e-Guide

5 Ways Cloud Storage and Nasuni File Services Accelerate Digital Transformation

Almost every business is pursuing a digital transformation strategy. With data the new digital currency, cloud storage and modern enterprise file services are the springboard to your digital agenda. Here are 5 ways enterprise IT organizations can accelerate digital transformation by moving file workloads to a cloud storage platform and Nasuni's global file system.

#1: Handle Big Data with Limitless Capacity

Digital businesses are generating data at a rate only dreamed about 10 years ago:

- Video – One hour of footage shot in Ultra HD, with backups, can use up to 1 terabyte of storage.
- Machines (IoT) – An oil rig can produce 8 terabytes of data a day. A Boeing 787 can generate 40 terabytes of data per hour of flight.
- Science – One human genome requires approximately 200 gigabytes of storage.
- Healthcare – High-resolution medical imaging and advanced microscopy are creating truly massive files. A 3D mammography image is 20 times larger than its 2D predecessor.
- Self-driving cars – One autonomous car can generate 1 gigabyte of data per second.
- CAD – A single Building Information Management (BIM) model can now exceed 100 GBs.

These are all examples of unstructured data, more commonly known as files.

Storing these "piles of files" the traditional way – buying racks of Network Attached Storage and file servers, backing them up with traditional backup software to disk or tape, and managing them with large teams of administrators –does not provide the scale required for enterprises undergoing digital transformation.

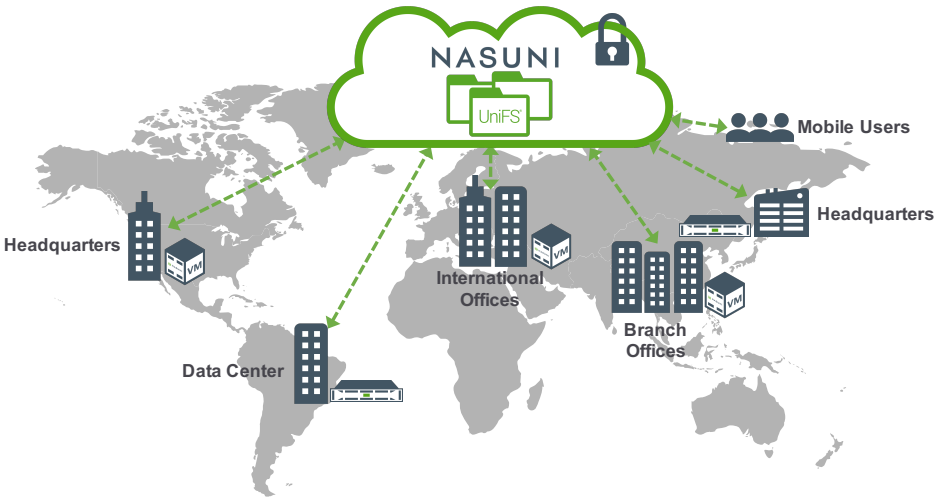
Cloud object storage makes it possible to store practically limitless amounts of unstructured file data, and takes the capital and operational costs of managing data center storage off IT's plate.

But what every enterprise needs to make cloud storage work for digital transformation is file-level

access, not raw object-level access. Enterprises also need the flexibility to implement a multi-cloud strategy to meet performance and data residency requirements. Both needs are addressed by Nasuni.

Powered by the Nasuni UniFS® global file system, Nasuni Enterprise File Services stores unstructured file data in object storage from Microsoft, Dell EMC, IBM, Amazon, and other leading public and private cloud storage providers, while caching actively used data wherever it is needed – on-premises or in the cloud – for high performance, file-level access.

This flexible, transformational approach combines the limitless scalability and favorable economics of cloud object storage with the security and performance of local file servers.



Nasuni Enterprise File Services, powered by the Nasuni UniFS® global file system, enables digital businesses to store and access files across all locations at any scale.

File storage capacity for group shares, project directories, and home drives is limitless. There is also no limit to the number or size of directories and files. Provisioning new capacity is simple and immediate; simply increase the cloud storage and Nasuni subscription.

With cloud storage and Nasuni, the Big Data required by digital transformation initiatives will never be too big.

#2: Innovate Faster with Global File Collaboration

Digital transformation requires businesses to become thoughtful and flexible in the way they invent and adapt. They must innovate in an agile way. They must tap the intellectual horsepower of their employees – wherever they may be – to design products and services that are differentiated from the competition.

According to The Digital Business Imperative by Forrester Research, "Digital businesses connect customers and employees, forming dynamic cross-functional teams that aren't bound by traditional rules. Collaboration, agility, and innovation are second nature to employees in digital businesses."

None of this can be accomplished without a fast, efficient way to store and synchronize files across multiple locations. Cloud storage with Nasuni's global file system does exactly this.

Nasuni Edge Appliances can be deployed in any location to cache actively used files from cloud storage. They look like regular file servers or NAS devices, presenting shares via standard protocols (e.g. CIFS, NFS) for high speed file access. Yet they require, on average, only 20% of the hardware resources because they are only caching the active files. Intelligent algorithms yield cache hit rates of 98.5%, minimizing cloud egress charges and ensuring fast file access. You can choose from flash-optimized physical appliances from Nasuni or use your own hyperconverged infrastructure or flash arrays as virtual edge appliances.

