



Acronis[®] True Image Echo[™] Corporate Overview & Reviewer's Guide

Introduction

This guide is designed for members of the media and others who will be evaluating the corporate family of Acronis True Image Echo disk imaging, backup and bare-metal recovery software. We will look at not only the features and benefits of the product, but also some of its underlying technology.

Here you will learn not only the capabilities of the product, but also a bit about how it competes in the market and some of the key features and capabilities. You also will learn some of the technology that makes it possible for Acronis True Image server and workstation products to do what they do — something that challenges all of the conventional thinking of how to do disk imaging in Windows[®] and Linux[®] - and provides users with new and unique capabilities in an easy-to-use, easy-to-understand environment.

Chapter 1

What is Acronis® True Image Echo™?

Acronis True Image Echo falls generally into the categories of backup and disaster recovery software, as well as migration software for physical and virtual environments. Acronis True Image Echo creates an exact duplicate image of the live disk drives, including the operating system, all configuration files, programs, updates, databases, and such at the drive sector level. This image is independent of the original file format and the hardware from which it was imaged.

The image can be saved to internal or external disk drives (including USB 2.0 and FireWire), networked drives, to a writable CD or DVD, tape, or to virtually any other storage medium. The image also can be saved to the same disk being imaged in the Acronis Secure Zone; we'll address this feature later. The image can be used for any number of purposes, including disaster recovery, data backup, system migration, and disk cloning.

The corporate family of Acronis True Image consists of the follow products:

Acronis True Image Echo Enterprise Server

Complete online server backup and recovery solution for servers throughout an entire network. The products primary uses include:

- Create an exact, transportable server disk image over the network and across network domains
- Backup and restore individual files and data bases
- Server disaster recovery
- Instant bare-metal server restore
- Migration to and from virtual and physical environments on networked servers
- Central administration and remote backup and restore

Acronis True Image Echo Workstation

Comprehensive data and system protection solution for networked desktop PCs and laptops

- Online data and system backups
- Create an exact, transportable hard drive image of networked workstations
- Backup and restore individual files and folders
- Bare-metal restore in minutes
- Migration to and from virtual and physical environments
- Acronis Secure Zone™ allows remote users to maintain a local image of their hard disk that can be accessed regardless of the logical state of the hard disk
- Central administration and remote backup and restore

Acronis® True Image Echo™ Server for Windows®

Onsite system protection and recovery solution for standalone and departmental Windows Servers

- Create an exact, transportable Windows server disk image
- Backup and restore individual files and databases
- Server disaster recovery
- Instant bare-metal server restore
- Migration to and from virtual and physical environments on local servers
- Ideal for SMB with 5 or fewer servers that do not require network management

Acronis True Image Echo Server for Linux

Onsite system protection and recovery solution for standalone or departmental Linux servers

- Create an exact Linux server disk image
- Backup and restore individual files and databases
- Server disaster recovery

- Instant bare-metal server restore

Acronis True Image Echo Universal Restore

- Restore a server to the same or to dissimilar hardware
- Restore a server to a physical or a virtual machine

Compelling New Features

Acronis True Image Echo has several new features that set it apart from the rest of the industry. This document will provide a complete listing of all key features in each of the products, but we will focus in depth on those features that IT managers will find most compelling. First, let's look at a full list of features in the corporate product family. Then we'll drill down on the critical features. You'll be able to identify these features as they are in red text. You'll find the graphic on the next page.

