Acronis®

NEW GENERATION DATA PROTECTION
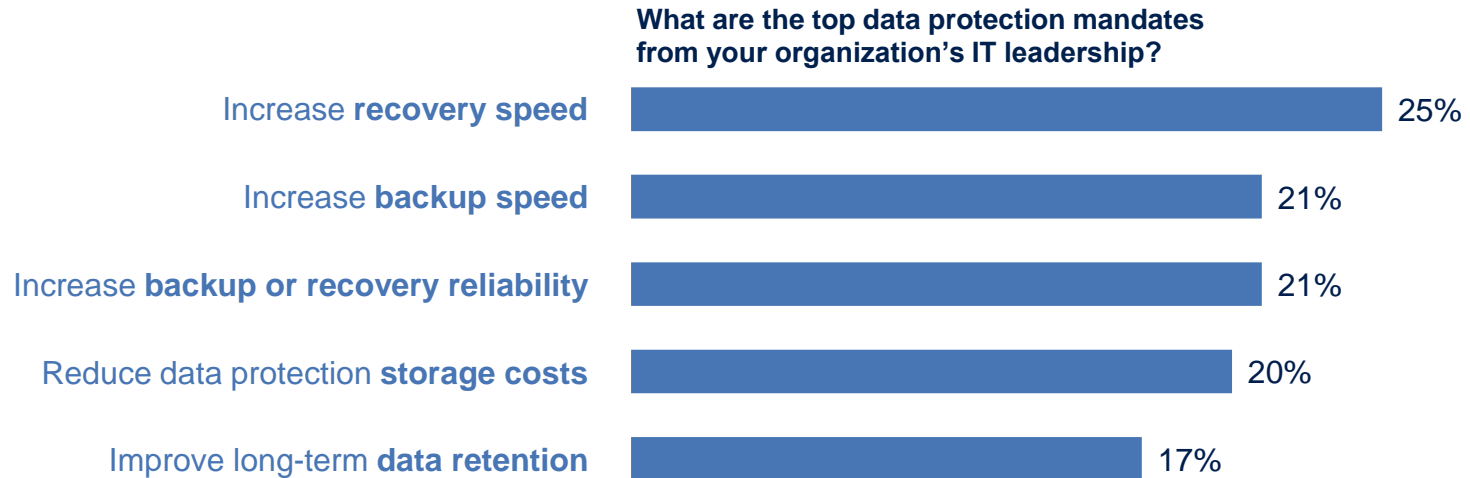
15 YEARS ANNIVERSARY

TIBX

NEXT-GENERATION ARCHIVE FORMAT IN ACRONIS BACKUP CLOUD

WILLIAMS RACING
OFFICIAL PARTNER

Backup Speed and Reliability
Are the Top Data Protection Mandates

**What are the top data protection mandates
from your organization's IT leadership?**

Increase **recovery speed**	25%
Increase **backup speed**	21%
Increase **backup or recovery reliability**	21%
Reduce data protection **storage costs**	20%
Improve long-term **data retention**	17%

Source: Enterprise Strategy Group, 2017

A backup archive is the basis from which
an organization can meet its data protection goals

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What Does an Ideal Backup Archive Look Like?

Fast backup and restore

Reliable

Scalable

Small archive size

Low resource consumption

Universal

TIBX – Next-Generation Archive Format

Introducing a modern backup archive format for any hybrid environment. Now in Acronis Backup Cloud.

Faster backup and restore

- ✓ Top-notch backup and restore speed
- ✓ Quick browsing and file searching
- ✓ Parallel file-level backup for SSDs

Reliable

- ✓ Built-in consistency verification
- ✓ Survives power failures during backup jobs
- ✓ Resumes backup jobs
- ✓ One archive file contains all data

Cost-effective

- ✓ In-archive deduplication
- ✓ Best-in-class memory efficiency
- ✓ Adaptive compression

Scalable

- ✓ Scales to billions of files and 100+ TB archive size

Universal

- ✓ Single format for any type of data, backup type, and storage

Fast Backup and Restore

Top-notch backup and restore speed

➔ Asynchronous data access engine – 500MB/sec and faster.

➔ Parallel file-level backup for all solid-state storage disk systems, which boosts performance on SSDs to more than 10X.

➔ File-rename detection, so there's no repeat backup performed.

Fast file browsing in backups

➔ A new paging technology ensures quick browsing.

➔ Built-in indices ensure speedy search by file name in backups.

Reliable

Transactional backups

➔ Changes in the archive (e.g. during a backup job) are transactional so backups remain consistent – even in the event of an improper system shutdown when changes to the archive are being made.

➔ All data and metadata in the archive are checksummed and verified.

Backup job resumption

➔ Resume/stop backup jobs any time, so backups continue from the latest point – even if the machine is restarted.

➔ Resumption is supported for all backup types.

One .tibx file with all data

➔ Backup files are self-contained, no meta data is stored in separate files.

