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Key Considerations for Data Storage Purchases

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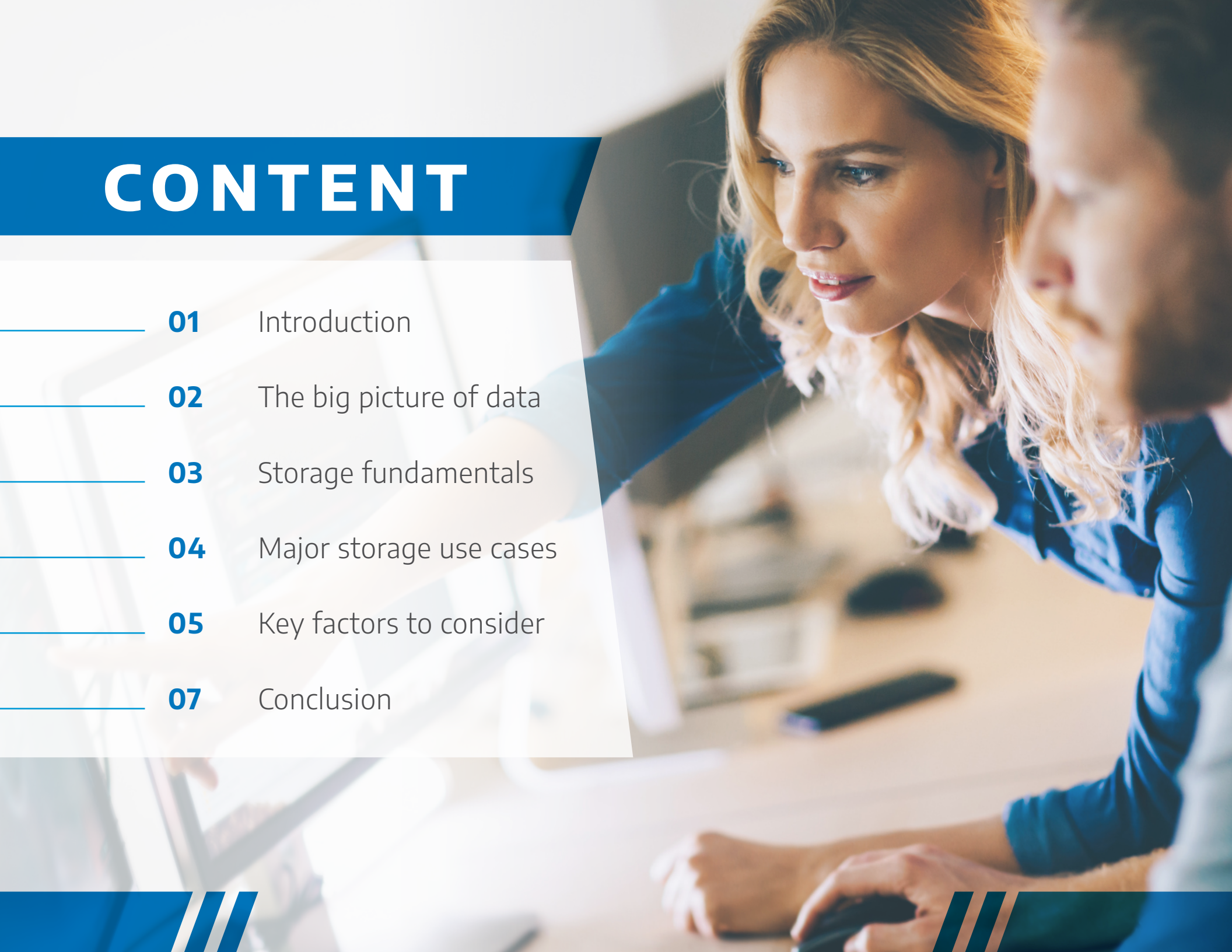
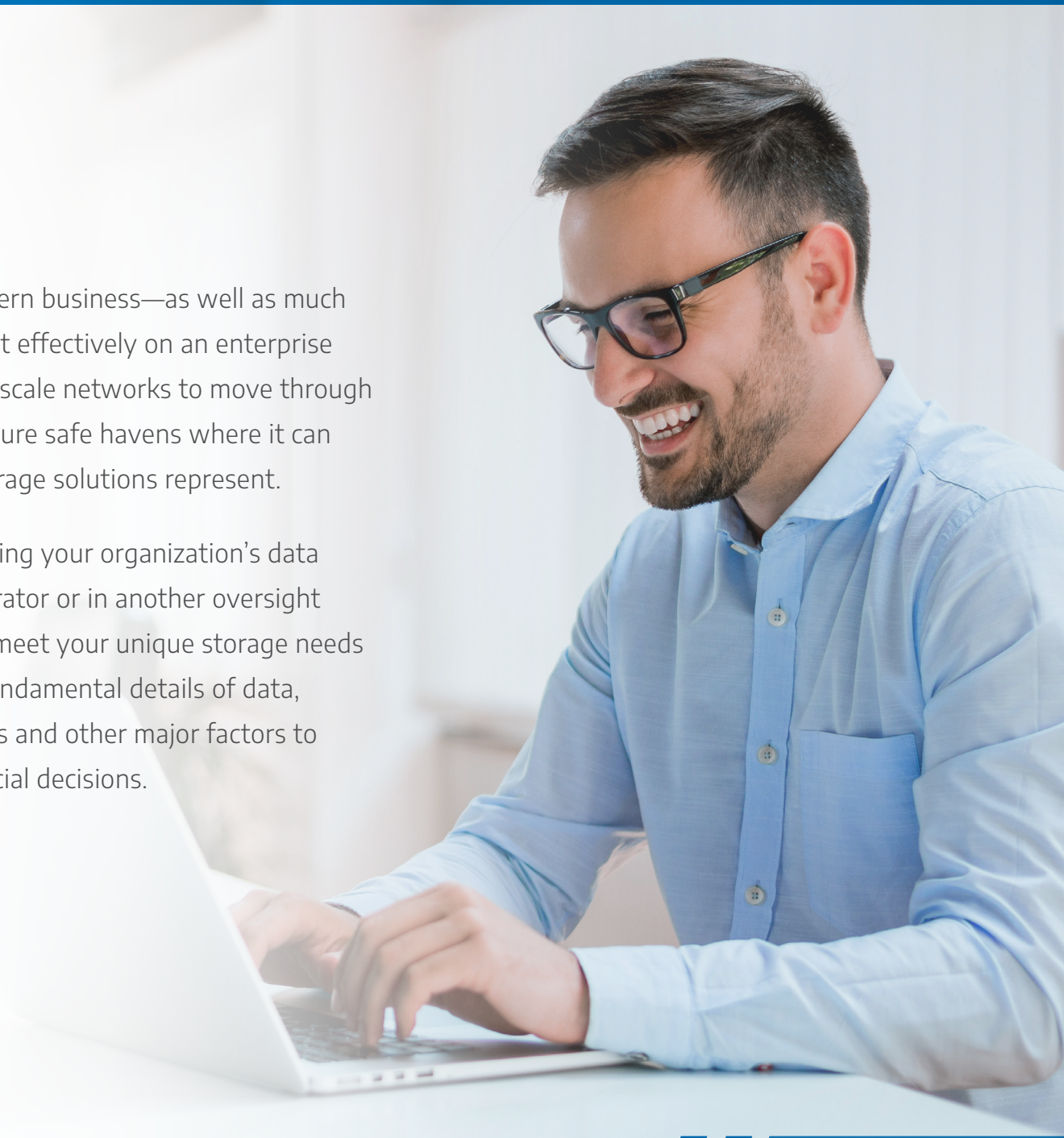