FEATURES	Enterprise Server	Server for Windows	Workstation	Server for Linux
System Protection				
Disk imaging	√	√	√	√
Differential and incremental backups	√	√	√	√
File-based backups	√	√	√	√
Exclude file types from file-based backups	√	√	√	√
Compression	√	√	√	√
Password Protection for Acronis Secure Zone	√	√	√	√
<i>NEW! Industry-standard Archive Encryption</i>	√	√	√	√
<i>NEW! Multi-volume snapshots</i>	√	√	√	√
<i>NEW! Event-driven backup options</i>	√	√	√	
Recovery				
Create bootable media using WinPE and BartPE	√	√	√	
Bare-metal restore	√	√	√	√
Acronis Universal Restore <i>(restore to different hardware)</i>	√	√	√	
Mount images in read/write mode	√	√	√	√
Acronis Snap Restore (priority application restore)	√	√	√	
Acronis Recovery Manager <i>(boot recovery environment with F11 key)</i>	√	√	√	√
<i>NEW! Convert image files to VMDK or VHD for instant virtualization</i>	√	√	√	
<i>NEW! Dynamic Disks Support</i>	√	√	√	
<i>NEW! Automatic reboot after restore option</i>	√	√	√	√
Administration				
Backup Scheduling	√	√	√	√
Notifications (email, pop-up, SNMP)	√	√	√	√
Logging (Acronis log, Windows Event Log)	√	√	√	√
<i>NEW! Wake-On-LAN support</i>	√	√	√	√
<i>NEW! Backup multiple increments throughout a single day</i>	√	√	√	√
<i>NEW! Schedule periodic backup validation</i>	√	√	√	√
<i>NEW! Clone existing schedule</i>	√	√	√	√
Remote Administration				
Central management console	√		√	
Manage backup operations for groups of machines	√		√	
Remote installation and configuration	√		√	
Remote Restore	√		√	
PXE Support	√		√	
User Interface				
Wizard-driven GUI	√	√	√	√
Command-line interface	√	√	√	√
Online Protection				
Hot imaging/backups	√	√	√	√
Microsoft Volume Shadow Copy Service (VSS) Support	√	√		
CPU/Network Bandwidth/Disk Write Speed throttling	√	√	√	√

*The Acronis Universal Restore add-on option is not available for Microsoft Windows NT Server, NT 4.0 SP6, 98, or Me

Chapter 2

What makes Acronis True Image Echo unique and mission-critical?

Acronis True Image Echo Server for Windows®

Are you running a small organization with a couple of mission-critical Windows servers in one location and a limited IT staff? How much business would you lose if even one of these servers went down? Acronis True Image Echo Server *for Windows* provides comprehensive system protection and recovery of Windows servers and allows you to get back to business and minimize downtime.

Acronis True Image Echo Server is ideal for an SMB environment, as well as a branch or remote office of a larger enterprise, school, government office, or any operation where servers play an important role but IT expertise might not be on hand all day every day. It allows you to create an exact disk image of a hard drive, including the operating system, applications, databases, and configurations or backup individual files and folders. Within minutes, complete system recovery can be accomplished from an image, with no reinstallation of the operating system, applications or any reconfigurations or individual files and folders restored. Recovery can be performed to an existing system, to a new system with different hardware, or to a virtual server.

Better yet, Acronis True Image Echo Server is easy to implement. Its wizard-driven user interface walks users through backup and recovery tasks, enabling the solution to be implemented with minimal to no user training. And because the product can image live servers, users are never impacted or forced to log off during creation of a server image. Using the Acronis Drive Snapshot technology, the product can backup critical operating system files, the master boot record, partition tables and any partition-based boot records without a reboot. With support for Microsoft Volume Shadow Copy Service (VSS), even mission critical database applications, such as Microsoft Exchange, SQL and Oracle, can be backed up during business hours because they do not need to be taken offline.

