Best Practice Checklist Series - Issue 3

Backups, Frequency and Retention Strategy

Understanding the basics: A layperson's guide and checklist for overseeing IT.



Best Practice Checklist Series

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Backups, Frequency & Retention

The two settings that decide whether you ever see your data again

Every backup strategy hinges on two choices that sound like housekeeping: how often snapshots are taken, and how they are consolidated and retained over time. They rarely come up in conversation. Yet when data must be recovered, these quiet settings can mean the difference between a full recovery and a permanent loss. The situations below occur more often than most organizations realize.

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When it goes wrong

Few backup strategies can recover from every possible situation, and that is normal. Most trade granularity for cost, and for many organizations that exposure is an acceptable risk. The point is not to alarm. It is to make sure the trade is one you chose on purpose.

Silent Data Corruption

An organization dutifully checks its daily backup notifications. Unseen, a rarely accessed disk begins to corrupt. It generates no alerts, so the corruption goes unnoticed for months. By the time it surfaces, it predates the one-year retention window.

Employee Fraud Investigation

Fraudulent transfer requests are created each Tuesday and quietly replaced by Thursday. The firm wants to prosecute and recover funds using the original metadata. But backups consolidate every Saturday.

Lawsuit or Legal Threat

A harassment claim turns on emails that were deleted between snapshot intervals. The company spends heavily defending itself before the evidence finally surfaces in discovery.

Accidental or Malicious Deletion

An employee deletes the wrong file, or a departing one purges it on purpose. A file created and deleted within the same month may already be gone once that month consolidates.

Undetected Crypto Virus

Ransomware quietly encrypts a folder of legal contracts, discovered only weeks later. Management declines to pay, and restores from a clean point before the infection. But that point predates a month of new contracts.

The common thread

None of these is a story about cheap software or a small appliance. In each case the outcome was set, long in advance, by two numbers: how often snapshots were taken, and how long they were kept before consolidation.

Every one of these outcomes could very likely have been avoided. Not with a bigger budget, but with different choices about snapshot frequency and retention. That is the entire point of this issue.

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What to Ask Your IT Manager or Provider

and how to know if the answers are good ones

You do not need to administer a backup system to oversee one. You need to know what to ask. A fuller primer on how these mechanisms work is provided at the end, for those who want the detail. First, the part that matters: run the checklist below with your IT professional. If any item is not marked green, it may warrant a closer look.

Suitable Backup Solution

Does the solution meet the organization's needs for functionality, schedule, frequency, retention, and consolidation? Both local and Cloud-based virtualization capabilities are recommended for optimal protection in a disaster.

Compliant	NOTES:
Needs Attention	
N/A	

Regular Success / Failure Verification

Is someone designated to routinely check backup success and failure notifications, and to act on any failure, or on the absence of any notification, after a scheduled backup was to occur?

Compliant	NOTES:
Needs Attention	
N/A	

Media Rotation and Storage

For solutions without Cloud-based storage, is someone designated to routinely rotate media and safely store backups off site at an agreed interval?

Compliant	NOTES:
Needs Attention	
N/A	

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Test Restorations

Are periodic test restorations performed? Backup images can corrupt silently; testing confirms the data is actually viable before you need it.

Compliant	NOTES:
Needs Attention	
N/A	

Redundant Backup of Cloud Environments

Are suitable, redundant, third-party backups of Cloud-based solutions (for example, Microsoft 365 email) being performed? Provider retention policies vary, and a redundant backup managed by a separate party protects against gaps.

Compliant	NOTES:
Needs Attention	
N/A	

Encryption at Rest

Are the backups themselves protected by encryption at rest?

Compliant	NOTES:
Needs Attention	
N/A	

Put it on paper

One clean way to document these settings is a simple weekly schedule. A completed sample is provided for reference; a blank version is available to complete for your own organization.

Sample Backup Schedule

A completed example for reference

Blank Backup Schedule

Fill in for your own organization

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Terminology

Snapshot Frequency

The interval at which a backup captures changes made since the last snapshot. Changes made and reversed between snapshots are never captured at all.

Consolidation

The process of folding smaller, granular backups into larger ones: snapshots into daily, daily into weekly, weekly into monthly. When a series consolidates, the result reflects only the state at the last snapshot in that series. Everything in between is discarded.

Consolidation Schedule & Retention Time

The consolidation schedule is how often consolidations occur; frequent consolidation is what keeps backup data from accumulating and exhausting storage. Retention time is simply how long backups are kept before they are deleted.

The following should be discussed with your IT professional(s). Some points may not apply, depending on the type of backup solution you have.

Capacity

Capacity is not the same as the volume of data you back up. Some on-site virtualization appliances call for roughly three times your data volume, to hold virtual memory while backups run and to stand your systems up in a disaster. Undersize it and the strategy quietly fails at the worst moment.

Daily Oversight & Management

Who owns this day to day? Who rotates media and takes it off site, and how often? Who confirms that backups actually completed, and acts when they do not? Periodic test restorations should also be agreed upon and scheduled. Oversight that belongs to no one tends to fail when it matters most.

Snapshot Configuration

Snapshot intervals are chosen at configuration and can usually be changed later. It is worth knowing yours, and whether they still fit how your business actually works.

Consolidation & Retention Configuration

How often snapshots consolidate, and how long each tier is retained, is the heart of what you can recover. The sample schedule above shows one way to document it clearly.

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Potential Consequences of Common Trouble Issues

Backup systems occasionally exhibit problems that require technical intervention, and the priority is usually to restore normal service. The causes vary. Common ones include:

In some circumstances, resolving one of these can require deleting some or all of an organization's backup history and starting anew. It is rare, and every effort is made to avoid it, but management should understand it is possible. Organizations subject to legal holds, special compliance requirements, or other restrictions governing the handling of data should apprise their IT professional(s) of those restrictions in writing.

Potential Consequences of Exceeding Storage Capacity

An organization can surpass its projected growth and push a backup solution past its recommended capacity before its planned end of life. When a device's capacity is exceeded, the IT professional(s) may have to alter snapshot, consolidation, or retention settings to free the space needed for backups to resume, and granularity can be lost in the process.

Separately, an employee innocently reorganizing files or freeing space on a workstation may temporarily copy a large volume of data to the company's server. When that happens, offsite replication (where applicable) can slow to a crawl, delaying the backup of legitimate data for weeks or more.

As above, in some situations resolving these problems could require deleting some or all of an organization's backup history and starting anew. Every effort is made to avoid it, but management should be aware it is possible.

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