

A decorative graphic on the left side of the slide, featuring a blue and white geometric design with various icons (gear, envelope, people, atom, document, keyboard) and lines connecting them, suggesting a network or system architecture.

# **ActiveImage<sup>TM</sup> 2022**

## **PROTECTOR**

### **ActiveImage Protector 2022 CLUSTERPRO**

~ Backup Solution optimized for NEC CLUSTERPRO ~

February 14, 2024

Actiphy Inc.

1. What is ActiveImage Protector 2022 CLUSTERPRO?
2. New features in Update released on January 26, 2024
3. Why cluster environments needs to be backed up?
4. Main features of ActiveImage Protector 2022 CLUSTERPRO
  - Backup / Recovery features
  - A wide variety of backup destinations
  - File / Folder Backup
5. Main Features
  - Main Features of ActiveImage Protector
  - Backup / Recovery Features
  - Flexible backup schedule settings
6. Summary

## System Protection Solution for CLUSTERPRO

○ Backs up and protect the entire CLUSTERPR environments including OS / applications / data.

○ When an emergency arises, wizard-driven interface guides you through the recovery of the entire system from a backup file.

○ File / Folder Recovery feature is also provided to restore a specific file or a folder from a backup image file of the entire system.

## New Features of ActiveImage Protector 2022 CLUSTERPRO

\*The new features of Update released on January 26, 2024 is marked with “\*”.

- Supports the latest version of CLUSTERPRO X 5.1 for Windows\*

- Actiphy StorageServer option (backup storage for exclusive use with AIP) \*

- New Tracking Driver (monitoring changed blocks from last incremental backup.) \*

- Supported public cloud storage services include S3-compatible object storage

- LTO tape devices are supported as the destination.

- Support for SFTP servers providing secure communication

- File / Folder Backup

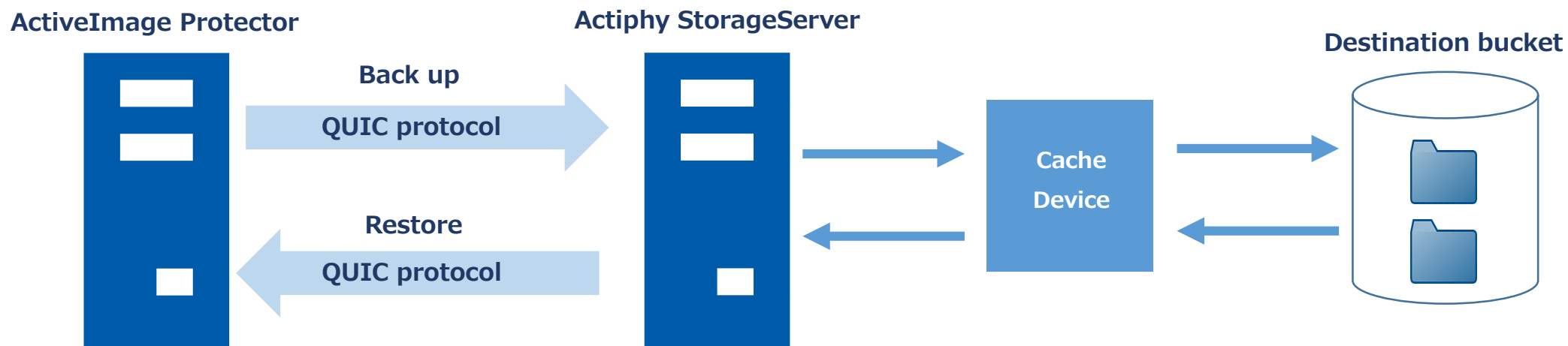
- Boot Environment Builder without installation of Windows ADK



### Actiphy StorageServer Option provides the secure destination dedicated to ActiveImage Protector

- Actiphy StorageServer™ enables to build secured backup storage for exclusive use with ActiveImage Protector™ by installing ActiveImage Protector™ agent on destination server.
- Actiphy StorageServer integrated in ActiveImage Protector provides an independent storage for backup operation, protecting the backup image files from being compromised by a ransomware attack.
- Uses QUIC protocol for data transmission, enabling to transfer backup data more safely and efficiently.
- Actiphy's StorageServer™ is engineered to take advantage of cache device in storage server, securing stable backup process and speed.
- Actiphy StorageServer™ is available in Windows and Docker editions.

#### Provides secure destination dedicated to ActiveImage Protector backup operation

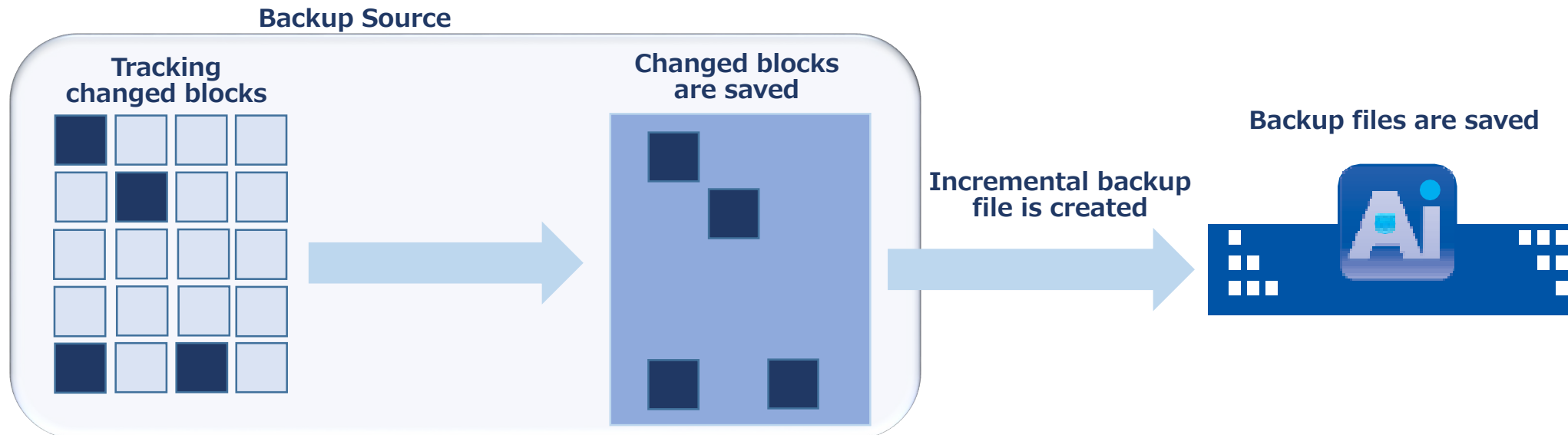


\* QUIC protocol: Communication protocol enabling to transfer data more accurately than TCP and faster than UDP.

## The changes made from the last backup are saved in incremental backup files

- New Tracking Driver is provided to monitor disk I/O and tracking the changes made from the last backup.
- The block changes are recorded in incremental backup files, reducing incremental 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.
- New Tracking Driver requires no reboot after installation. Simple installation of ActiveImage Protector reduces the IT engineers' workload.
- If not using the traditional change tracking driver, CBC method is provided to use.

### Incremental backup file includes the changes from the last backup



There remains unavoidable risk factors even in cluster configuration.