New Features

- **Enhanced support for virtual machines** – Using a combination of Acronis Universal Restore and enhancements to Acronis True Image Echo, the software now provides enhanced support for virtual technology, be it from Microsoft, VMware, XenSource, SWsoft or Parallels. Images can be moved from physical to virtual machines, physical to physical machines, virtual to physical machines, and virtual to virtual machines.
- **Conversion tools for Virtual Machines** – Convert Acronis images to VMDX or VHD files for instant virtualization
- **Dynamic Disk support**
- **Automatic reboot** – Boot automatically after a restore operation
- **Wake on LAN support** – Increased network management capability
- **Backup throughout the day** – You can now schedule automatic full and/or incremental and differential backups throughout the day
- **Clone existing schedules** – Increased flexibility in creating imaging schedules
- **Periodic backup verification** – Ensure your backups are valid by periodically verifying them on a scheduled basis

Acronis True Image Echo Server for Linux[®]

Let's say for a moment that you are the sys admin at a small organization running a couple of mission-critical Linux servers in one location with limited IT staff. How much business would you lose if these servers went down? Acronis True Image Echo Server *for Linux* provides comprehensive system protection and recovery of Linux servers and allows you to get back to business and minimize downtime.

That's right – Acronis protects Linux servers as well as Windows servers.

Acronis True Image Echo Server *for Linux* allows you to create an exact disk image of a hard drive, including the operating system, applications, databases, and configurations or backup individual files and folders.

Within minutes, complete system recovery can be accomplished from an image, without reinstalling your Linux operating system, applications or any reconfigurations. Just like our Windows software, recovery can be performed to an existing system, to a new system with different hardware, or to a virtual server. Unlike Windows, however, you won't need the Acronis Universal Restore module; Linux doesn't require it.

Better yet, Acronis True Image Server for Linux is easy to implement. Its wizard-driven user interface walks users through backup and recovery tasks, enabling the solution to be implemented with minimal to no user training. Moreover, the Windows-like GUI hides the complexity of managing Linux-based systems, enabling IT administrators unfamiliar with Linux to manage these servers. Based on the exclusive Acronis Drive Snapshot technology, Acronis True Image Server *for Linux* allows you to create a server disk backup image without interrupting server operations, providing 24 X 7 availability.

Acronis True Image Universal Restore

What is Acronis Universal Restore?

- This feature allows customers to restore an image to different or replacement hardware or to virtual machines.

Why is this feature important?

- 44% of data loss is due to system or hardware malfunctions – such situations may require replacement systems
- Refresh lifecycles dictate being prepared - 28% of businesses replace desktop PCs every three years. Laptops are replaced more frequently - 12% replaced every 2 years and 51% are replaced every 3 years
- And, with the aftermath of natural disasters such as fires, floods and hurricanes, businesses need a way to recover systems damaged beyond repair. According to the US Bureau of Labor

Statistics, analyst reports, 93% of the companies that lost their data center for 10 days or more filed for bankruptcy within one year of the disaster and 50% of businesses that found themselves without data management for this same period of time filed for bankruptcy immediately

How does Acronis Universal Restore feature work?

- Step 1: Boot into our recovery environment
- Step 2: Select the image to restore and the replacement system
- Step 3: Universal Restore initiates restore process
- Step 4: Universal Restore detects machine type and installs appropriate Hardware Abstraction Layer (HAL)
- Universal Restore detects hard disk controllers (SCSI and IDE) and other drivers

Or

- Prompts user for driver locations
- Step 5: Reboot machine and begin mini-setup to load Windows drivers into the Operating System (video card, sound card, etc)
- Product keeps Security Identifier (SID) and network information (domain, workgroup, username, and password)

How does this compare to our competitors?

- Only one competitor includes this functionality, but this product has issues...
- The competition requires an add-on license *and installation, and* it cannot be used “after the fact.” You must create an image with the option activated, or you cannot restore to different hardware. Acronis doesn’t have any such restriction. If you have not purchased

Universal Restore initially, you can purchase it later and use it for an image created previously.

- Competition forces user to insert SID and network account information and reconfigure all primary network and system settings manually. Acronis maintains the SID and network settings, so our restore is faster and less complex. When a system is restored with Acronis True Image Echo Enterprise Server, all domain, workgroup, username and password information is retained. The IP address and other network-specific information is obtained when the restored server is rebooted.
- Competition locks out ability to add device drivers during restore. Acronis permits users to add drivers for network cards, video cards, sound cards, etc. enabling a complete recovery.

