1. What is ActiveImage Protector 2022 Express5800/ft Server?

2. New features in Update released on January 26, 2024

3. Why backup of ft server is necessary?

4. Main features of ActiveImage Protector 2022 Express5800/ft Server

   ➢ Backup / Recovery features

   ➢ A variety of Storage Media are supported

   ➢ File / Folder Backup

5. Main Features

   ➢ Backup / Recovery Features

   ➢ Flexible backup schedule settings

6. Supported Models

7. Summary

System Protection Solution dedicated to NEC ft Server Windows model

- Backs up and protect the whole system including OS / applications / data in NEC ft server.
- 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 Express5800/ft Server

The new features of Update released on January 26, 2024 is marked with "".

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

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 supporting a variety of system environment.

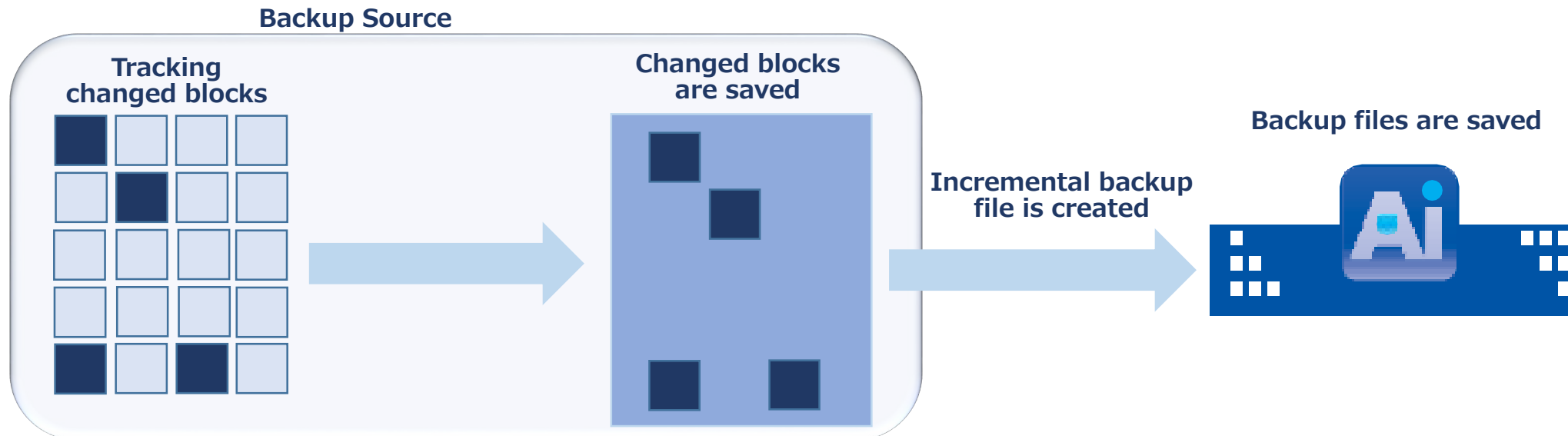**Provides secure destination dedicated to ActiveImage Protector backup operation**

