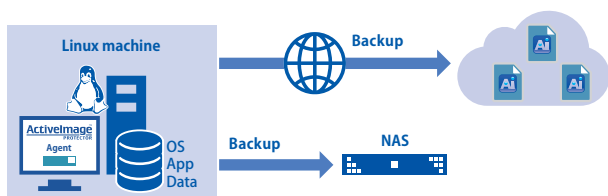# DATASHEET

ActiveImage™ 2022 PROTECTOR
Linux

A data / system backup and recovery solution for Linux Server

ActiveImage Protector™ Linux is an image based backup and recovery solution for Linux servers and supports the latest and wide-ranging Linux distributions. ActiveImage Protector™ backs up entire virtual machines hosted on Linux servers' hypervisors. The backup image includes the system OS with all your applications and data. When an emergency arises, a wizard-driven interface guides you through the full system or single file or folder recovery. The backups can be saved to any available storage location depending on the system configuration or intended use of the backup files, including USB HDD / SSD, cloud storage as well as commonly used NAS, etc.
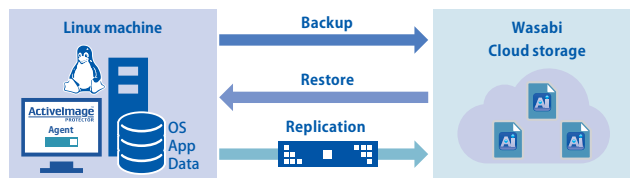
A variety of Storage Media are supported

- Cloud storage, including Wasabi, Amazon S3, Azure Storage, etc
- RDX tape to provide offline storage
- Locally connected HDD, NAS, USB storage, & SFTP server

Support for LVM Backup / Restore

- Support for collective backup of disks configured with Logical Volume Manager
- Support for bare metal recovery (BMR) by using a backup of disks configured with Logical Volume Manager
- Support for XFS formatted disks configured with Logical Volume Manager

Flexible Scheduled Backup

- Backup tasks can be automatically executed according to the one-time, weekly, monthly or on a specific day of a week
- Multiple schedules can be defined for individual backup tasks (Multi-Scheduling Feature)
- Automatic backup when a machine is shutting down

Back up on daily basis according to a weekly schedule

Full backup each month for an ongoing weekly schedule backup task
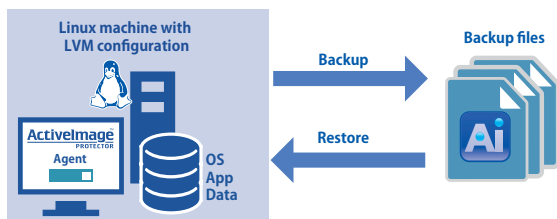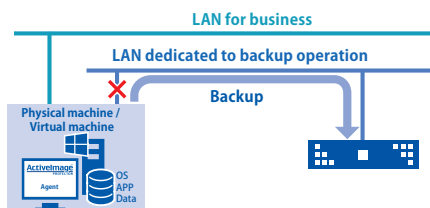

Cloud Storage Wasabi with object lock is supported

- A bucket enabled with object lock is supported as a storage destination
- The same functions are provided for local NAS
- Supported as offsite replication target

Safely protect backup files

- Destination Isolation Option: Once the backup task completes, disconnect access to a backup storage
- Offsite Replication: Replicate backup files to a remote site
- Encrypt backup images

Disconnects LAN upon completion of a backup task
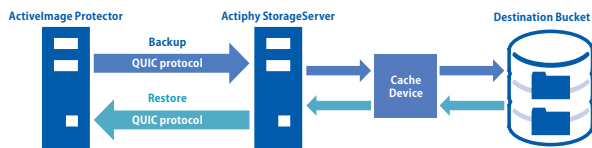

Easy to operate GUI

- Intuitive and easy to operate GUI
- Built-in wizards guide you through every step to perform backup and restore operations
- Remote console is provided to remotely operate agents over network

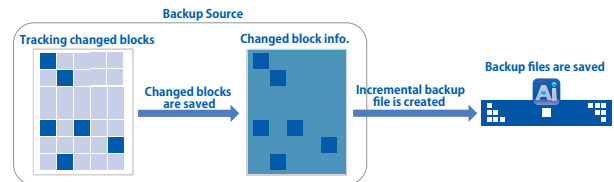# New Features from Update (released on Sept. 7, 2023)

Actiphy StorageServer™

Actiphy StorageServer™ option enables to build secured backup storage for exclusive use with ActiveImage Protector™. Actiphy StorageServer™, as an independent destination storage for backup, protects the backup image files from the attack of a ransomware. The use of new QUIC protocol for data transmission enables to transfer data more safely with high reliability and ensures the security for the communication path. Actiphy StorageServer™ is engineered to take advantage of cache device in storage server, delivering faster data transfer speed than the destination storage device, that secures stable backup process and speed.