Universal Restore Scenario #1

An IT manager has a group of servers in an office. Hot spares are kept at that same facility in case a drive, network card or other component is damaged. Due to torrential rain, the servers, along with the hot spares, are swept away in a flood. Before the disaster occurred, the IT manager created an image of his mission-critical servers using Acronis True Image Echo Enterprise Server. That image was stored off-site on a networked server. As soon as the flood destroyed his server room, the IT manager restored the image to a completely different set of servers. Although the hardware was different (different motherboard manufacturer, different NICs, different hard disks, different storage controllers, etc.), the image was restored in minutes at the new location and the company was able to resume business operations.

Universal Restore Scenario #2

A company has a mission-critical server that is running multiple virtual machines. The IT manager needs to move one of the virtual machines to a different physical server that uses different hardware. An image is created of the virtual server on the original system and then restored to the new system. Acronis True Image products see virtual and physical hardware in exactly the same way; Universal Restore is a key component to the restoration of the image onto dissimilar hardware, be it virtual or physical.

Universal Restore Scenario #3

An IT manager purchases Acronis True Image Echo Enterprise Server, but has not considered the need to restore the image to different hardware. He also has a server running a competitor's product that does not include its optional module to restore to dissimilar hardware. Both servers are damaged in a fire and the images of the servers need to be restored to new hardware. In the case of the server protected by Acronis, the IT manager need only obtain a copy of Acronis True Image Universal Restore for Acronis True Image Echo Enterprise Server, install the new module in the same directory as Acronis True Image, and then run Acronis True Image Echo Enterprise Server in order to restore the image to new hardware. This is true even if the original image was made by an earlier version of the Acronis True Image Enterprise Server. However, the other server cannot be restored. Even if the IT manager were to purchase a license for the option to restore to different hardware after the fact, the competitor's product could not restore the image since that software was not activated prior to the image being made; the license information must be included in the original image file.

64-Bit Hardware & Software Support

What is 64 bit?

Bits

- The bit rating of a processor determines the largest numerical number that a processor can handle. The largest number that can be processed in a single clock cycle will be equivalent to 2 to the power of the bit rating. Thus a 32 bit processor can handle 2^{32} or roughly 4.3 billion. A number greater than this will require more than one clock cycle to process. A 64 bit processor can handle up to 2^{64} or roughly 18.4 quintillion.

Memory

- The bit rating of a processor is affected by memory. 32 bit processors are constrained to a maximum of 4 GB or 2 GB RAM access. While this is more than adequate for many types of applications, it is not optimal for servers running large databases. 64 bit processors do not have these constraints – they can support up to an order of billion gigabytes of RAM.

Operating Systems and Applications

- Full use of a processor is only as good as the software written for it. Running a 64-bit processor with a 32-bit operating system will waste a large amount of the computing potential of the processor – it will still have the same limitations as a 32 bit processor.

The same goes for running 32 bit software.

What does Acronis True Image Echo support?

- Acronis True Image Echo corporate products will support both 64-bit hardware and software
- The products also supports 64-bit processors that are X86 based (today, that includes all Intel and AMD 64-bit processors), in addition to 32-bit processors

- Acronis True Image Echo corporate products also support 64-bits in the Linux environment

Why does it matter?

For the high-end computer market that is near the limit of 32-bit processors, 64-bit hardware and software is important because it brings the following benefits:

- Increased productivity – workers can spend more time thinking and producing, rather than waiting for software/hardware to finish processes
- Lowers cost of ownership – each server can support larger number of users and applications, requiring fewer servers
- New application opportunities – new applications can be designed without the 32-bit limit
- As corporations migrate from 32-bit technology to 64-bit technology, they need to know that their existing investments will work with the new systems. Having a product that supports both technologies can future-proof an enterprise that is planning to upgrade

Who needs 64-bit support?