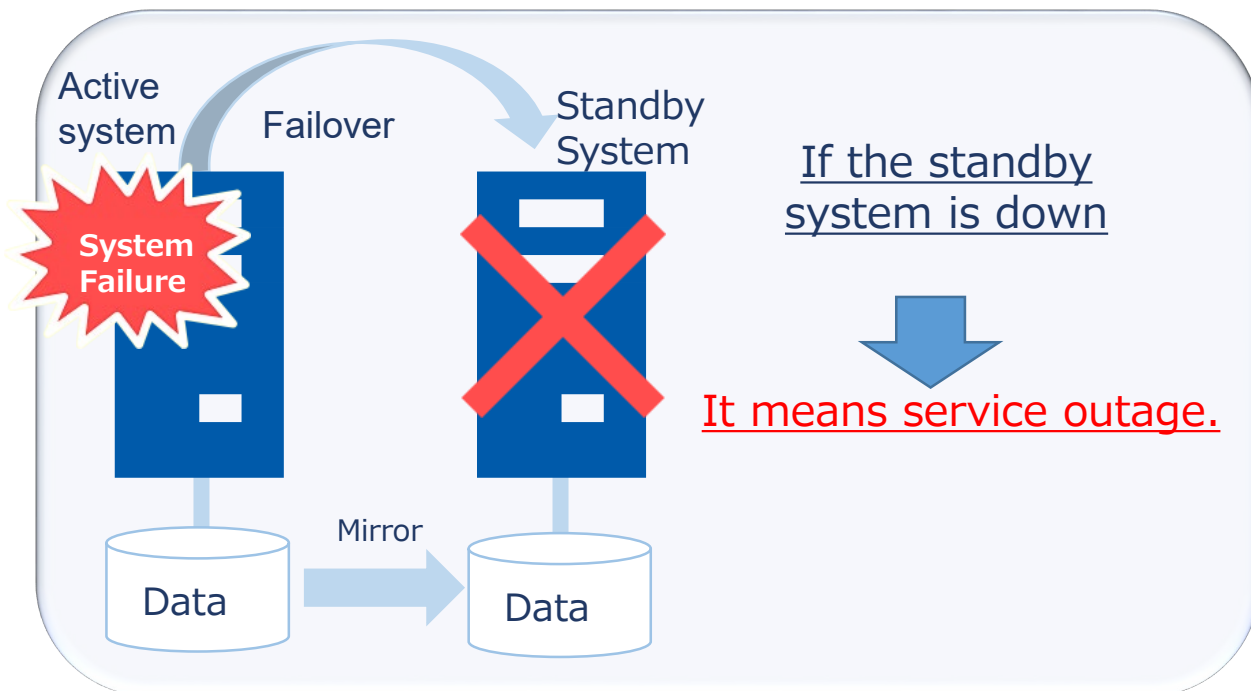
Risk Factor	Cause of Failure
Hardware Failure	Failure in components, insufficient specifications, etc.
Software Failure	Bug, conflicts in OS, application or configuration error, etc.
Human Error	Data loss or corruption of data caused by operation errors, etc.
Virus Infection	Data loss, alteration, corruption of data due to virus infection.
Disaster	Damages to the entire system resulting from natural disaster including earthquake, flood disaster or fires, terrorism, etc.



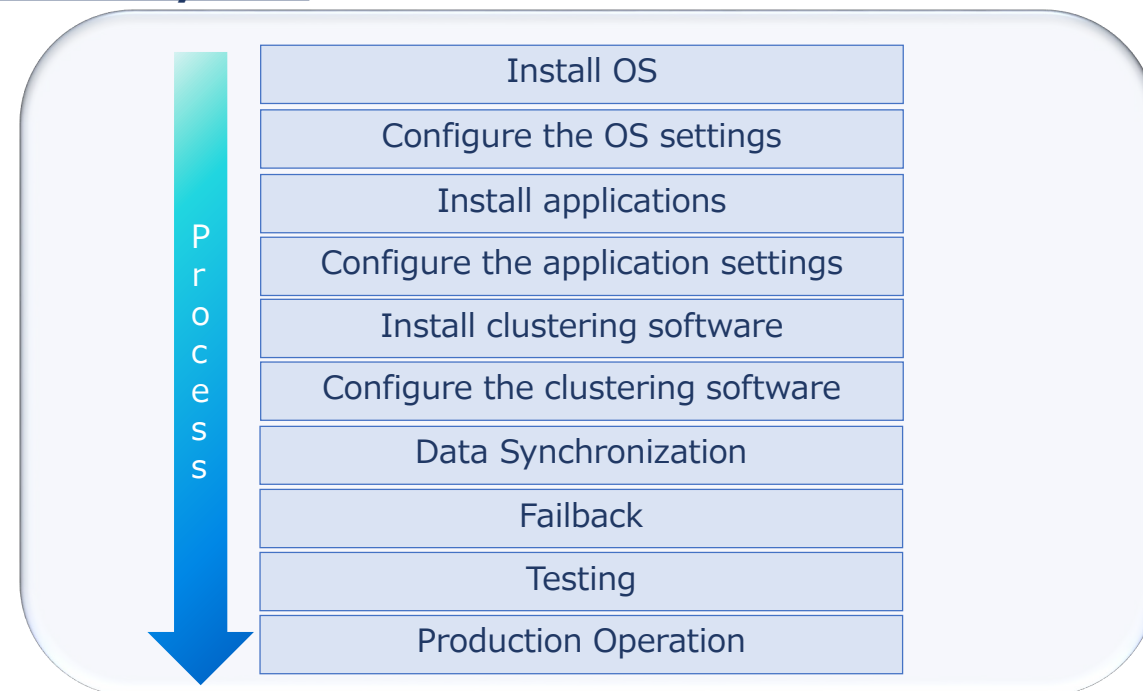
**Backup is necessary as countermeasures against human error and virus infection**

**In the event of a system failure, you may have to restructure the restored system.**

In the event of the active server system down



Time-consuming process of reconfiguring the failed server system

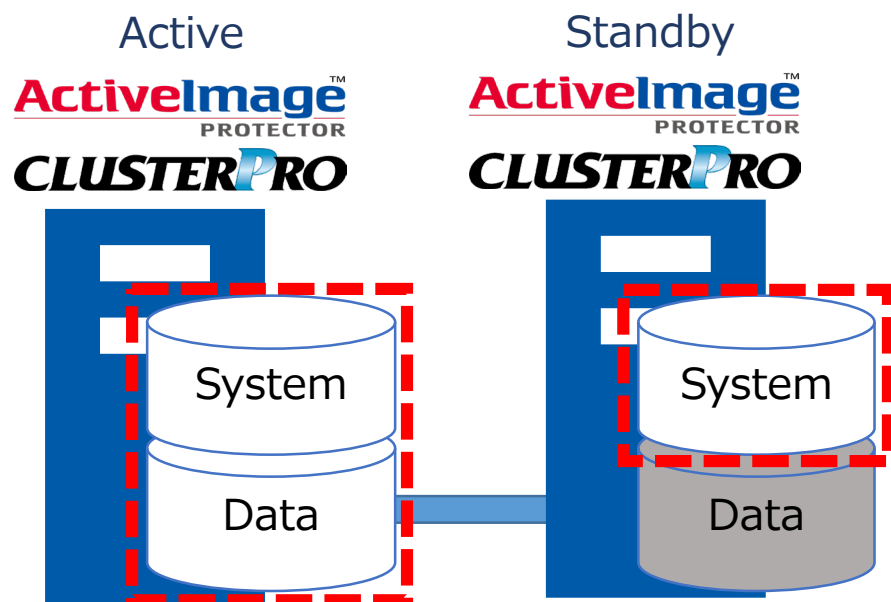


**You have to back up the entire system including data.**

Entirely back up system and data area on both node.

