either from the cloud or local storage, and then imported into Hyper-V or mounted as virtual disks to a new or repaired server. (Note: Restoring from local storage will be much faster than from the cloud.)

To serve these functions effectively, we recommend the following storage system specifications:

Standard Workloads (up to 10 VMs)	Mission-Critical Workloads
SATA or NL-SAS, RAID 5 or RAID 1	SAS, RAID 6

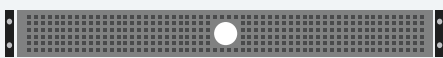
NAS Products

For maximum flexibility and economy, the Intronis ECHOplatform is designed to work with the majority of NAS systems currently on the market. Certain models, however, may pose limitations when used with **Rapid Recovery** due to varying support for Microsoft VHD/X virtual disk formats. As products are subject to change, we recommend testing all NAS products in controlled environments prior to production deployment.

The following NAS products have been tested and are currently supported for use with **Rapid Recovery**.

Vendor	Model	Notes
QNAP	TS-453 Pro	Use 512/512e disks
Buffalo	TeraStation TS1200D	Use 512/512e disks

Recovery Server



To ensure the fastest time to recovery, each **Rapid Recovery** configuration should incorporate a **Recovery Server** running Hyper-V.

After running a **Rapid Recovery** restore, an admin can import Hyper-V files from local storage into Hyper-V Manager and boot them to restore operations.

The **Recovery Server** must meet the following minimum requirements:

- 2 GHz dual-core CPU
- 1 GB of Total RAM (500 MB free RAM during backup, restore, or delete operation)
- Free disk space equaling twice the size of your largest protected file (not required for VM backups)
- Broadband Internet Connection
- Microsoft .NET Framework 3.5





To enable recoveries within 15 minutes, you can power up and boot a VM on an existing Hyper-V server after a failure occurs, or keep a **Recovery Server** powered on at all times. You can also choose to procure and deploy a **Recovery Server** after a failure occurs. **Hyper-V Rapid Recovery** deployment options suit a wide range of budgets and recovery requirements.

We recommend keeping a **Recovery Server** on hand for **Hyper-V Standard** recoveries, although it does not need to be powered up until a failure occurs.

(Note: Hyper-V Rapid Recovery supports production servers running Windows 7, Windows 8.1, Windows Server 2008 R2, Windows SBS 2011, Windows Server 2012, and Windows Server 2012 R2.)

Technical Support



You can find additional technical resources on the Knowledge Base at Intronis Essentials: Support@Intronis.com.

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Intronis provides world-class data protection solutions for Small Businesses, delivered exclusively through the IT channel. The Intronis ECHOplatform securely protects physical and virtual data with native support for physical imaging, VMware, Hyper-V, Exchange, and SQL, all through a re-brandable central management console that integrates with major RMM and PSA tools. Offered with unlimited and fixed-fee storage pricing per SMB account, IT service providers are able to rapidly grow revenue and scale profit. Through Intronis ECHOshare, channel partners can easily expand their IT services portfolio to include tightly integrated business-grade file sync and share. Learn more at www.intronis.com.

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