ActiveImage Protector   **Actiphy StorageServer**   **Destination bucket**

Back up

QUIC protocol

Cache Device

Restore
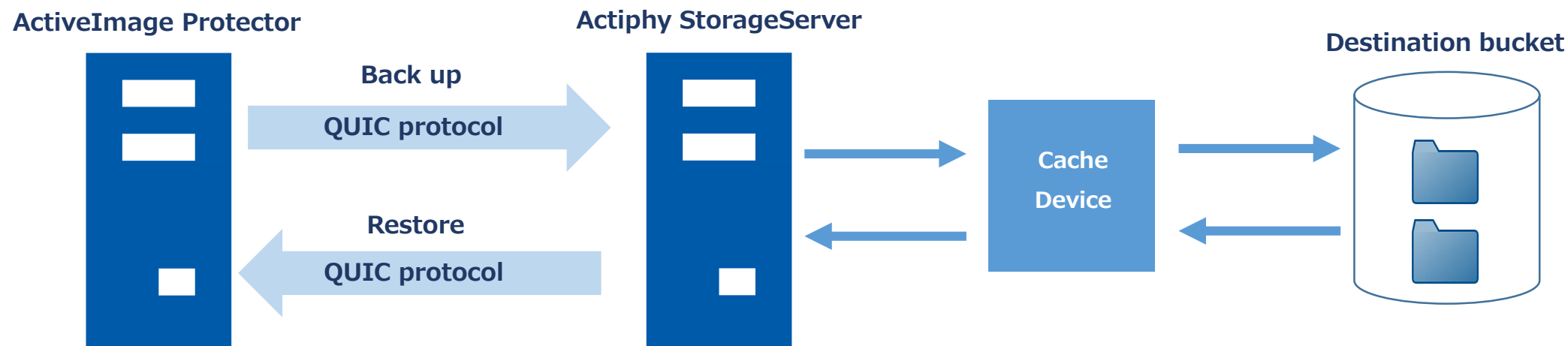
QUIC protocol

* 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.

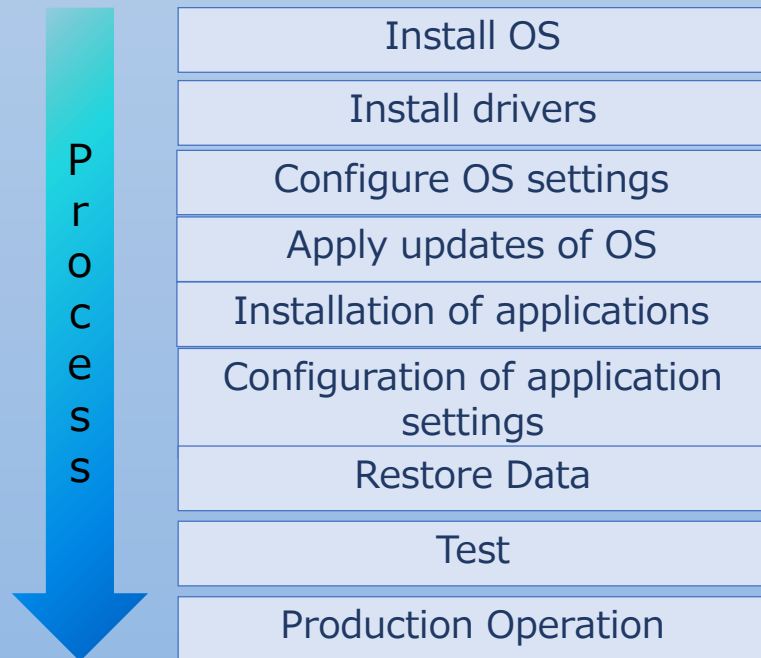### Incremental backup file includes the changes from the last backup

Backup Source

Tracking changed blocks

Changed blocks are saved

Backup files are saved

Incremental backup file is created

Actiphy

Readiness for ft server system down or data loss

Risk Factors	Cause of Failures	Readiness	Remarks
Hardware Failure	• Server hardware failure • Network hardware failure	◎	Switch to standby node for continuous operation to provide service
Software Failure	• OS failure • Application failure	✕	As the systems are synchronized, software failure including OS / application failure cannot be addressed.
Human Error	• Data loss / overwriting data due to operation error. • Data loss due to wrong OS / application setting configuration	✕	As data are synchronized, data loss caused by human error cannot be addressed.
Computer Virus	• System information file corruption • Data loss, tampering data	✕	Data loss or system failure caused as a result of computer virus infection cannot be addressed.
Disaster	• System failure caused by natural disaster including earthquake, flood disaster, fire disaster, terrorism, etc.	✕	Failure of the entire server caused by natural disaster cannot be addressed.

Actiphy

**In the event of system failure, re-installation of OS and applications is required.**

Common System Restore Process

Process

- Install OS
- Install drivers
- Configure OS settings
- Apply updates of OS
- Installation of applications
- Configuration of application settings
- Restore Data
- Test
- Production Operation

As the system can be reinstalled, are backups not required?

⬇
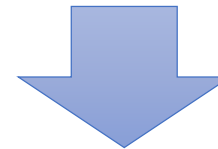
Restore process may take a couple of days to complete.

⬇
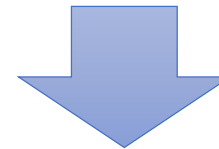
Not only data but also system protection is necessary.

Actiphy

Backup of live NEC ft server system and data area is supported.

Protect the entire system

Disk imaging backup includes the entire live NEC ft server system and data area. In the event of an unexpected system failure, the system can be restored from backup.