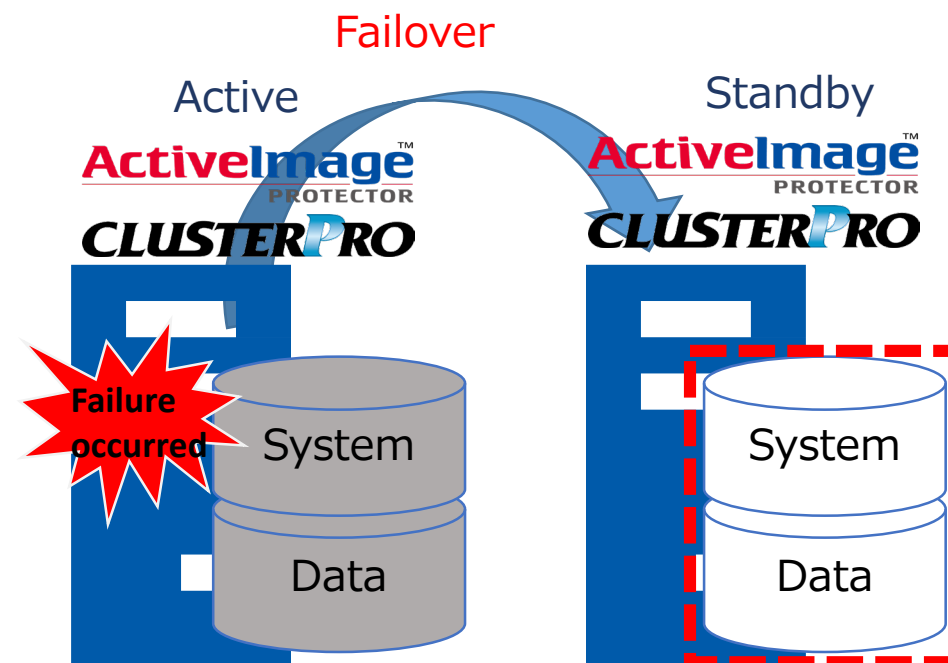
### Normal production operation

- Active :  
Entirely back up system and data area
- Standby :  
Back up system area only



### When disaster strikes

- Standby :  
Data area is backed up by active server.

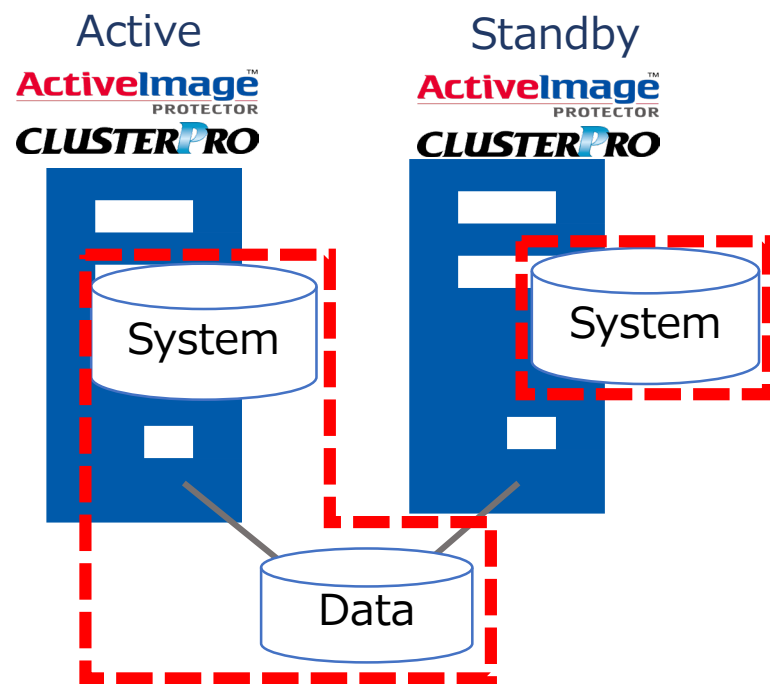




Entirely back up system area and data on both node.

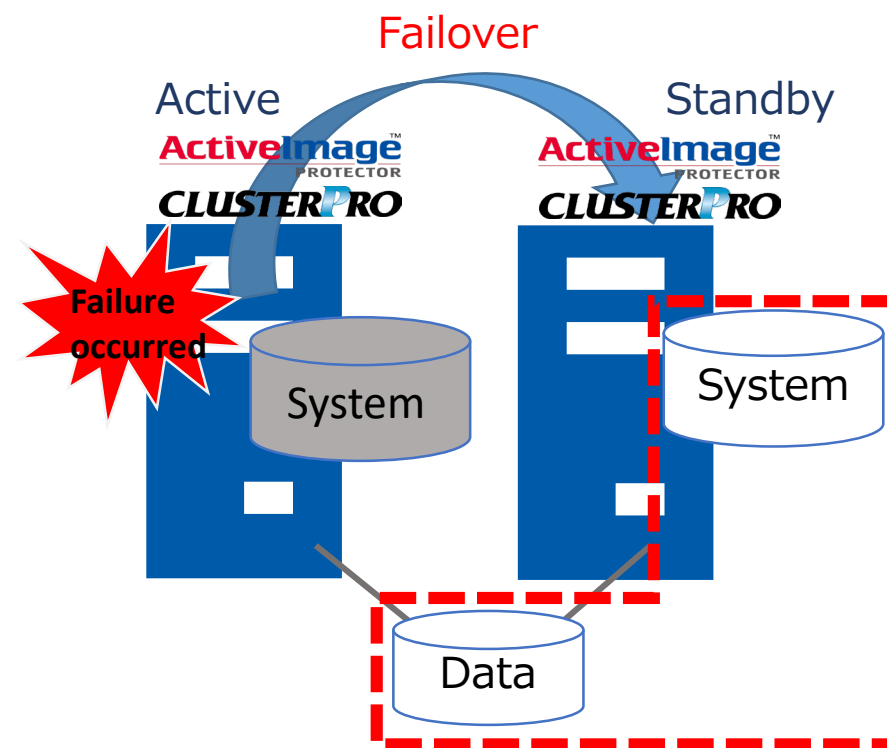
### Normal production operation

- Active :  
Entirely back up system and data area
- Standby :  
Back up system area only



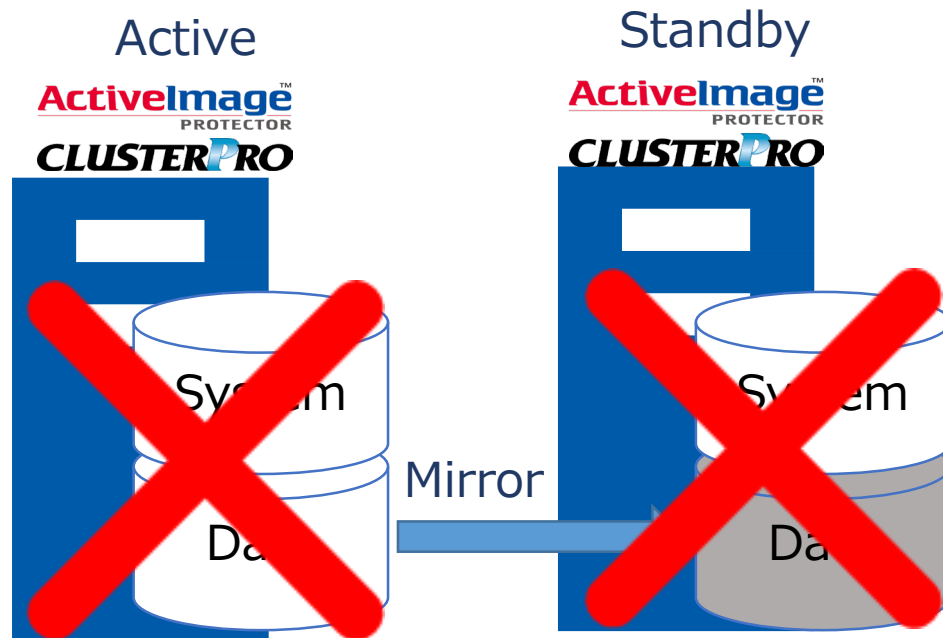
### When disaster strikes

- Active :  
Data area is backed up by active server.