New Tracking Driver

New Tracking Driver is provided to monitor disk I/O and tracking the changes made from the last backup. The changes are saved in an incremental backup file, saving backup process time. The use of the new Tracking Driver suppresses a slowdown of backup processing speed caused by the increasing number of incremental backup files. You can select change tracking mode not to use a tracking driver.

Backup Features

Quickly back up the entire system

ActiveImage Protector™ backs up the entire disk or a volume to include the Linux OS, system configuration, applications and data files to a disk image. When disaster strikes, select a backup image to quickly restore for a complete recovery. Use the File or Folder Recovery option to restore a specific file or a folder from a backup image file.

Hot-Imaging backup for live Linux machines

ActiveImage Protector™ backs up your entire machine, including the OS, applications and data files, while the machine is active and running without stopping the services including database or open files to ensure ultra-reliable backups. The hot-imaging backup is useful especially when backing up the system and the data frequently updated throughout the day and night on non-stop server.

Support for LVM Backup

Support for collective backup / restore of disks configured with Logical Volume Manager (LVM). This eliminates the process of configuring boot setting when restoring the system disk. It also supports XFS disks configured with Logical Volume Manager (LVM).

Support for the latest Linux distribution

ActiveImage Protector™ now supports Red Hat Enterprise Linux 9, AlmaLinux 9, Oracle Linux 9, Rocky Linux 9, MIRACLE LINUX 9, openSUSE Leap 15, SLES Linux 15, Debian 12, Ubuntu 22.04, Amazon Linux 2.

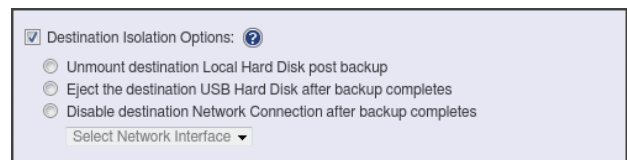## Support for Smart Sector Backup of XFS system volume

ActiveImage Protector™ supports the smart sector backup of XFS system volume which is used on Red Hat Enterprise Linux, CentOS.

Upon completion of backup task, protect the destination (Destination Isolation Option)

Our ImageIsolate™ technology reduces potential malware or ransomware attacks to backup files by disconnecting access to backup storage drives over a network after backups complete. Four options are provided.

- Take the destination local hard disk offline after completing the backup
- Eject the destination USB hard disk after completing the backup
- Disable the destination network connection after completing the backup

* After the destination USB HDD / SSD drive is ejected, it's necessary to manually plug in the drive and set online before starting the next task.
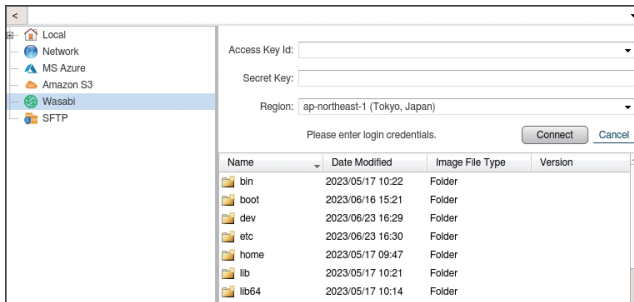

A variety of Storage Media are supported

Save your backups to any available storage location, including local HDD, USB storage, NAS, SAN (fibre channel), SFTP or RDX tape and cloud storage services (Wasabi, Amazon S3, Azure Storage, S3 compatible storage), etc., using a variety of system configuration and backup policies.
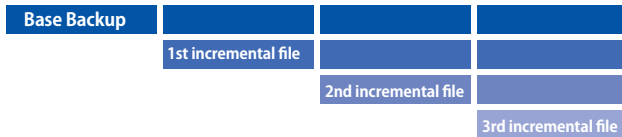
Wasabi with object lock is supported

A bucket enabled with object lock in Wasabi Hot Cloud Storage is supported as a storage destination. Source backup images in Wasabi Hot Cloud Storage and NAS are supported for restore. Save your large volume backup data in cost-effective Wasabi Hot cloud storage to further secure your data by isolating the backups from a cyber attack. Any backup image saved within Wasabi Hot cloud storage can be shared to use for restoring to a virtual machine on different site and resume business operation.