Backup / Restore the entire sytem

Entirely back up

Entirely restore
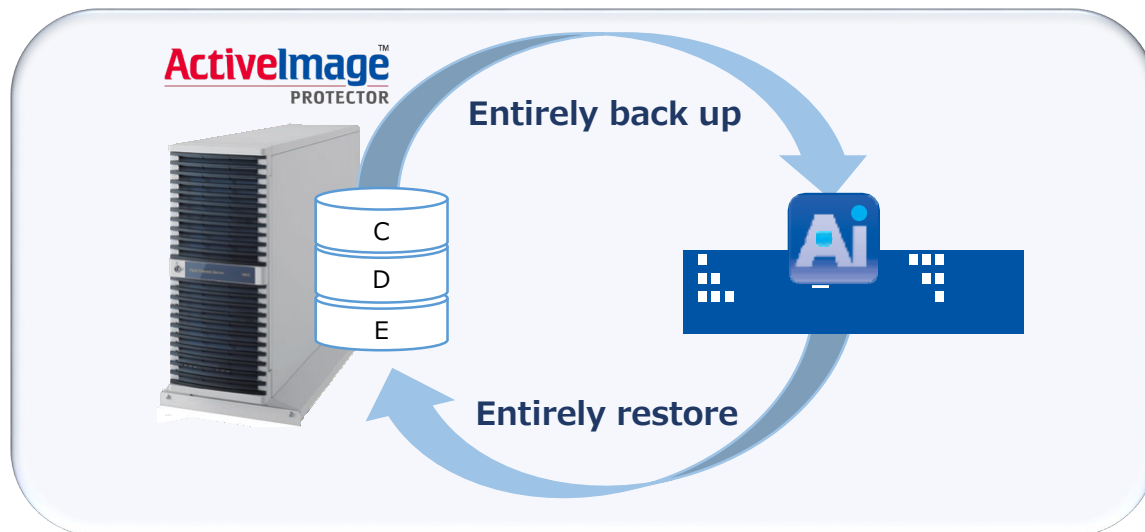
Simple backup and recovery operation

Intuitive GUI provides easy-to-use controls of backup / restore operation from remote site where the system administrator is absent. Even an in-experienced system manager can easily start backup operation.

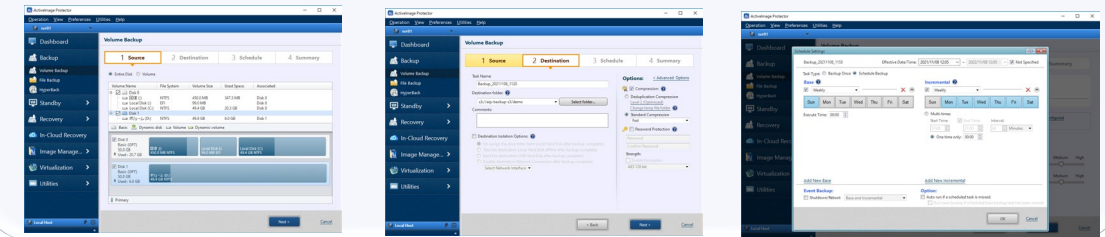#### Wizard-driven interface guides you through configuring backup settings

Select a backup source disk ▶▶▶ **Specify backup destination** ▶▶▶ **Configure backup schedule settings**

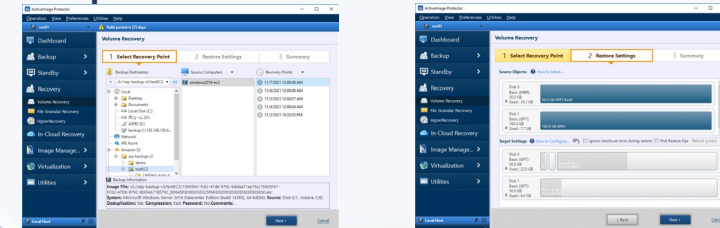#### Wizard-driven interface guides you through restore operation