In a corporate environment, 64-bit processing makes multitasking easier with less stress on the processors. For example, a processor might be running a database application with one CPU core while also running anti-virus software with the other. Some corporations today require 64-bit support, not because they use it now, but because they see all new CPUs heading in that direction. As hardware moves to 64-bits, software will as well. Acronis supports both 64-bit and 32-bit technology in the same software package, protecting IT investments for years to come.

- Anyone using or planning to use a 64-bit CPU from AMD or Intel and Microsoft Windows x64
- Anyone using or planning to use a 64-bit CPU from AMD or Intel and any 32-bit Windows operating system
- Anyone using or planning to use a 64-bit or 32-bit CPU from AMD or Intel and Linux

Acronis Secure Zone™ and Acronis Recovery Manager

What is the Acronis Secure Zone?

- The Acronis Secure Zone allows users to save backups to a special hidden partition on a hard disk drive
- The partition is completely separate from the operating system and all applications, and thus will not be affected by any software or operating system malfunctions

What is the Acronis Recovery Manager?

- The Acronis Recovery Manager is a unique feature that enables users to boot a failed system and initiate recovery by selecting the F11 key
- It will work, even if the operating system will not boot

Why are these features important?

- Both features enable remote users and traveling users with system protection and recovery that can be initiated from their systems, without access to any outside storage or boot media
- Moreover, because the product is so easy to use, many users will be able to step through a recovery on the road without having to contact their help desk for assistance

How do these features work?

Setting up self service recovery with the Acronis Secure Zone and the Acronis Recovery Manager for remote or traveling users is easy. Here are the steps:

- Install the Acronis True Image agent on a laptop
- Create an Acronis Secure Zone on the local machine

- Create an image task that saves the image to the Acronis Secure Zone on the local machine
- If a user has an unbootable laptop, they can select the F11 key and recover a local image from their machine WITHOUT being connected to the network!

Do our competitors have this feature?

- While Symantec has the Lights Out Restore option to remotely restore servers and desktops on the network, this is **NOT** the same feature. Why? Lights out restore requires that the machine be connected and an IT admin perform a restore from a remote location. It is also an add-on license and a separate installation.
- The Acronis advantage is the patented Acronis Secure Zone and the Acronis Recovery Manager.
- Acronis enables self service as users can restore a system themselves from their own machine – even if the OS is completely corrupted and the system will not boot.
- Only one competitor offers part of this type of functionality – Paragon Drive Image with the the Paragon Backup Capsule
- However, Paragon does not include F11 (no boot media feature), so users are forced to use bootable media to boot a failed machine In addition to image-based backups, all of the Acronis True Image Echo products offer file-based backups. IT managers have indicated that while they need image-based backups for disaster recovery, they also like having file-based backups for quick retrieval of data files. Acronis now provides the best of both worlds — the most advanced image-based technology that can create the image without interrupting the user or any running applications, but also a comprehensive file-based backup approach when that strategy is called for.

Acronis has the ability to exclude system and hidden files, as well as to allow the user to specify specific files that they want excluded. This means that if an IT manager is imaging servers or workstations and wishes to exclude certain file extensions, such as MP3s, the software can do that. Likewise, if you choose to image only your video files, you can exclude everything except those file extensions. Supported operating systems include all current workstation versions of Windows, including Windows 2000/XP/Vista/Windows 2000 Server/Windows 2003

Server/Small Business Server. It also can be used with other non-Windows operating environments, including Linux and Novell NetWare. Supported file systems include Windows FAT 16, FAT 32 and NTFS, as well as Linux Ext2/Ext3, ReiserFS, JFS and XFS file systems, as well as Linux SWAP partitions.

To find out more about Acronis True Image products:

Call Corporate Marketing
+1 650 875-7593, ext. 7030
media@acronis.com

Call Corporate Sales
+1 877 669-9749
E-mail sales@acronis.com

For OEM inquiries:
Call +1 650 875-7593
E-mail oem@acronis.com

9/4/2007