Incremental backup saves process time

Fast and efficient incremental backup includes only sectors that have changed from the last backup. The incremental backup saves both process time and storage space. ActiveImage Protector™ includes the proprietary change tracking filter driver for the fast incremental backup.

Fexible Multi-Scheduling

Backup tasks can be automatically executed according to the onetime, weekly or monthly schedule, or a specific day of a week in a specific month. Schedule baseline and recurring incremental backup tasks to run subsequently.

Multi-Scheduling Feature

Multiple schedules can be defined for individual backup tasks. For example, you can create a new full backup each month for an ongoing Weekly Schedule backup task.
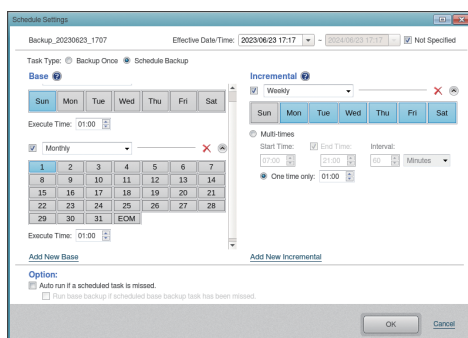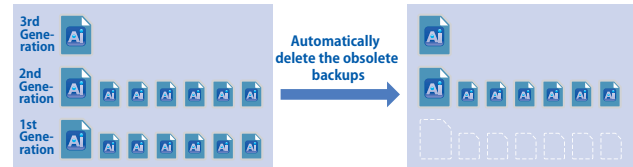

Image Retention Policy

The Image Retention Policy feature can be configured to automatically delete the obsolete backup image set when the number of backup image sets reaches the preset limitation and reduces the storage requirements.

Run scripts after scheduled backup

Scripts can be implemented to run before, after, or during the moment snapshots are taken or after the backup image has been created. An example would be to execute a user-specified script to purge database cache before taking a snapshot and then resume the database after taking a snapshot (before starting a backup task), etc. Scripts can be implemented for base and incremental backup tasks.

Live Backup of Cybozu Garoon 3 & 4

ActiveImage Protector™ supports online backup of Cybozu Garoon 3 and 4, without stopping the Cybozu Garoon groupware services including database and ensures the consistency of the data in the backup.

Post-backup Process

Run Replication and Consolidation tasks upon completion of a backup or at a specified time.

Distributed Backup Storage (Offsite Replication)

Perform a post backup Replication of your backup image files to an offsite storage share that includes local disk, network shared folder, FTP, FTPS, SFTP, WebDAV, Amazon S3, Azure Storage, Wasabi, OneDrive, Google Drive, Dropbox. Distribution of backup files increase the security level.

Consolidation of Incremental Backup Files

Regularly scheduled recurring incremental backup tasks may result in an increase in the number of backup files and a decrease in the performance of backup and restore processes. The Consolidation feature consolidates an uninterrupted series of incremental backup image files to one file according to a predefined schedule. For example, if the consolidation settings are configured to retain 7 incremental backup files and when 9 incremental backup tasks complete, the 1st and the 2nd most obsolete incremental files are consolidated to one file. As a result, 7 incremental files remain.

Consolidation starts when 9 incremental files are created　　　**Create**

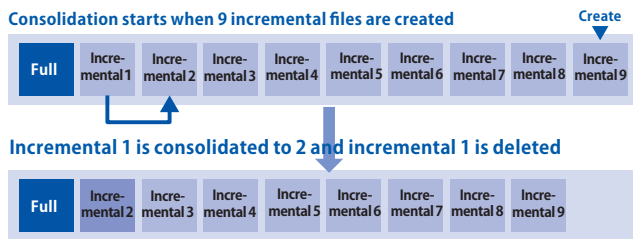| Full | Incre-mental 1 | Incre-mental 2 | Incre-mental 3 | Incre-mental 4 | Incre-mental 5 | Incre-mental 6 | Incre-mental 7 | Incre-mental 8 | Incre-mental 9 |

Incremental 1 is consolidated to 2 and incremental 1 is deleted

| Full | Incre-mental 2 | Incre-mental 3 | Incre-mental 4 | Incre-mental 5 | Incre-mental 6 | Incre-mental 7 | Incre-mental 8 | Incre-mental 9 |

Live Backup of MySQL

ActiveImage Protector™ offers image-based backup of live MySQL, Oracle database and KVM without needing to shut down, ensuring consistency of data in the backup.