Introduction

These days, data is the lifeblood of modern business—as well as much of modern life! To serve its purpose most effectively on an enterprise level, it needs not only small- and large-scale networks to move through (along with other conduits), but also secure safe havens where it can reside. And that's exactly what data storage solutions represent.

If you have the responsibility of overseeing your organization's data in any sense, whether as an IT administrator or in another oversight position, you know it's critical that you meet your unique storage needs properly. This requires understanding fundamental details of data, common storage methods, key use cases and other major factors to consider before you make any big financial decisions.



The big picture of data

The easiest way to look at data is as structured versus unstructured:

Structured:

Any grouping of data based upon (and adhering to) a predefined model can be considered structured. This could be simple, like the contents of a Microsoft Excel spreadsheet, or more complex, like a relational database supporting an ERP platform.

Unstructured:

Simply put, this means "everything else"—audio, video or image files, documents and so much more.

But it isn't a perfect binary. For example, while metadata is technically unstructured, it serves to catalog other data according to a variety of criteria, which makes it useful for classification, a quality you associate with structured data.

From a data storage perspective, unstructured data is the bigger issue: There's much more of it for an enterprise to handle and it's not always easy to categorize.

Storage fundamentals

Data storage products are categorized according to binaries of their own:

Internal

Traditional spinning hard drives or solid state drives that are built into computers or other devices.

External

Physical HDDs and SSDs independent of computers, tape storage, servers and most other storage products.

The other binary pertains to how storage interacts with devices:

Direct-attached

Storage solutions directly connected to devices accessing their data, e.g., an external hard drive attached to a desktop or laptop via USB or Thunderbolt connection.

Network-attached

Instead of individual devices, network-attached storage solutions are wired directly into the organization's local network.

Most medium-sized businesses will need network-attached storage (NAS) of some sort—only the smallest can rely on direct-attached alone. Larger companies, meanwhile, will require highly scalable NAS, or perhaps converged or hyper-converged infrastructure data systems, as well as cloud storage.

Storage fundamentals

Creating more space for files

You must carefully consider both specific capacity needs and the data your organization relies upon.

For example, a scalable redundant array of inexpensive disks (RAID) setup and entry-level storage area network (SAN) will likely be sufficient for a midsize company's unstructured and structured data storage. Enterprises need larger-scale iterations of these solutions.

Accelerating applications

For this purpose, consider converged or hyper-converged infrastructure. These systems combine networking, computing, storage, virtualization and management tools to simplify and significantly improve organizational data use.

Balancing on-premise and cloud storage

If you don't have the physical space for the hardware necessary to accomplish full on-premise storage, some data must go to the cloud. A hybrid cloud setup is ideal—more secure than public cloud, less costly than something fully private.

Key factors to consider, part I

Several key considerations should inform how you shop:

Capacity

Start by determining what you need right now, in terms of capacity. (And don't forget what'll be necessary for a proper backup strategy!)

Growth rates

Project how your data needs will grow in correlation to the predicted expansion of your business. (E.g., will you be expanding slowly but steadily, or do you expect to take on large swaths of new customers at once?)

Data speeds

You'll hear a lot about gigabit-per-second measurements of data transfer rates. (Copper-fiber connections often reach 1-10 GB/s; optical fibers are more apt to fall between 10-40 GB/s.) But cycles are even more important. The ideal RAM cycle speed for an enterprise-grade server is 2-4 gigahertz. (Though for large-scale archival purposes, a lower GHz server might be more cost-efficient.)

Key factors to consider, part II

Getting faster and smaller

It's always worth striving for these qualities in data storage. But if budget constraints or other reasons make it difficult to get faster and/or smaller, aim for a happy medium.

Access

Your data storage solution must function without significant interruption while staff are accessing data. It must handle bandwidth demands at as low a latency as possible. Meanwhile, your internet or wide-area-network infrastructure must support speedy data transfer rates.