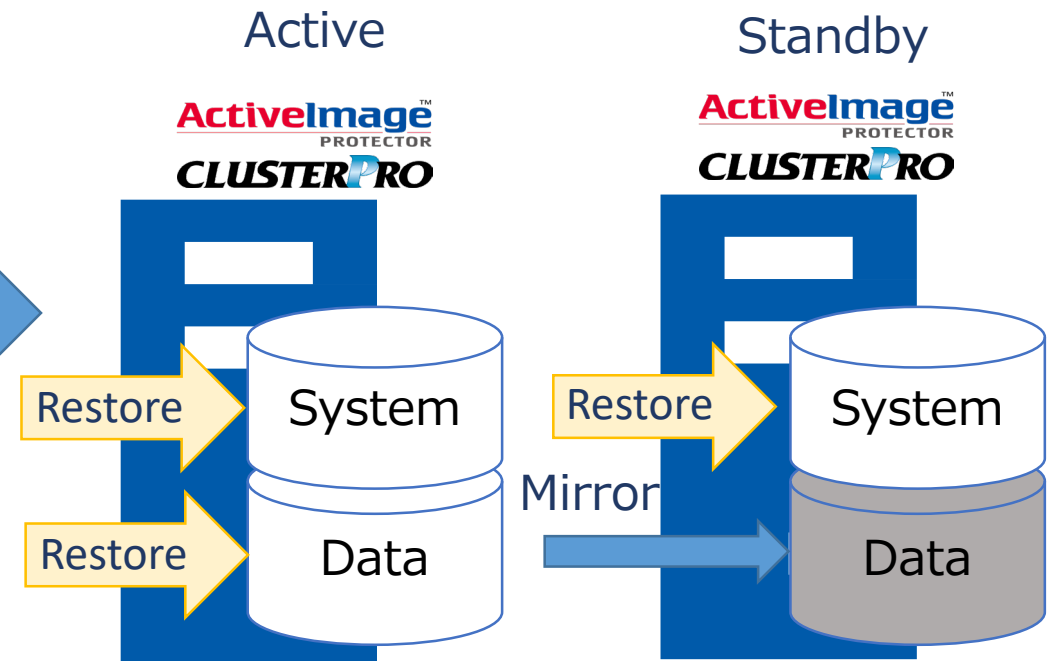


## Quickly recover from failures in CLUSTERPRO environment to the normal state

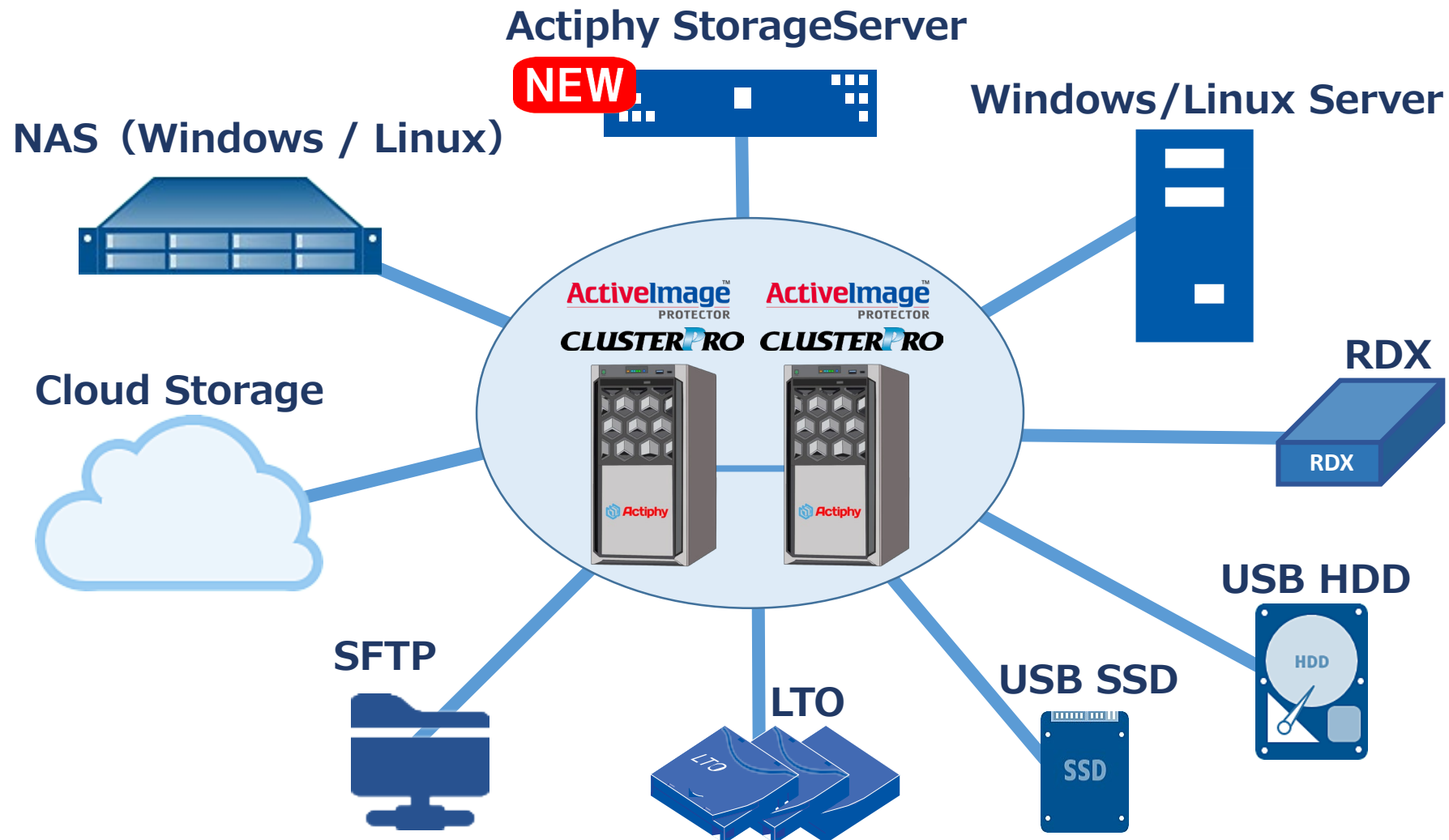
### 2 servers fail at the same time



### Restore to the standby server



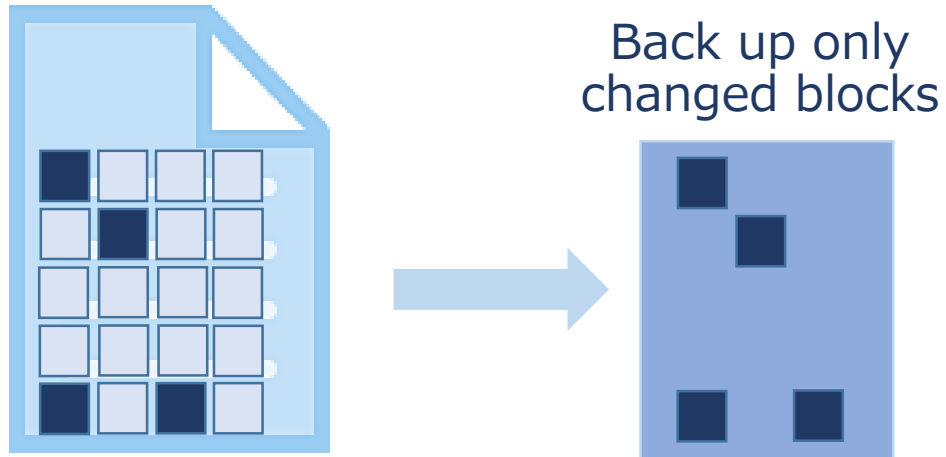
Flexibly select a backup destination depending on the system configuration.



