

Is education IT prepared for the unexpected?

Three principles for guiding your backup and recovery strategy



An efficient, reliable data backup and recovery strategy is vital for continuity in education. From natural disasters to ransomware, education organizations are facing constant and growing threats.

- Education organizations are very slow to recover from security attacks. In fact, higher education is slower to recover than any other economic sector.¹
- Natural disasters can interrupt education and have a long-term impact on learning. 80% of data center managers and operators have experienced some type of outage in the past three years.²
- 54% of US public school districts reside in counties that experienced disasters over a government-audited three-year period.³
- The average cost for dealing with an education organization-targeted ransomware attack is \$1.4 million USD.¹
- When surveyed in 2022, only 2% of education organizations that paid ransom for attacks sustained throughout 2021 said they got all their data back.¹

Organizations without a proper backup and recovery strategy to tackle these obstacles could face:

- Harm to their brand from a lack of trust
- Enrollment declines
- Unexpected and prolonged downtimes
- Decreased productivity
- Expensive security breaches
- Loss of institution and student data

Threats will continue to evolve. As an education IT leader seeking solutions, these principles could help you prepare for future threats.



Ransomware attacks have increased: **64% in higher ed** and **56% in K-12** were hit in 2021, **up from 44%** in 2020.¹



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1. Replication isn't backup

Many institutions rely on replication, where data is often synched and updated as changes are detected over time. This offers a shorter recovery point objective (RPO) and a shorter recovery time objective (RTO). The problem is that replication may only save the new corrupted data as a canonical version of the data, instead of offering the ability to restore the original uncorrupted data.

Institutions should be employing true backup, which is a segregated "snapshot in time" copy of your data stored for the long term. Both replication and backup have a place in your strategy, but backup is a must when protecting data against ransomware, malware, and disasters.

The "3-2-1" rule is often referred to as a good start for a backup strategy:

3 Save **three** copies of your data.

2 Ensure your **two** "local" copies are stored in two different ways.

1 Ensure **one** copy is saved offsite.

This strategy can be improved upon by experts who study and customize solutions for your unique needs.



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2. Infrastructure and management can be streamlined at once

Legacy backup and recovery infrastructure is straining to cope with the exponential data growth, compliance and regulatory requirements, and breakthroughs in data analysis that have served to improve learning outcomes.

Restoring trust in your infrastructure requires seeking solutions that are:

- Flexible enough to meet the RPO and RTO requirements of the organization
- Resilient enough to adopt to evolving security threats
- Easy enough to set up with minimal uplift
- Simple enough to pay as you go, if needed



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3. There's an easier way

Lenovo and Microsoft have partnered to deliver best-in-class hybrid cloud proactive ransomware protection solutions, on premises and in the cloud, preventing suspicious activity and compromised access to data — and enabling quick recovery.

With expertise from both Lenovo and Microsoft, customers gain always-on technical support, access to top-tier Azure engineers at Microsoft, and a dedicated team at Lenovo. This team helps guide you through customized disaster recovery planning, from identifying interconnected resources and assessing vulnerabilities to determining the potential impact of a disaster — developing a plan and testing it.

Lenovo provides a complete technology stack solution and licensing guidance. With more than 35 years empowering customers to accelerate their cloud transformation processes with confidence, Lenovo was recognized by CRN as an exceptional end-to-end managed service provider and 2022 Cloud 100 Company.⁴

Azure Backup and Recovery services enable low setup costs, reduced complexity, and easy scalability for large data centers and small businesses.

Azure Backup

Pair the industry-leading Lenovo ThinkSystem™ ST250 V2 powered by 3rd Generation Intel® Xeon® processors with the Microsoft Azure Backup service for a centralized solution to help protect against ransomware. Microsoft Azure Backup offers easy, affordable backup and archiving in the cloud.

- Ongoing, reliable, highly available service
- Fast and easy scalability — up or down as needed
- No restoration costs required

Azure Site Recovery

The Microsoft Azure Site Recovery service offers simple but powerful disaster recovery in the cloud.

- Provides simplified, automated workload recovery
- Saves costs by minimizing CapEx from building infrastructure for disaster recovery
- Saves time and effort by developing sites in minutes, offering remote disaster recovery health monitoring
- Provides customizable aspects for recovery plans

Build your configuration now with the Lenovo Data Center Solution Configurator for Backup and Recovery. **Get started.**



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Lenovo and Microsoft keep you prepared for the unexpected

Why go with Lenovo and Microsoft Azure?