Select point-in-time backup file to restore ▶▶▶ **Specify restore target disk** ▶▶▶ **Boot up the server and restart operation**
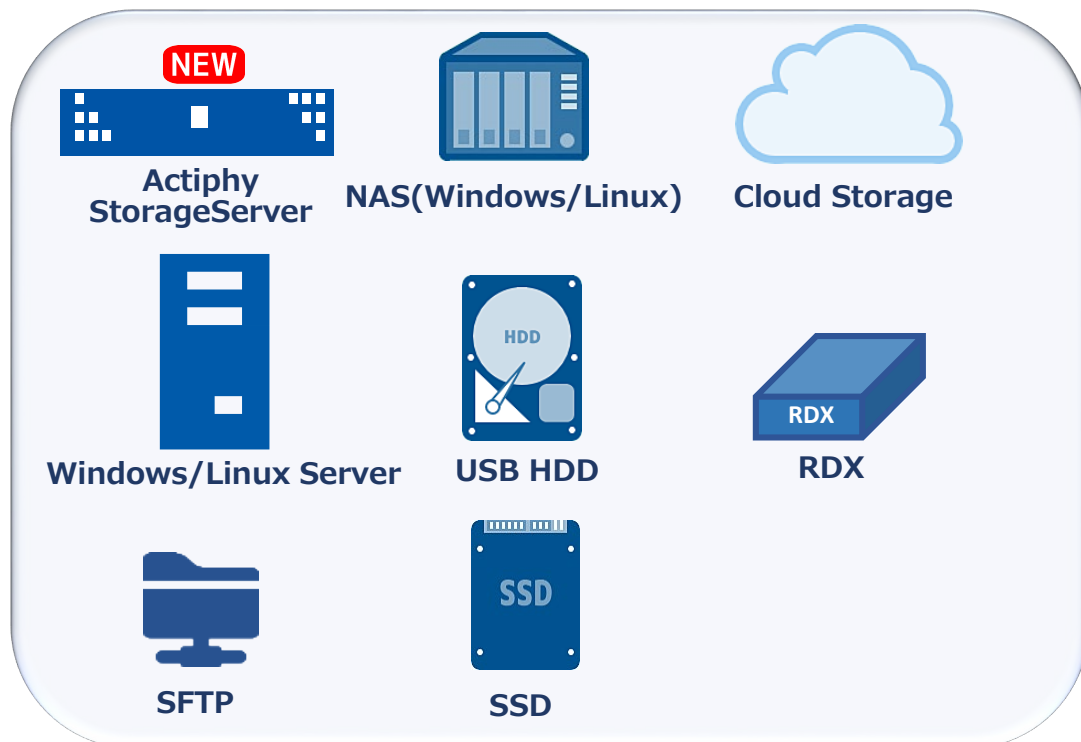

Restore to the point-in-time state of the server.
No need to configure the respective settings, i.e., network, etc.

Flexibly select a backup destination depending on the system configuration and backup policies.

Support for a variety of Storage Media

Save your backups to any available storage location, including USB HDD, cloud object storages, etc., supporting a variety of system configuration and backup policies.

A variety of Storage Media are supported

NEW

Actiphy StorageServer

NAS(Windows/Linux)

Cloud Storage

Windows/Linux Server

HDD
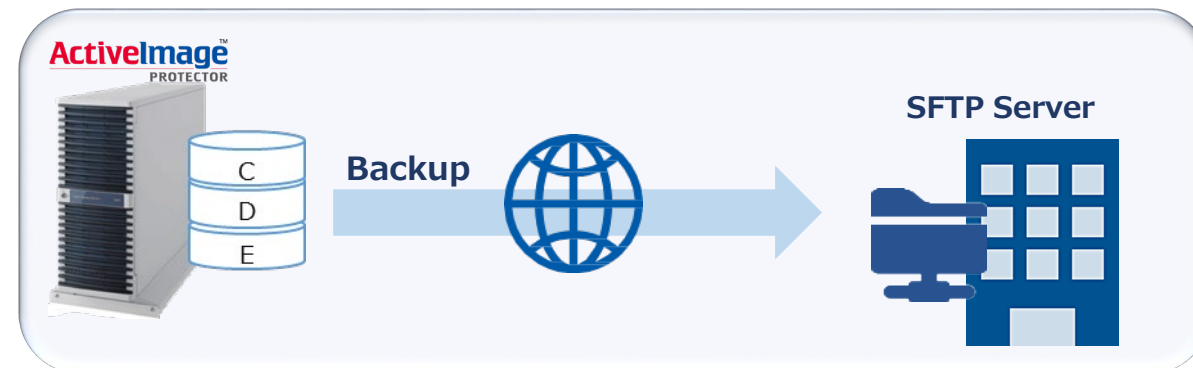**USB HDD**

RDX
RDX

SFTP

SSD
SSD

Save your backups to any available storage location   **NEW**

Supported storages include S3-compatible object storage and SFTP server as backup destinations.