## Block-based File Backup

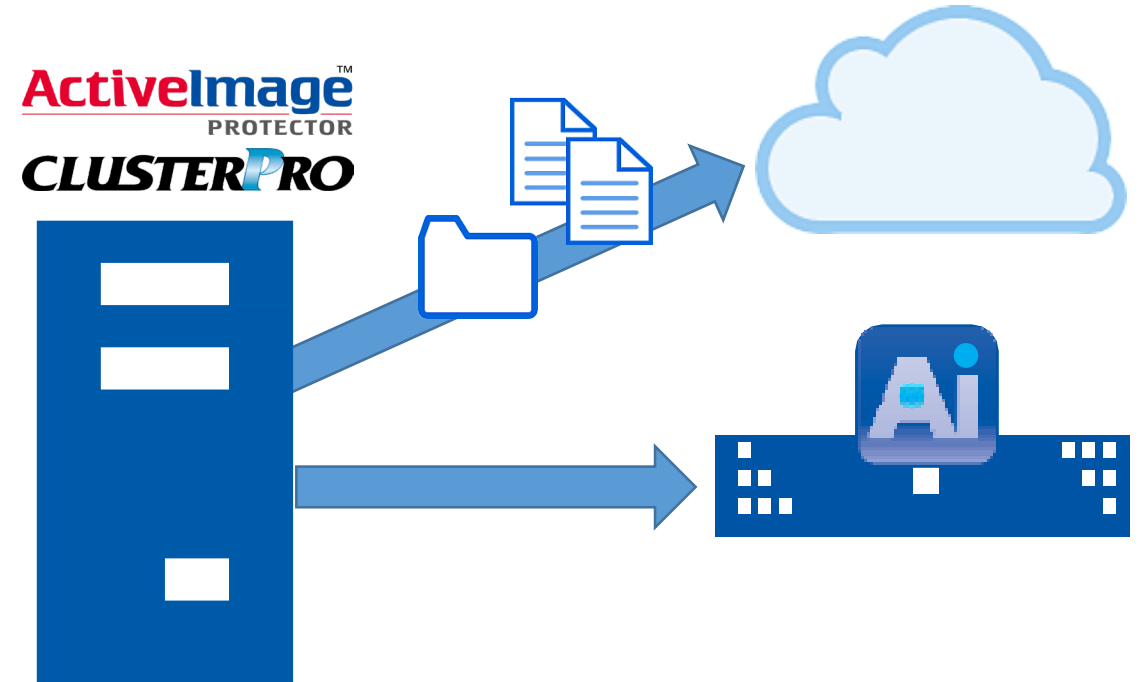
Select a specific file or a folder as backup source.

### Incremental backup saves only changed blocks



## Multiple Backup Destination Settings

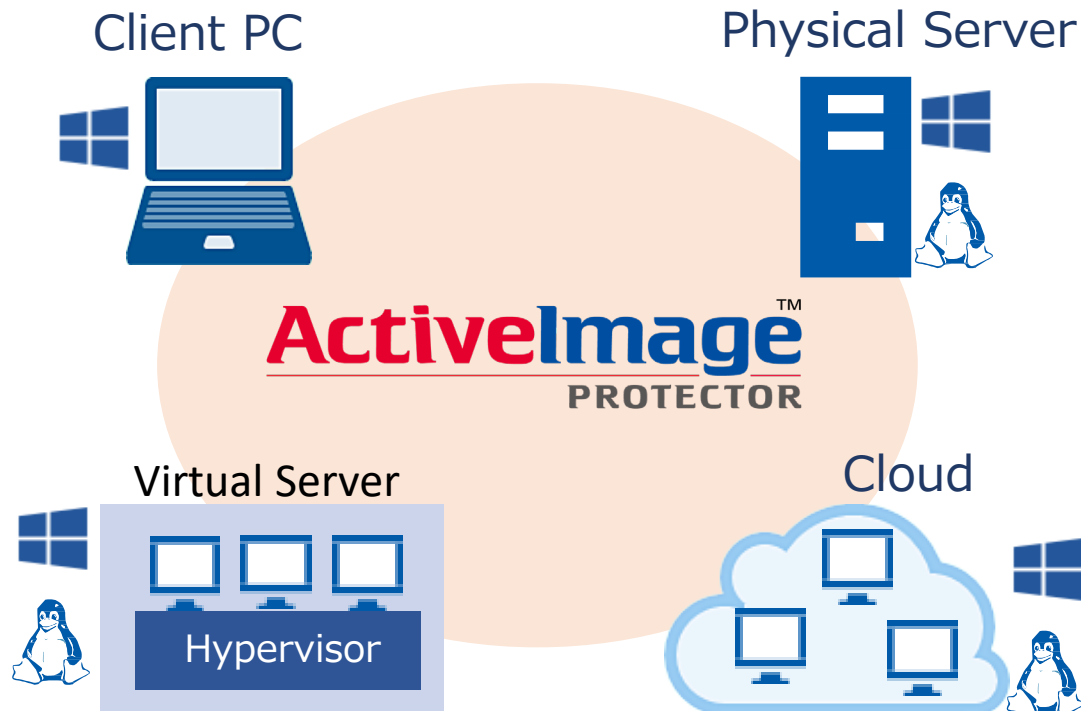
Regularly created backups may be saved in local site, while backups of valuable data are saved in cloud storage.



## Unified backup operation

Unified backup operation supports Windows / Linux servers configured in physical, virtual, cloud environment.

### Unified backup operation

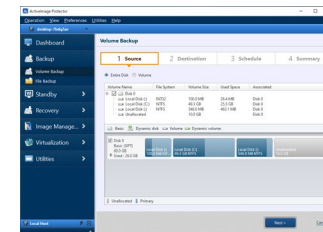


## Simple Operation

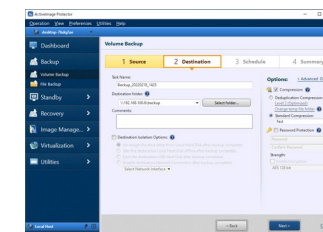
Intuitive GUI provides easy-to-use controls of backup operation from the site where the system administrator is absent.

### Wizard-driven backup setting

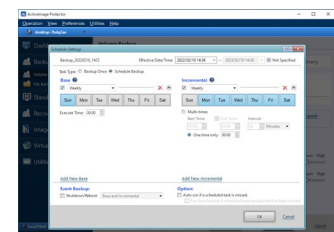
Step 1  
Select Backup source



Step 2  
Specify destination

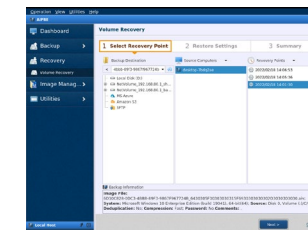


Step 3  
Configure schedule setting

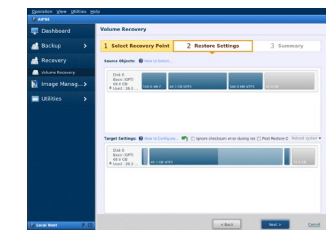


### Simple Recovery Operation

Step 1  
Select Recovery Point



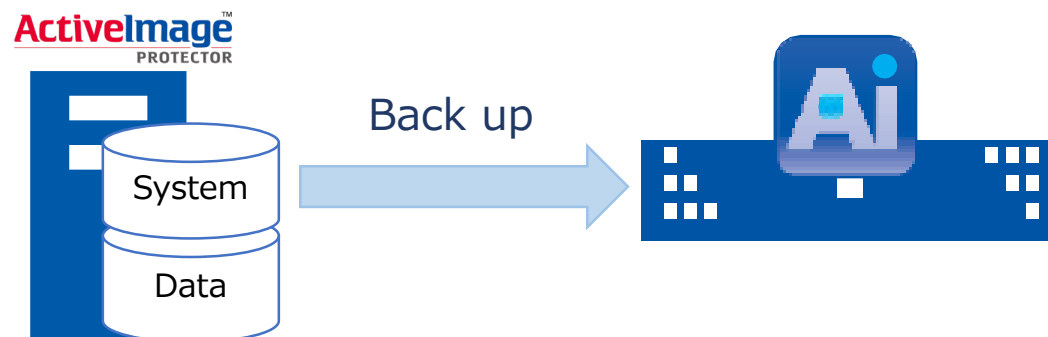
Step 2  
Configure Restore Target



## Disk image-based fast backup

ActiveImage Protector backs up your entire Windows / Linux machine, including the OS, applications and data files, while the machine is active and running.