Lenovo has heavily invested in world-class storage technology and partnered with **key data backup and recovery software partners** ▶ to provide cutting-edge solutions for the data management environment.

Lenovo's proven track record ▶ of customer satisfaction and reliability extends to our software solutions — **maximizing organizational security**, ▶ simplifying your IT environment, and reducing the costs associated with your backup and recovery workloads.

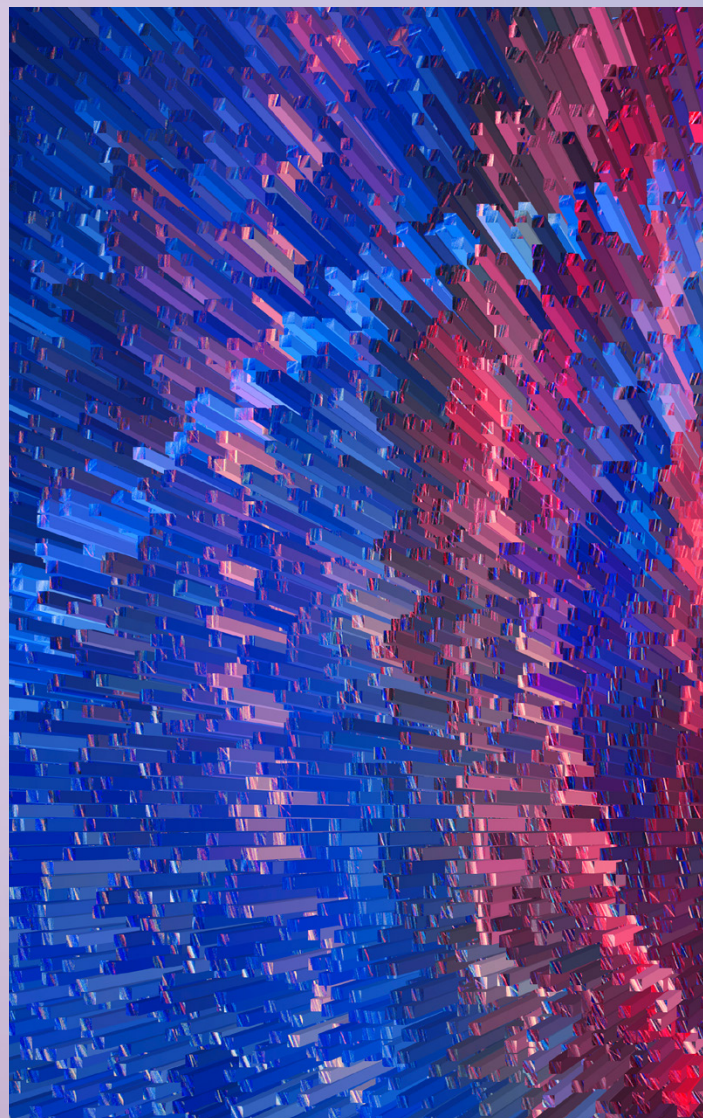
Lenovo provides data backup and recovery solutions that span any data center environment — fully on-premises, hybrid cloud, and public cloud capable. Our **suite of software solutions** ▶ and exceptional Lenovo Professional Services teams are able to architect any backup workload for any environment at any service level agreement.

Microsoft invests more than \$1 billion USD annually on cybersecurity R&D with 3,500 security experts dedicated to data security and privacy. Microsoft Azure has more certifications than any other cloud provider.

How invested is Lenovo in the data center space?

Lenovo has been recognized by CRN as a 2022 Cloud 100 and Data Center 50 company.⁴ This recognition honors groundbreaking cloud technology across infrastructure, monitoring and management, storage, software, and security. The Cloud 100 list has been a trusted resource for solution providers looking for top technology vendors to support their cloud product and service needs.

Lenovo stands out as an end-to-end managed service provider, empowering customers to accelerate their cloud transformation processes with confidence. These end-to-end solutions allow for maximum flexibility by supporting private cloud, multicloud, or hybrid cloud environments at scale.