Backup systems directly to cloud storage

ActiveImage™ PROTECTOR

C
D
E

Backup

S3 - compatible Object Storage

Backup to SFTP server for secure transfer

ActiveImage™ PROTECTOR

C
D
E

Backup

SFTP Server

Actiphy

File / Folder Backup feature is provided

Block-based File Backup

Specify a file / folder and regularly back up according to a pre-configured schedule. Daily incremental backup includes only blocks that have changed from the last backup, minimizing the consumption of the system resources on the machine.
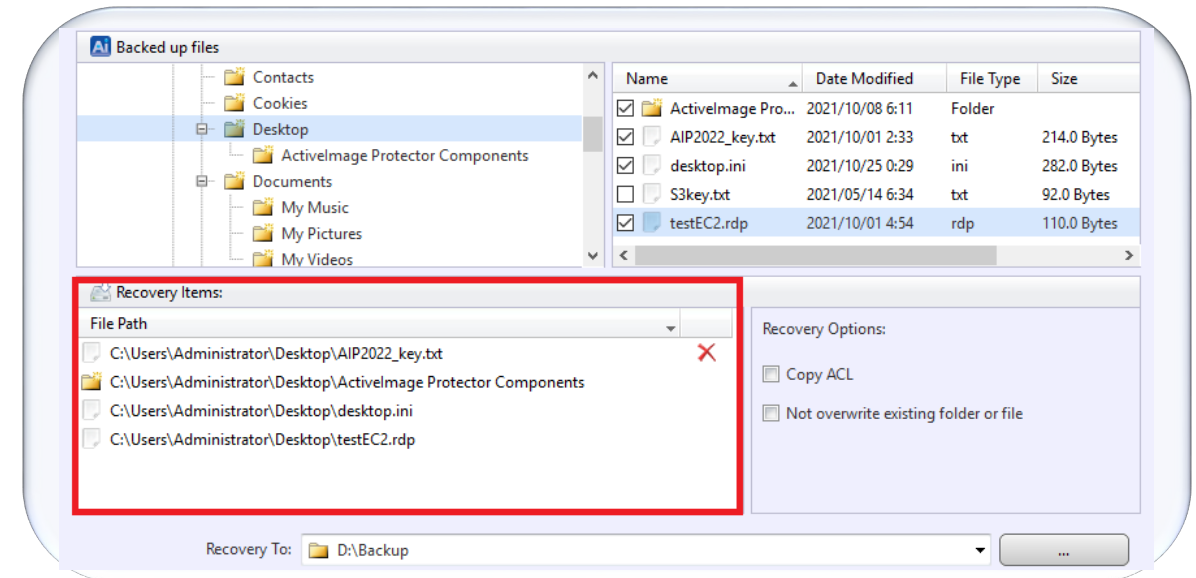
Incremental Backup includes only changed blocks

Back up only changed blocks
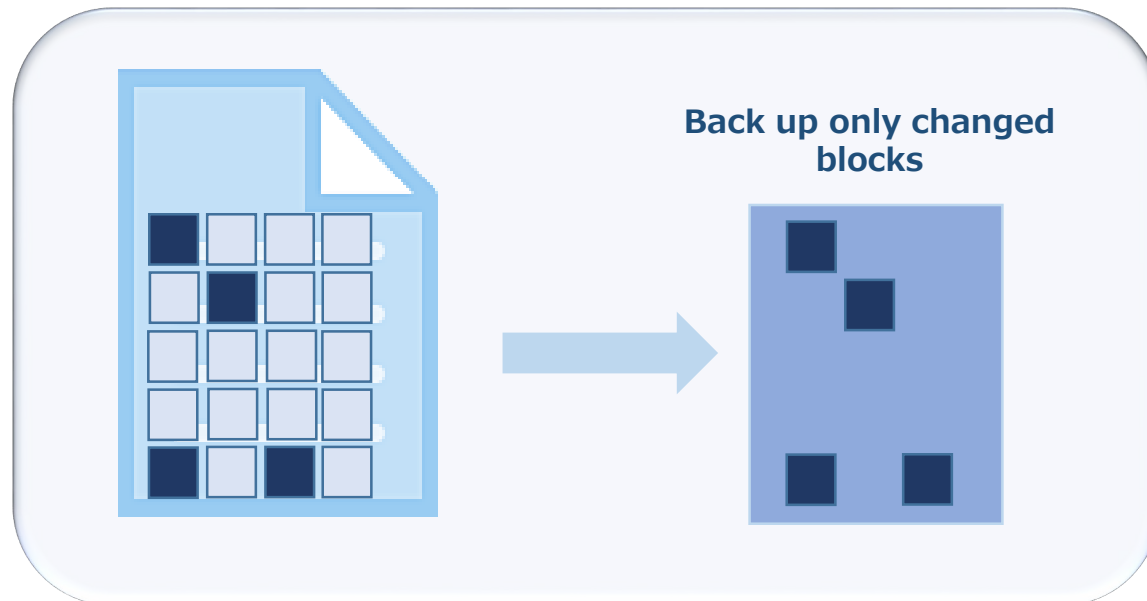
File / Folder Recovery