### Disk image-based backup



### Fast Backup

Back up 1TB machine environment

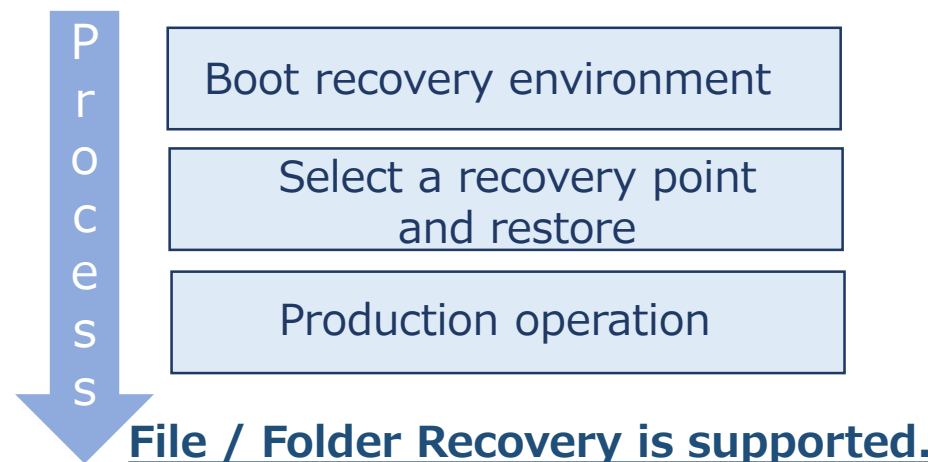


\*1 : The time measured in our server environment.

## Quickly restore to the point-in-time backup was taken

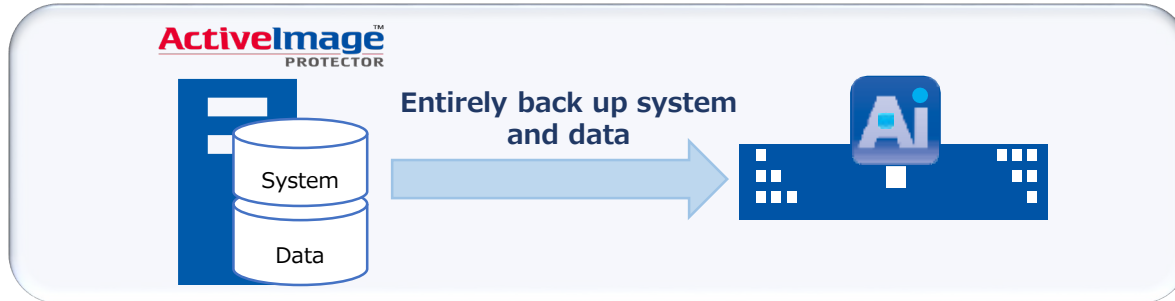
Restore the system / data from backup to the point-in-time backup was taken. File / Folder Recovery is also supported.

### Simple restore operation



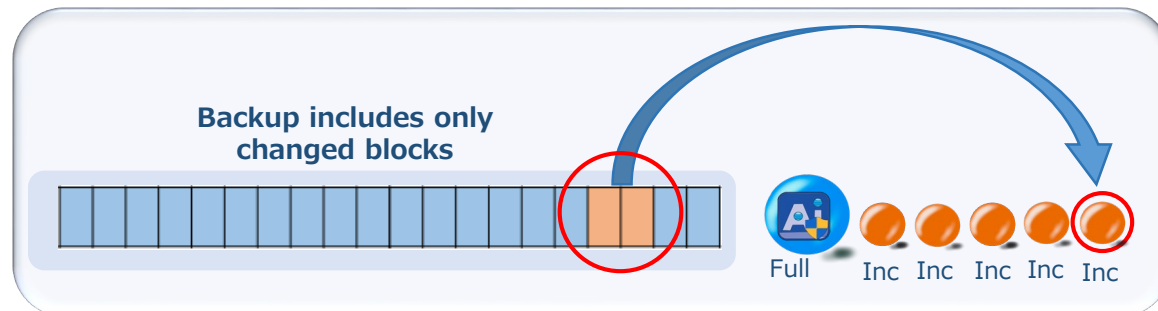
## Back up entire hard disk including your system and data

Disk image-based backup includes live Windows system, applications and data in one image file.



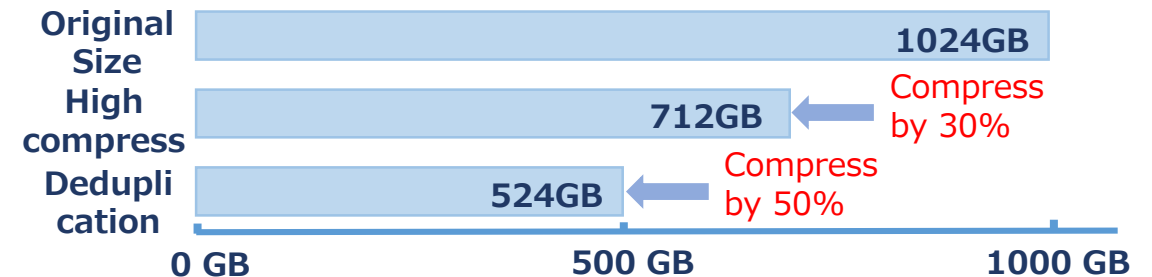
## Back up changed blocks

Daily **incremental backup** includes **only sectors that have changed from the last backup**. ActiveImage Protector only runs backup tasks according to the predefined schedule, minimizing the consumption of the system resources on the machine.



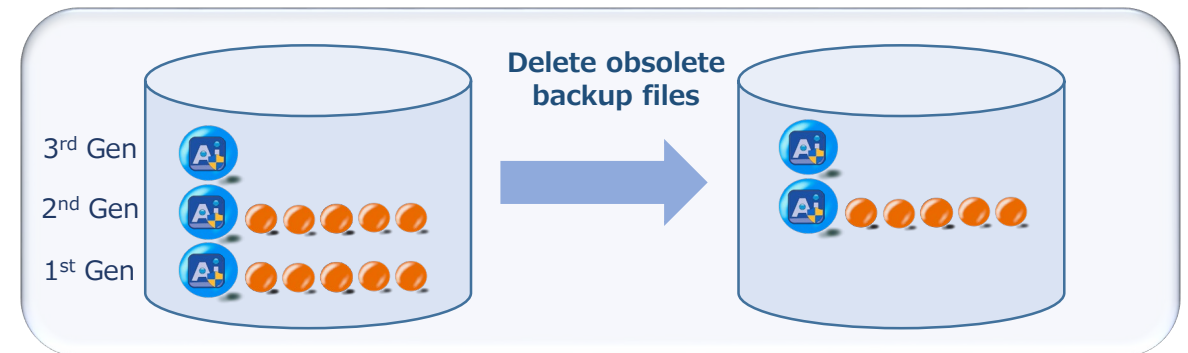
## Deduplication Compression reduces storage requirements

Our **Inline Data Deduplication Compression (IDDC)** feature eliminates duplicate data while simultaneously compressing it, resulting in a significant reduction in backup storage requirements and network load.



## Use Retention Policy to delete obsolete backup image files, resulting in reduction of the storage space.

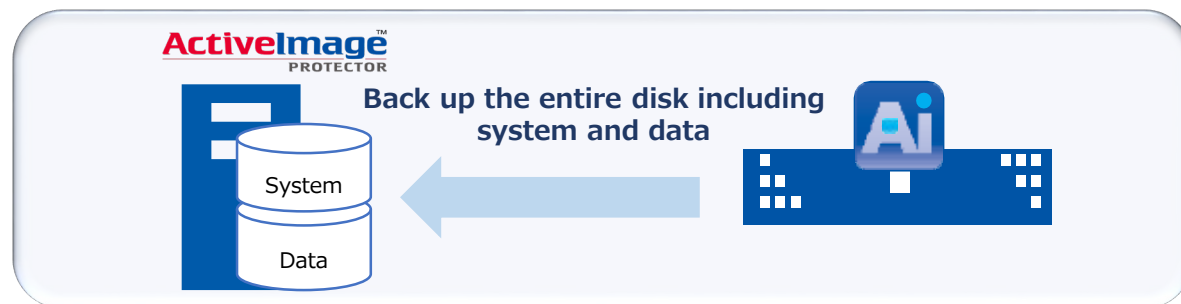
Retention Policy feature allows you to **automatically delete the obsolete backup image set** when the number of backup image sets reaches the preset limitation and reduce the storage space requirements.