Scalable

→ Unlimited-by-design scalability

→ Support for 100+TB archives

→ Up to a billion files in a single archive

→ Scalable file-exclusion lists

Cost Effective

In-archive deduplication

➜ Reduce backup size tens of times, with built-in block-level deduplication for any type of data

➜ Efficient handling of hard links ensures there are no storage duplicates

➜ Hash-based chunking

Best-in-class memory efficiency

➜ 1GB of RAM utilization per 100TB of data

➜ No need to reserve memory for deduplication indexing

Adaptive compression

➜ 20 percent smaller backup file size (on average) compared to the previous archive format

➜ Low CPU utilization

Universal

A single .tibx file for:

Any source of data

➜ Disks

➜ Files

➜ Applications

➜ Mobile

➜ Office 365 mailboxes

Any backup type

➜ Full

➜ Incremental

➜ Differential

➜ Multi-volume

Any backup destination

➜ Local disks

➜ Networked storage

➜ Acronis Cloud Storage

➜ Public clouds

➜ Service provider's storage

Improvements Compared with the Previous Archive Format

→ ≈ 2.5X faster backup

→ ≈ 2 to 50X faster archive browsing and searching

→ ≈ 10X faster to restore encrypted archives from cloud

→ Improved backup reliability with a new transactional approach to changes in backed up data

→ Improved compression resulting in ≈ 20 percent smaller backup file size (on average)

→ One backup format for any use case – instead of 10+ formats in the previous version

→ Smaller backup size via the new in-archive deduplication

→ New ability to resume/stop backup jobs any time

→ Improved scalability

→ Lower RAM and CPU consumption

Test Results: Backup and Restore Speed Improvements

Time to <u>backup</u> a 200 GB Windows Server
**(The smaller, the better)**

≈ **250% faster**

≈ **500% faster**
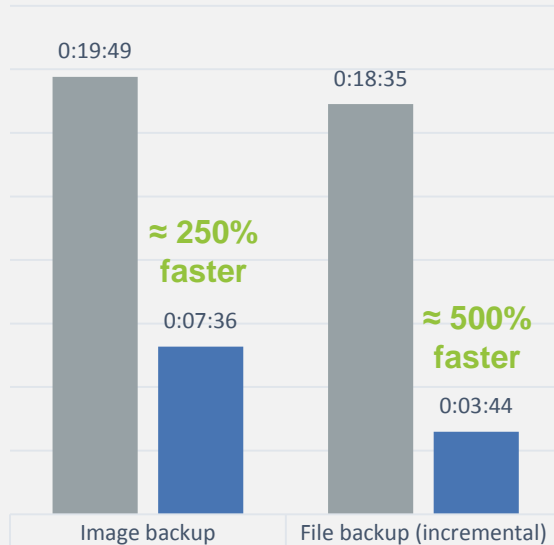
	Image backup	File backup (incremental)
◾ Backup format version 11, AB6.1 build 4670	0:19:49	0:18:35
◾ Backup format version 12 (TIBX), AB7.7 build 9900	0:07:36	0:03:44

Time to <u>restore</u> a 200 GB Windows Server
(Volume restore | The smaller, the better)

≈ **10% faster**

	Volume restore
◾ Backup format version 11, AB6.1 build 4670	0:08:09
◾ Backup format version 12 (TIBX), AB7.7 build 9900	0:07:29
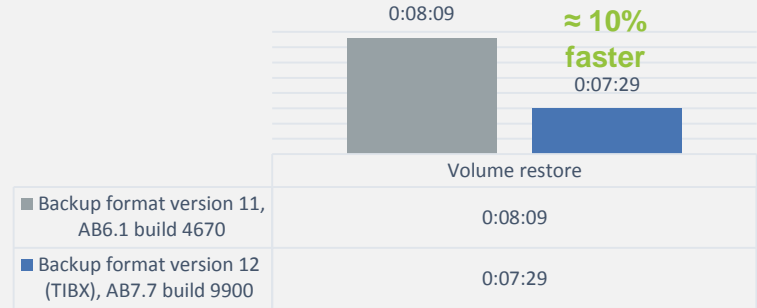
Time to <u>restore</u> a 200 GB Windows Server
(File restore, incremental | The smaller the better)

≈ **600% faster**

	File restore, incremental
◾ Backup format version 11, AB6.1 build 4670	1:57:46
◾ Backup format version 12 (TIBX), AB7.7 build 9900	0:19:29
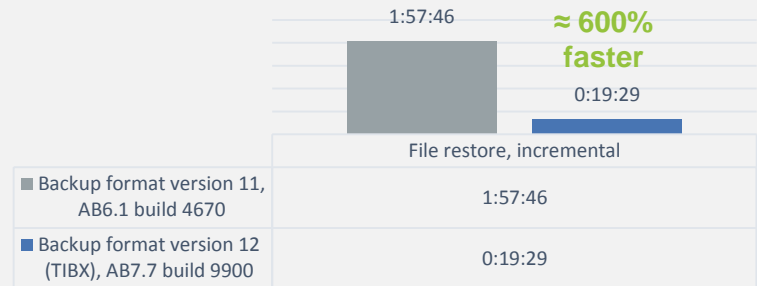
How to Get Started

- TIBX is the default archive format beginning with Acronis Backup Cloud 7.7.

- A new backup agent is required (build 12.5.XXXX).

- "Automatic selection" is the default format. When enabled:
  - If there are no previous archive versions at the destination, then TIBX format will be used.
  - Otherwise, the previous ("Version 11") archive format will be used.

- "Version 12" is the new TIBX format.

- "Version 11" represents the old formats from Acronis Backup Cloud 7.5.

- Any backup destination is supported with TIBX.

Backup options

Search by name

Alerts

Backup file name

Backup format

Backup validation

Changed block tracking (CBT)

Compression level

Error handling

Fast incremental/differential backup

File filters

LVM snapshotting

Multi-volume snapshot

Performance

Pre-post commands

Pre-post data capture commands

Select the backup format

- Automatic selection
- Version 12
- Version 11

Version 12 will be used unless the backup plan appends backups to the ones created by earlier product versions.

DONE