Granular point-in-time recovery of files and folders is enabled. The stream information and access rights assigned to files are inclusively restored. When you only need specific files to restore in order to restart your duties, File Recovery feature can provide you with flexible action.

### Select a specific file / folder to restore

Actiphy

Back up entire hard disk including your system and data

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

ActiveImage PROTECTOR

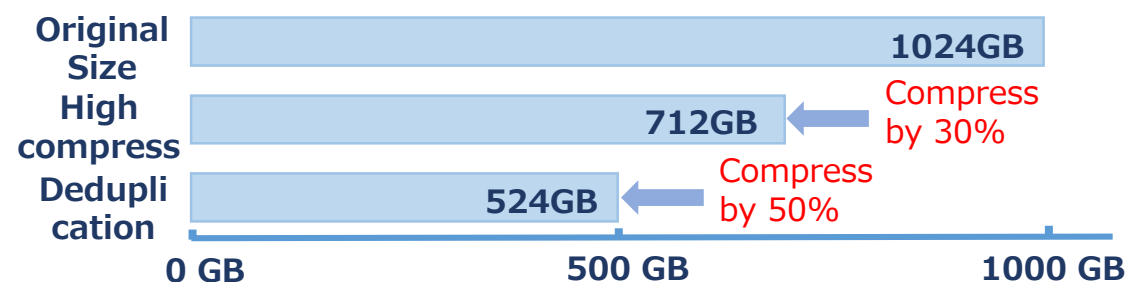Entirely back up system and data

C
D
E

Ai

Back up changed blocks

Daily incremental backup includes only changed blocks 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.

Back up only changes

Ai

Full   Inc   Inc   Inc   Inc   Inc
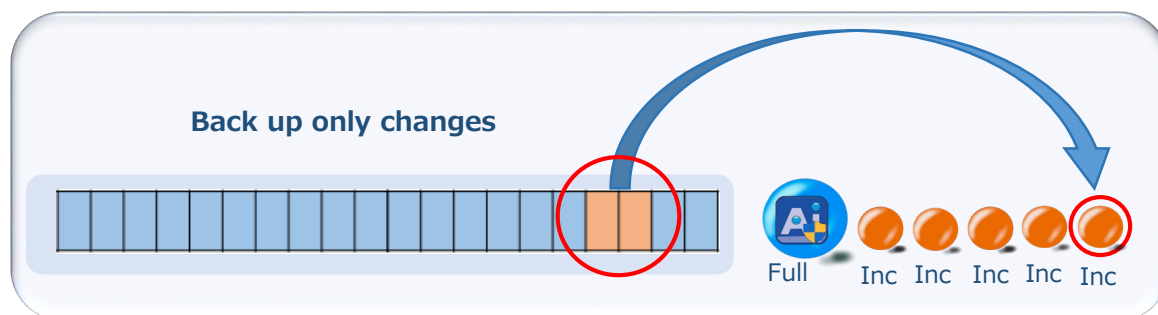
Deduplication Compression reduces storage requirements

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.

Original Size	1024GB
High compress	712GB — Compress by 30%
Deduplication	524GB — Compress by 50%

0 GB   500 GB   1000 GB

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.