### Restore the entire disk

Select the restore target disk and a point-in-time backup (recovery point). Your system is restored to the state when the backup was **taken**. The restore target may be the backup source server, on-premise virtual environment, cloud environment, etc.



### Restore by volume

A specific volume may be selected to restore from **point-in-time backup (recovery point)**. For example, **only data volume "D:" drive may be flexibly selected to restore.**



### File / Folder Recovery

#### File / Folder Recovery Feature

**Granular point-in-time recovery of a file or folder is enabled.**

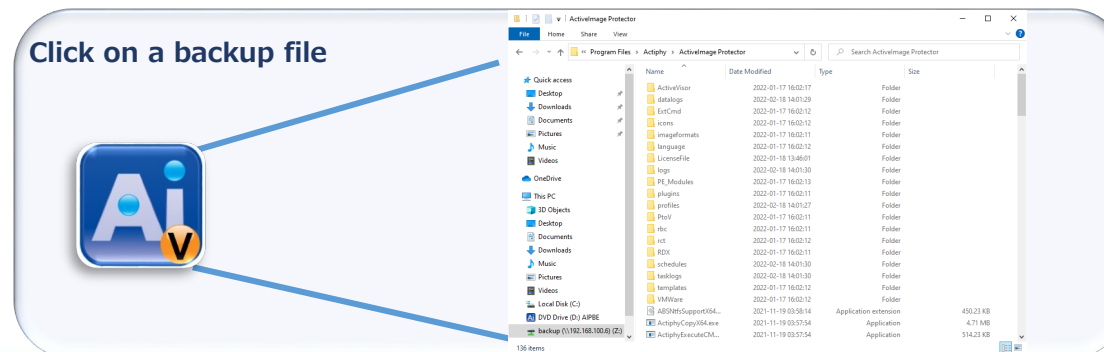
The stream information and access rights assigned to files are inclusively restored. When you only need a specific file to restore in order to restart your duties, **File Recovery feature can provide you with flexible action.**



#### Image Explorer

Installed as a Windows Explorer extension, Image Explorer allows you to **browse and copy files and folders from ActiveImage Protector backup image file** without requiring a full image mount, saving your time and system resources. This will allow you to restore individual file or folder.

Click on a backup file



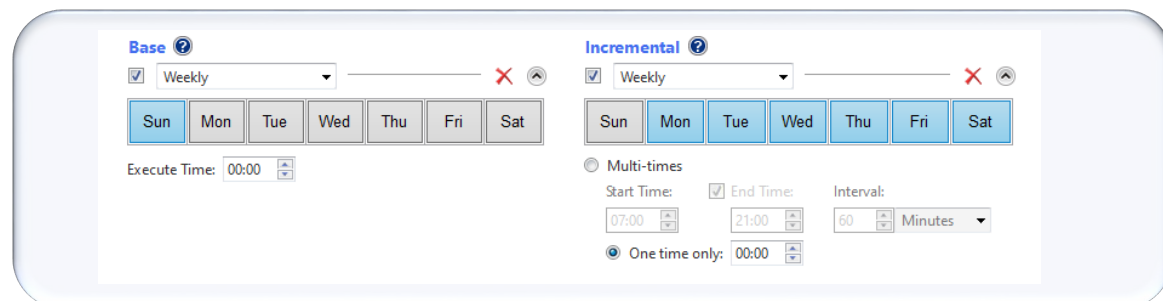


## Flexible Multi-scheduling

Backup tasks can be automatically executed according to the one time, weekly or monthly schedule, or a specific day of a week in a specific month.

### Weekly

Full backup may be scheduled to execute on the weekend while incremental backup tasks are scheduled from Monday to Friday. Incremental backup can be scheduled to run for multiple times a day.



The screenshot shows the 'Base' and 'Incremental' scheduling settings. The 'Base' section has a 'Weekly' dropdown and a calendar grid with 'Sun' through 'Sat' buttons. The 'Incremental' section has a 'Weekly' dropdown, a calendar grid, and options for 'Multi-times' (Start Time, End Time, Interval) and 'One time only'.

### OMonthly

Select by clicking the date(s) of the month and the time of a day to perform a recurring full base backup tasks while incremental backup tasks are scheduled from Monday to Friday.

### ODesignate Specific Days

Select by clicking a specific days of a week to perform a recurring full base backup while incremental backup tasks are scheduled from Monday to Friday.

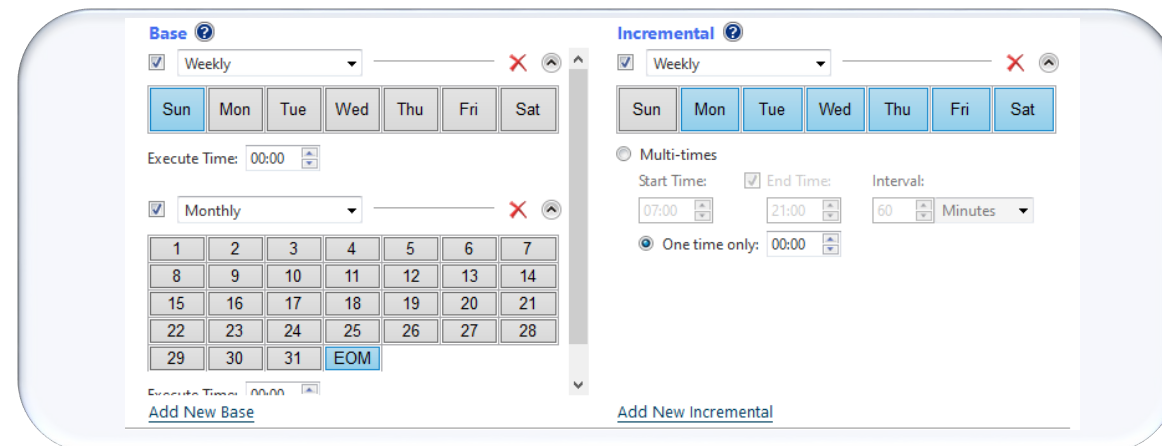
### OSpecified Date / Time

Select by clicking a date and time to schedule a full backup task on a specific date while incremental backup tasks are scheduled for other days.

## Customized Schedule Settings

### OMulti-scheduling

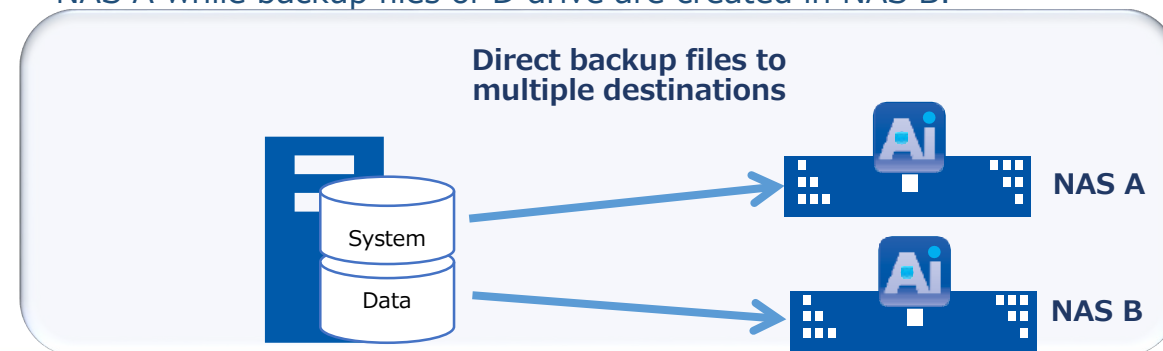
Incremental backup tasks are scheduled on weekly basis while full backup tasks are scheduled at the end of a month.