Restore Features

Fast and full-state recovery from a backup file

In the event of a hard disk failure, ActiveImage Protector™ can quickly restore a backup to the original machine, a different on-premise physical server or a virtual machine, bypassing the time-consuming process of reinstalling the OS, applications, configuration settings, reapplication of drivers, and data recovery. The built-in wizards guide you through every step to ensure recovery from the backup image file reducing the IT engineers' workload.

File Recovery feature

In the event of a system failure, you may only need specific files to restore in order to maintain continuity. The File Recovery feature optionally provides recovery of single files or folders from a backup image. All stream information and access rights of the individual files are inclusively restored.

RescueBoot

ActiveImage Protector™ includes RescueBoot. A feature when enabled, starts up the Actiphy Boot Environment in the event of emergency. The boot environment is booted directly from the internal disk, so that system administrator can restore the failed system without the use of external device.
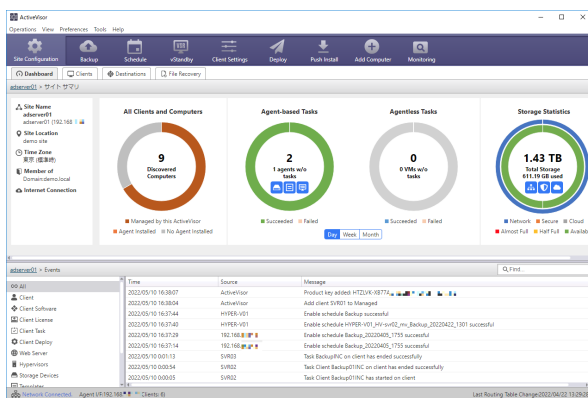
VNC on RescueBoot

A VNC viewer is now provided to remotely operate the RescueBoot boot environment. System administrators can now restore the failed system in RescueBoot via VNC instead of the local machine.

Management Console

GUI provides tools for efficient operations

ActiveImage Protector™'s GUI provides dashboard window, displays real time monitoring of the status of tasks, logs, schedules, and disk information. Backup and Restore wizards windows make the software operation more intuitive.

Client management console

You can monitor the status of remote ActiveImage Protector™ agents over the network. Use the Client management console to monitor the status of backup tasks on multiple agents over network and schedule backup tasks.

Management of Backup Files

Image Mount

ActiveImage Protector™ can quickly mount an image file as a drive, allowing the restore of any files or folders from the image file. When image file is mounted as a writable drive, the changes made on the drive will be saved as a differential file.

Archive Backup Files

Use the archive feature to unify a full base image file and all associated incremental files into a single backup file.

Consolidate backup files

Regularly scheduled recurring incremental backup tasks create a growing and sometimes unmanageable number of incremental files. The Consolidation feature consolidates an uninterrupted series of incremental backup image files to a single file.

* When running scheduled consolidation tasks, please configure the settings for Post-backup Consolidation.

Free Add-on Tool

ActiveVisor, add-on Centralized Management Console for ActiveImage Protector™

ActiveVisor™ provides a centralized management tool for ActiveImage Protector™ by monitoring networked client computers on which ActiveImage Protector™ agents are installed. Centralized management operation includes auto-discovery of managed computers, push-installing ActiveImage Protector™ agents, creating and deploying templates of backup tasks and configuration files, real-time monitoring of backup status, obtaining license information of ActiveImage Protector™ agents on managed computers, and remote operation of ActiveImage Protector™ agents.

HyperBoot™ add-on to immediately boot backup images as virtual machines

Use our free HyperBoot™ add-on to boot ActiveImage Protector™ backup image files as a fully functional virtual machine in only a few minutes on local and remote Microsoft Hyper-V, VMware ESXi, Oracle VirtualBox. HyperBoot™ serves as an interim replacement server to bridge the gap between disaster and recovery. Before a full-state recovery from the disruption caused by ransomware attack, use HyperBoot™ to check for bootability and verify integrity of the backup. Using VMware vMotion streamlines the recovery process by seamlessly migrating live virtual machines booted in vCenter to a hypervisor in a production environment.