Delete obsolete backup files

3rd Gen
2nd Gen
1st Gen
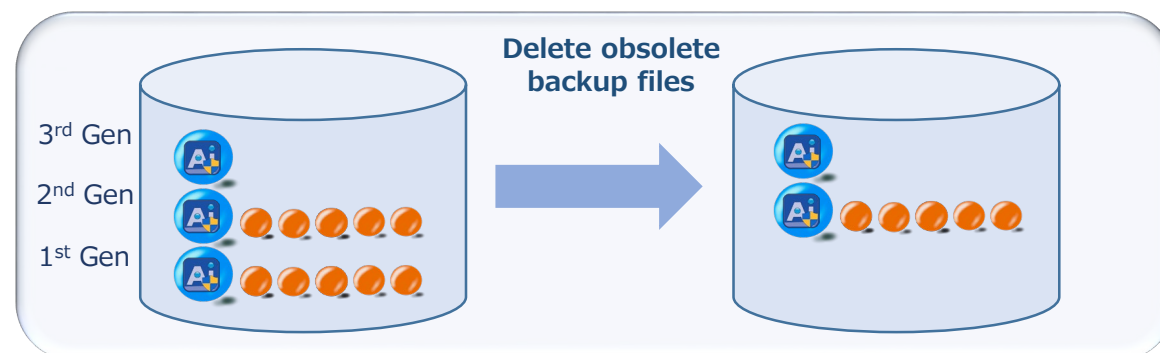
Restore the entire disk

Select the restore target disk in point-in-time backup (recovery point) and your system is restored to the state when the backup was taken.

Restore entire disk

Restore by volume

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

Restore by Volume

File / Folder Recovery

○File Recovery Feature

Granular point-in-time recovery of files and folders is enabled. The stream information and access rights assigned to files are inclusively restored.

Granular recovery of files and folders

○Image Explorer

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

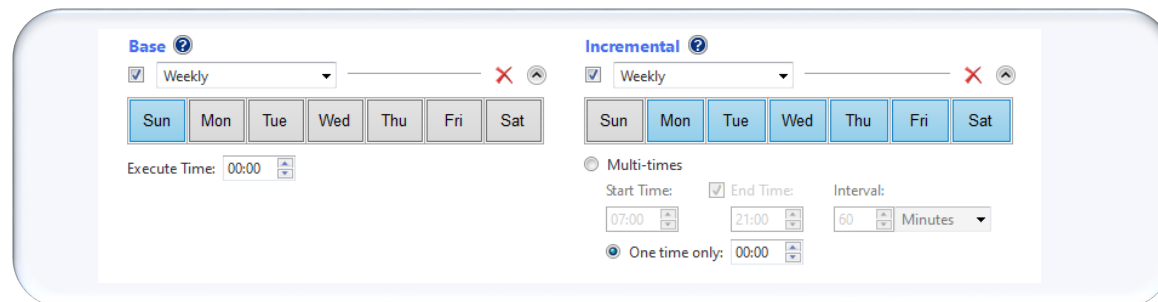**Click on a backup file**

Actiphy
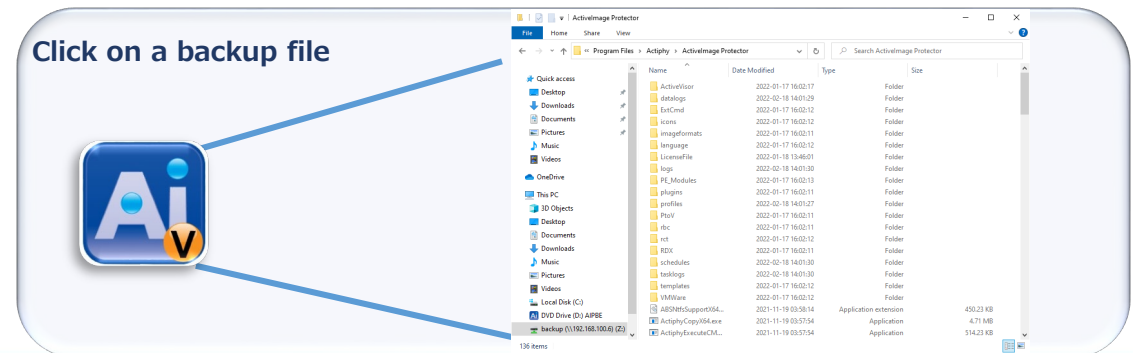
Flexible Multi-scheduling

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.

○Monthly

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.