Security

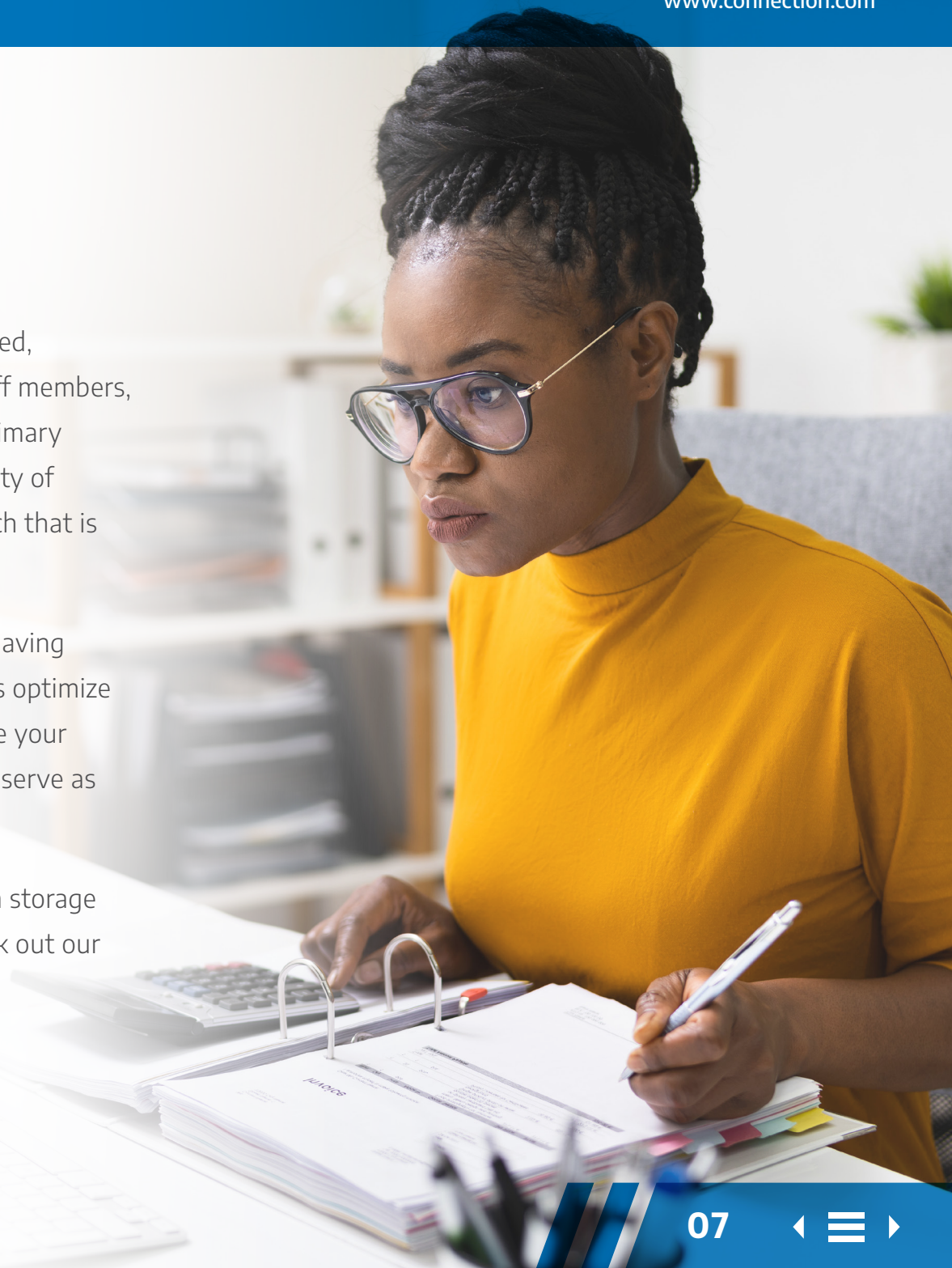
The stipulations of ISO/IEC 27040 are a good security baseline. They include physical monitoring (keycard access, biometric locks, temperature controls, smoke detectors, CCTV) and technical security (encryption, anti-malware tools, firewalling, traffic profiling, etc.). Additionally, make sure your solution meets any applicable government or industry standards, such as the GDPR, HIPAA and PCI DSS.

Conclusion

The ideal data storage solution must be multifaceted, including the right drives for individual use by staff members, appropriate arrays of disks or infrastructure for primary on-premise storage, cloud architecture and a variety of backup methods. As such, determining an approach that is "just right" for your organization isn't always easy.

That's where the experts at Connection come in. Having helped clients of all sizes across multiple industries optimize their data storage, we're more than ready to tackle your unique needs. And of course, our vast catalog can serve as your one-stop shop for storage hardware.

To learn much more about the ins and outs of data storage and what Connection has to offer, be sure to check out our Data Storage Buying Guide!



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