* Backup of Linux machine with LVM configuration is not supported.
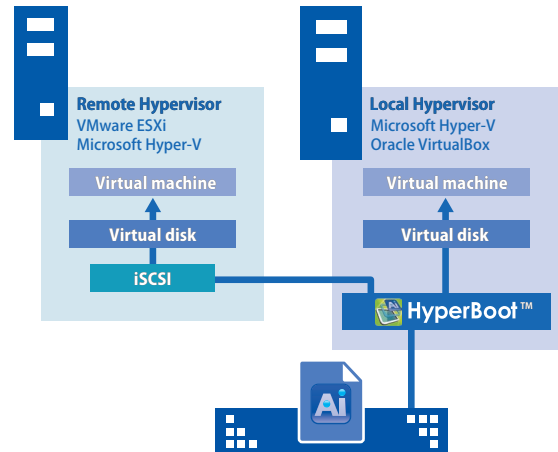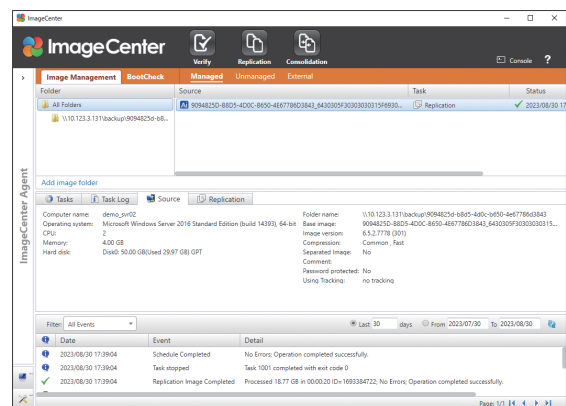

Image Management tool for backup files(ImageCenter™)

ImageCenter™ is a stand-alone image management tool for ActiveImage Protector™. With ImageCenter™, replication of backup image files to local or off-site high-capacity data stores can be scheduled, and automatically run the scheduled Replication task as well as Consolidation of incremental files, BootCheck™, Verify tasks. All of these can be offloaded to a dedicated system, greatly reducing resource demands on the source machine.

License Management Feature

Offline License File

Use of the offline license file provides license activation on a standalone PC without internet connection. Actiphy Authentication Service (AAS) acts as a Standalone Licensing server for computers grouped over intranet without requiring a persistent internet connection.

Subscription License

One-month and annual subscription licenses are now available as well as perpetual licenses. Options are provided to purchase one month, one year or a combination of both for the new or extended subscription license.
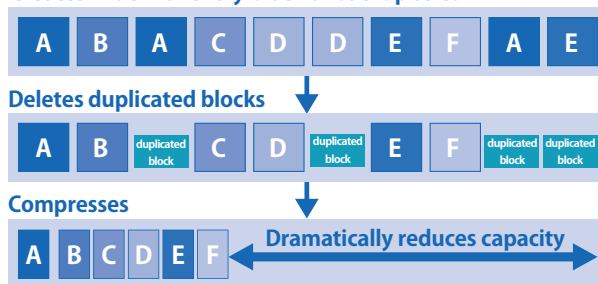
Others

Cold-Imaging backup for static machines

Start up your computer from ActiveImage Protector™'s bootable media to create a backup image of a clean static system volume (immediately after installation of Linux OS). Cold-imaging backup saving the point-in-time state of the failed system is convenient to examine the cause of the system failure.

Save storage space with IDDC

Our Inline Data Deduplication Compression (IDDC) feature eliminates duplicate data while simultaneously compressing it, resulting in a significant reduction in backup storage requirements. Since backup using IDDC increases the CPU and memory usage, it is recommended to select Level 2 (Optimized) as this is the default level for IDDC.

Creates index for every block of backup stream

| A | B | A | C | D | D | E | F | A | E |

Deletes duplicated blocks

| A | B | duplicated block | C | D | duplicated block | E | F | duplicated block | duplicated block |

Compresses

| A | B | C | D | E | F |

Dramatically reduces capacity

Email Notification

Email notification can be sent (using SSL / TSL) to an email address of your choice. Notifications include successfully completed backups or backup failure. Email notification may be set to inform you of the summary of task execution and license status (expiration of the license period).

Eject RDX data cartridge

When enabling the [RDX data cartridge eject setting] option, you can configure the settings to eject RDX data cartridges after full or incremental backup on the specified day(s) of a week, at a specified time after full or incremental backup, or when the backup task completes.

Command line execution support

Most of ActiveImage Protector™'s features can be used by specifying parameters for command line tool or with command file. ActiveImage Protector™'s CLI allows backups to be seamlessly administered by system management tools, if any, by using prepared script file.

Encryption of Backup Images

ActiveImage Protector™ can create password-protected and encrypted backup images and supports up to AES 256-bit encryption. Enabling the encryption for the backup image file ensures that the backup file cannot be compromised.

Fast Bare Metal Recovery

ActiveImage Protector™'s lightning-fast restore engine dramatically speeds up recovery time. Bare Metal Recovery provides capabilities for initializing and creating partitions on the bare metal disk.

Actiphy, Inc.

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