○Designate 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.
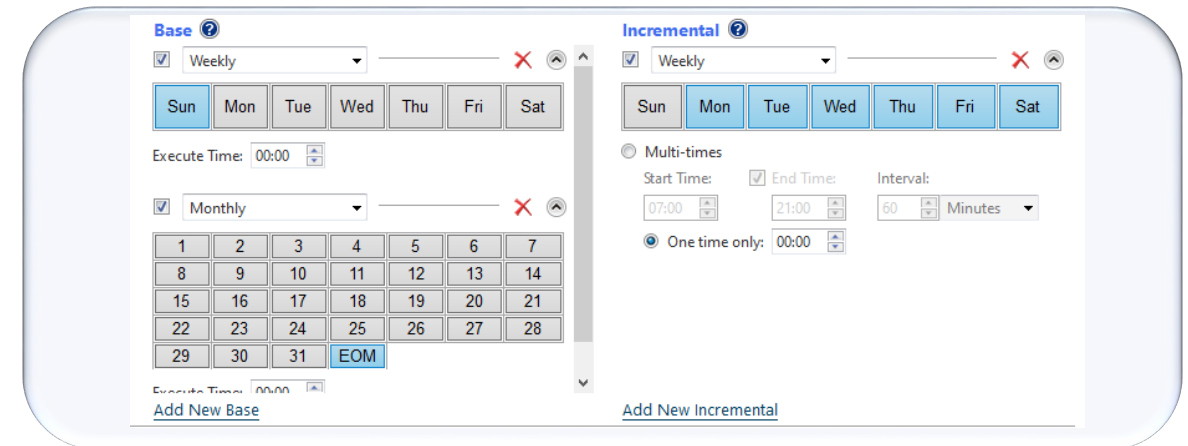
○Specified Date / Time

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

○Multi-scheduling

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

○Multiple 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.

Destination settings configured for the respective backup sources
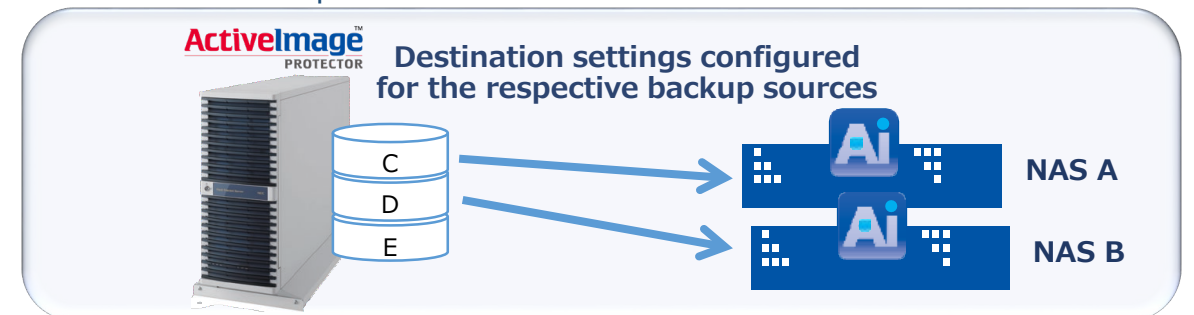
Supported Model

➤ Supported Model

- • Express5800/R320h-E4/M4
- • Express5800/R320g-E4/M4
- • Express5800/R320f-E4/M4
- • Express5800/R320e-E4/M4

※ Express5800/R320e supports Windows Server 2012 R2 PC only.

ActiveImage Protector 2022 Express5800/ft Server is optimized for backup of ft server

➢ **Entirely back up live system and data**

- ActiveImage Protector is the only online backup solution officially supporting ft server system.

➢ **ft server support models are fully tested**

- ft server support models are fully tested in collaboration with NEC Corporation and trouble report is practically naught since April 2009, when the product was first released. Also, User Guide for backup operation is included in the product for your reference.

➢ **Proved with the results of the successful deployment**

- Many successful results of the product deployment reported since April, 2009.

ActiveImage™ 2022
PROTECTOR

ActiveImage Protector 2022 Express5800/ft Server

Backup and Recovery of Windows system

User Guide

2nd Edition – January 26, 2024

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For your inquiry, please contact:
Actiphy Inc.
E-mail: global-sales@actiphy.com
Tel: 81-3-5256-0877

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www.actiphy.com