



# Best Practices for VMware

## Barracuda Cloud LiveBoot

Use Barracuda Cloud LiveBoot to boot VMware virtual guest systems in the Barracuda Cloud. Cloud LiveBoot is useful as a sandbox for testing purposes. For more information, see [Cloud LiveBoot Virtual Machine Recovery](#).

## Barracuda LiveBoot

Use Barracuda LiveBoot to instantly recover VMware virtual guest machines (VM). In the event of a failure with your primary storage system, Barracuda Backup acts as the datastore for your VMware ESXi server. For more information, see [LiveBoot Instant Virtual Machine Recovery](#).

## Best Practice

Document the VMware configuration in detail and any subsequent changes. Additionally, it is highly recommended that you familiarize yourself with the VMware documentation for management, disaster plans, and recovery.

## Backup Methods

Barracuda Backup provides three methods to protect your virtual environment:

1. Host-based (Agentless) protection;
2. Guest-level (Agent) protection; and
3. Hybrid host- and guest-level protection.

Each backup method provides its own advantages and disadvantages. The best practices in this guide are designed to help you find the best level of protection for your virtual environment and to meet your recovery objectives.

## Host-Based (Agentless) VMware Protection

- Requires [VMware vStorage APIs for Data Protection \(VADP\)](#); VADP is included with all licensed [vSphere editions](#): Standard, Enterprise, and Enterprise Plus
- Provides image-based agentless protection of guest virtual machines (VMs)
- Quick and easy to configure, no need to add VMs as individual sources:
  - Configure vCenter server as a source if managing multiple ESX servers in a cluster
  - Use ESX servers as a source if standalone or not managed by vCenter
- Automatically detects new and removed VMs
- Provides granular file/directory recovery via [VMDK Browsing](#)
- Preferred method of protection for quick disaster recovery and to meet stringent recovery time objectives
  - Use LiveBoot to instantly spin up a VM on an ESX server
  - Use Cloud LiveBoot to spin up a VM in Barracuda Cloud Storage
  - Quicker and easier method of data restoration, including:



- Restore to any ESX server
- Choose destination datastore
- Overwrite or rename the existing VM
- Download individual virtual disks
- Uses VMware's [Changed Block Tracking \(CBT\)](#) for incremental forever backups
- Host-based VM backups do not include the following as VMware cannot snapshot:
  - Physical Raw Disk Mapping (RDM) devices
  - Independent disks
- Barracuda LiveBrowse does not support Windows Dynamic Disk partitions; to restore files and folders from a VMDK, back up these disks using the Barracuda Backup Agent
- You cannot exclude individual files or directories from backup
- Can cause an increased storage footprint due to image-based backup method, better for short-term retention
- Protect Microsoft applications running on VMs using the Barracuda Backup Agent as separate sources in conjunction with host-based backups, including:
  - Microsoft Exchange Server - Only databases must be protected using the Barracuda Backup Agent. If you are using host-based VM backup in conjunction with Agent backup, you do not need to include the File System and System State with the Agent backup.
  - Microsoft SQL Server - Only databases must be protected using the Barracuda Backup Agent. If you are using host-based VM backup in conjunction with Agent backup, you do not need to include the File System and System State with the Agent backup.
  - Microsoft Active Directory - Databases and System State must be protected using the Barracuda Backup Agent.

#### **Guest-Level (Agent) VMware Protection**

- Provides incremental forever file-level protection of guest VMs using the Barracuda Backup Agent
- Backups treat each VM like a physical client
- Application-consistent protection for Microsoft applications, including:
  - Microsoft Exchange Server
  - Microsoft SQL Server
  - Microsoft Active Directory
- Exclude any file, file type, or directory
- Run pre- and post-backup scripts
- Back up Physical RDM devices
- Back up Independent disks
- Provides more granular recovery options including:
  - Restore files and directories to any client running the Barracuda Backup Agent
  - Designate the path where files are restored
  - Download individual files and directories (locally and cloud)
- Complete system restore through:
  - Bare metal restoration to a new computer without a pre-installed operating system

## Barracuda Backup



- Restore the entire file system or individual volumes to a target system with a pre-installed operating system
- Provides a smaller storage footprint due to file-level backup and deduplication; this is potentially a better option for servers needing to adhere to longer retention policies, such as a file server needing to retain historical revisions for several years
- Does not provide instant recovery via LiveBoot or Cloud LiveBoot