The screenshot shows the 'Base' and 'Incremental' scheduling settings. The 'Base' section has a 'Weekly' dropdown and a calendar grid. The 'Incremental' section has a 'Weekly' dropdown, a calendar grid, and options for 'Multi-times' (Start Time, End Time, Interval) and 'One time only'.

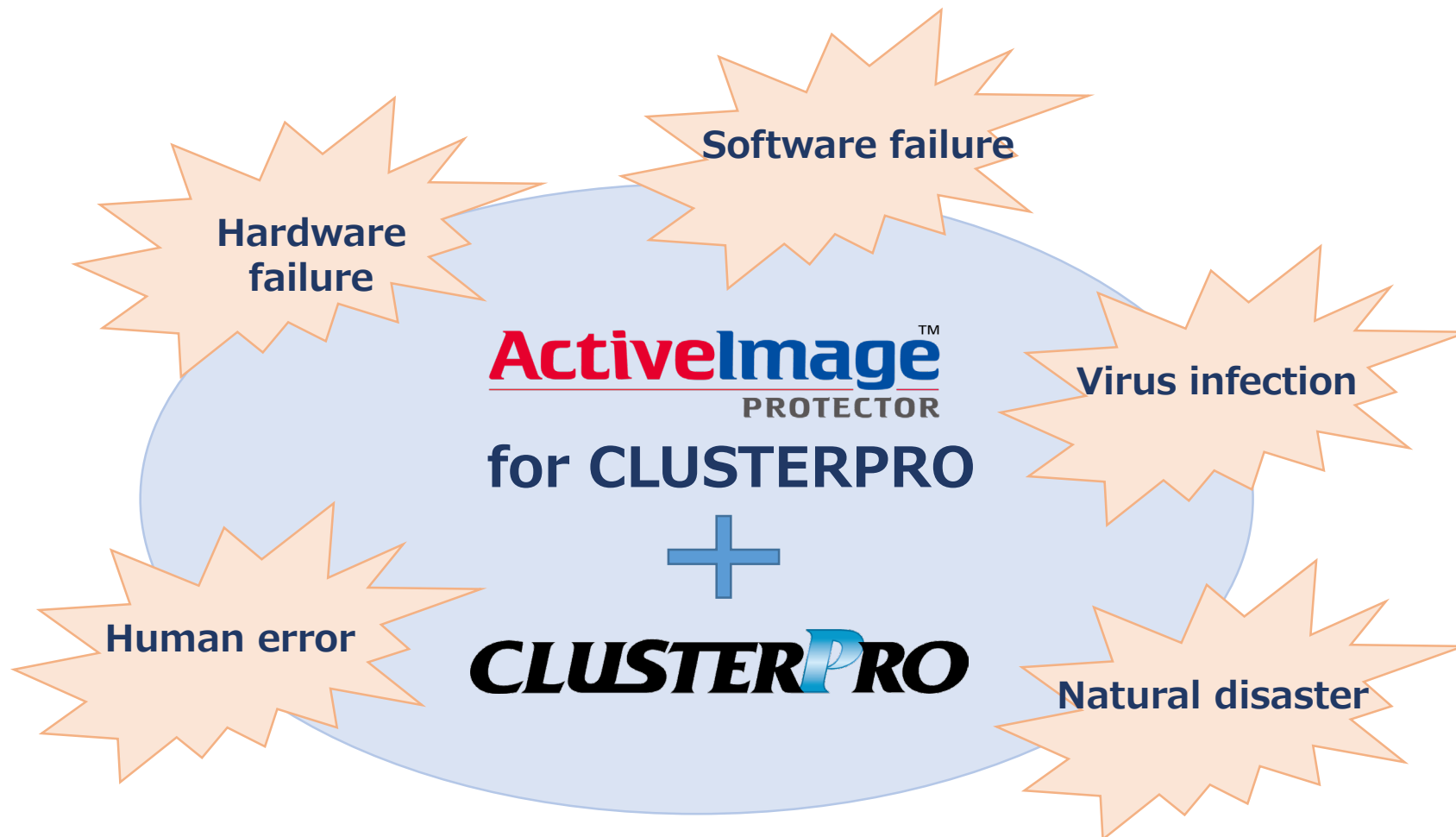
### OMultiple Backup Destination Settings

**Multiple backup task settings can be configured to direct backup files to multiple destinations.** For example, configure the destination settings depending on the backup source, i.e., backup files of C drive are created in NAS A while backup files of D drive are created in NAS B.



The combination of CLUSTERPRO and ActiveImage Protector provides robust fault tolerance!

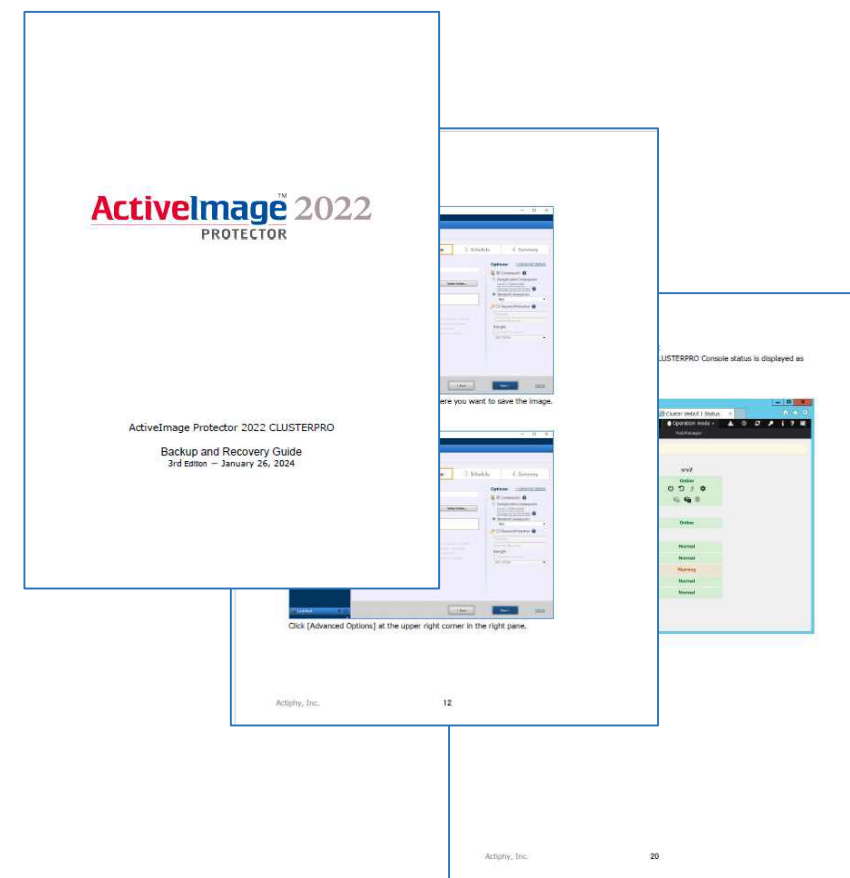
## ActiveImage Protector **plus** CLUSTERPRO X



# ActiveImage<sup>TM</sup> PROTECTOR

# CLUSTERPRO

- Enhanced fault tolerance
  - The combination of **CLUSTERPRO**, high availability failover system, and **ActiveImage Protector** enables to deploy robust fault tolerant system.
- Secure deployment of ActiveImage Protector in CLUSTERPRO environment
  - Actiphy fully conducted operation tests of ActiveImage Protector in CLUSTERPRO environment. You will be provided with User Guide for ActiveImage Protector 2022 CLUSTERPRO which you will find helpful and is available for consultation.
- Affordable Price
  - Affordable license is available for CLUSTERPRO HA clustering environment. When you purchase ActiveImage Protector and CLUSTERPRO in a bundle, you will be provided with more affordable license.





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