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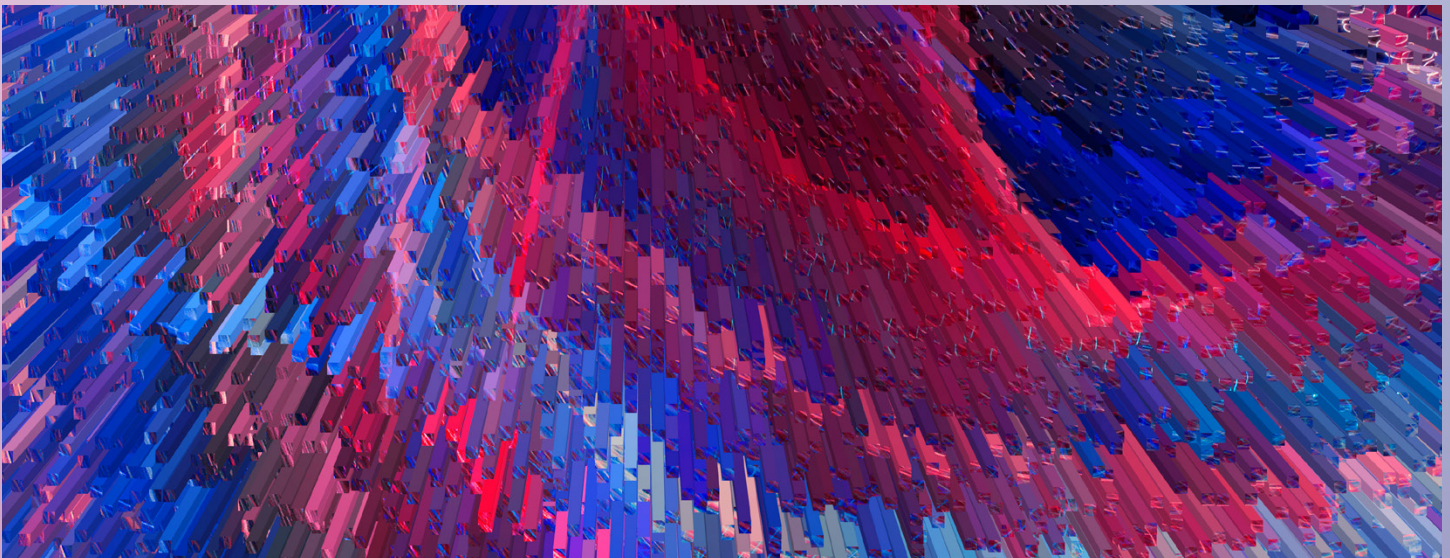
How do I reduce the costs associated with my backup and recovery environment?

Lenovo Hybrid Cloud Solutions for Azure Backup manage both compression and deduplication processes to minimize the storage of duplicated data and thus reduce disk costs. Specific to Azure Backup, there are five steps you can take to optimize your backup costs without compromising on the safety of your data.

1. **Clean up backups for deleted resources.** ▶
2. **Optimize backup policies.** ▶
3. **Optimize retention.** ▶
4. **Use selective disk backup.** ▶
5. **Determine required redundancy settings.** ▶

How can we ensure the solution will be easy to maintain and manage?

Lenovo partners with cutting-edge technology software to provide a simple route to highly capable data backup and recovery environments. Our strong partnership with Microsoft enables simple and effective management both on premise and in the cloud.



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I manage our backup environment across both physical servers and VMs. Can I do this with Lenovo?

Yes! Lenovo hybrid solutions allow an organization to manage a backup environment for both virtualized and physical servers. These solutions support all the major hypervisors and allow both block and granular backup capabilities. **Lenovo ThinkSystem** ▶ and **ThinkAgileMX** ▶ solutions extend the value of Microsoft Azure.

I have gigantic backup and archive repositories. How do I migrate to a new solution?

Lenovo Professional Services provide consultancy-led support to help architect and deploy data center solutions. These teams, along with our software technology partners' teams, provide assurance for a smooth transition to your new backup and recovery solution. Put your cloud migration on the right path with a free Migration Workshop with the Lenovo Professional Services team (check with your Lenovo rep for workshop availability in your area).

In addition, we offer a Microsoft Azure Workshop (also subject to availability) that will help you:

- Evaluate use cases applicable for Lenovo and Microsoft Azure.
- Provide clarity on how Azure fits into your hybrid cloud strategy.
- Understand the remote deployment process for Azure Stack.
- Define a high-level execution strategy for integrating Azure Stack into hybrid cloud.

Sources

- 1 Sophos, "The State of Ransomware in Education 2022," July 2022
- 2 Uptime Institute, "Uptime Institute Global Data Center Survey 2022," September 2022
- 3 U.S. Government Accountability Office, "Disaster Recovery: School Districts in Socially Vulnerable Communities Faced Heightened Challenges after Recent Natural Disasters," January 2022
- 4 CRN, "The 20 Coolest Cloud Infrastructure Companies of the 2022 Cloud 100," January 2022

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