Nasuni synchronizes file changes across all edge appliances using affordable, high speed Internet bandwidth. Nasuni Global Volume Manager™ aligns all changes from all locations by sequencing the file deltas in object storage, creating an immutable file version history that can be retrieved at any time.

Nasuni Global File Locking™ ensures only one user can write data at a time, enabling conflict-free file collaboration and minimizing the threat of data loss.

Nasuni de-duplicates, compresses, and encrypts file changes before sending them to cloud storage. Changes are then propagated to every edge appliance so users can collaborate on the same files anywhere in the world.

IDL Worldwide

"We've embraced digital transformation to help speed up our design projects, do better business, and take service to the next level for clients like Chick-fil-A, Coca-Cola, and Nike. Designers across all our global locations need to work locally and have access to files as if the file server were on location. Performance and collaboration are critical to the creative process. Cloud storage and Nasuni have been critical to us achieving our objectives."

"IDL utilizes the full suite of Adobe Creative Cloud and Microsoft Office products as well as our own homegrown custom apps. In the past, we have struggled with space issues, work getting lost, and delays in sharing files across sites. We love that Nasuni gives us a single folder structure on-site that we can enforce, and then applies that structure within the cloud. Having a tool that works like a single global file server allows us to work together more efficiently as a cohesive team."

For more information on IDL's digital transformation initiative and how it is enabling global collaboration, watch the on-demand webinar, "Improving Collaboration and Efficiency for Creative Teams."

Together, cloud storage and Nasuni provide the fast, efficient collaboration infrastructure needed for digital transformation.

#3: Be "Always On" with DR as a Service

Digital businesses need to be "always on." This means never going dark on your customers. This means deftly managing your supply chain, your logistics and your IT to put the right technology, the right experiences, and the right products in the right place. This means ensuring your employees always have access to the information they need to respond to any opportunity or threat.

To be an "always on" digital business, you need to mitigate risk and address any data uptime and availability shortfalls. Simplifying and automating Disaster Recovery (DR) processes for your critical file data becomes a key priority.

Implementing DR as a service is an ideal way to achieve this. With no dedicated DR sites or hardware to deploy or manage, DR as a service frees up IT resources to focus on what's really important – driving digital. It also enables IT leaders to work toward recovery outcomes that are driven by specific business needs, such as meeting increased regulatory compliance.

Enterprises that move their file workloads to cloud object storage and Nasuni's global file system have DR as a service built-in. Public and private cloud storage providers automatically store copies of objects in many different locations. This geo-redundancy ensures data is accessible even if there is an outage in one or more data centers.

Nasuni's global file system stores gold copies of all files and metadata in geo-redundant cloud object storage. Nasuni Edge Appliances cache actively used files (and metadata) to provide local, high performance file access in any location. These appliances – physical models from Nasuni or virtual appliances using existing virtual or hyperconverged infrastructure – look and act just like traditional

file servers or NAS devices, but require only a small fraction of the hardware resources since they only cache the active files.

Because edge appliances are stateless and can be instantiated in about 15 minutes, fast access to enterprise files can be quickly provided in any site that has power and Internet connectivity. In the event of a disaster, simply choose a location for an edge appliance, or deploy virtual edge appliances in the cloud to restore fast file access. Nasuni automatically synchronizes all active files from cloud storage to edge appliances using fast, affordable public Internet bandwidth. Files are encrypted, de-duplicated, and compressed for security and speed.

This level of DR automation enables your enterprise to keep pace with the rapid rate of change enabled by digital transformation, protects every innovation, and ensures your global file infrastructure is available for critical business operations. In short, it keeps your digital business, “always on.”

#4: Predict New Opportunities with Analytics

Digital businesses are awash with data – but what to do with it? Winning in today’s competitive business climate requires finding new markets and new areas of innovation worth exploring. This all starts with analytics, turning the data you already have into actionable insights that don’t just help you predict the future, but help you prepare for it.

However, storing all your unstructured data in traditional storage devices so it is readily available for analysis is not cost-effective. There’s just too much of it. Yet, archiving older data to long-term storage doesn’t provide the fast access that’s needed when it’s time to run the analytics that are critical to digital transformation.

Cloud storage and Nasuni overcome this challenge. With the Nasuni UniFS global file system, files are automatically deleted from edge appliances over time as they age, leaving them only in cloud object storage. As soon as they are accessed again, UniFS restores them to edge appliances, providing fast access to the archived data.

Nasuni also lets you take advantage of analytics engines wherever they are located. If you want to run analytics on-site, simply access the data from your local edge appliances. If you want to take advantage of cloud analytics platforms such as IBM Watson, simply provision a virtual Nasuni Edge Appliance in the IBM Cloud and run the analytics there.

With Nasuni and cloud storage, you can extract the full value of your file data no matter how old it is or where it’s located to move your business forward.

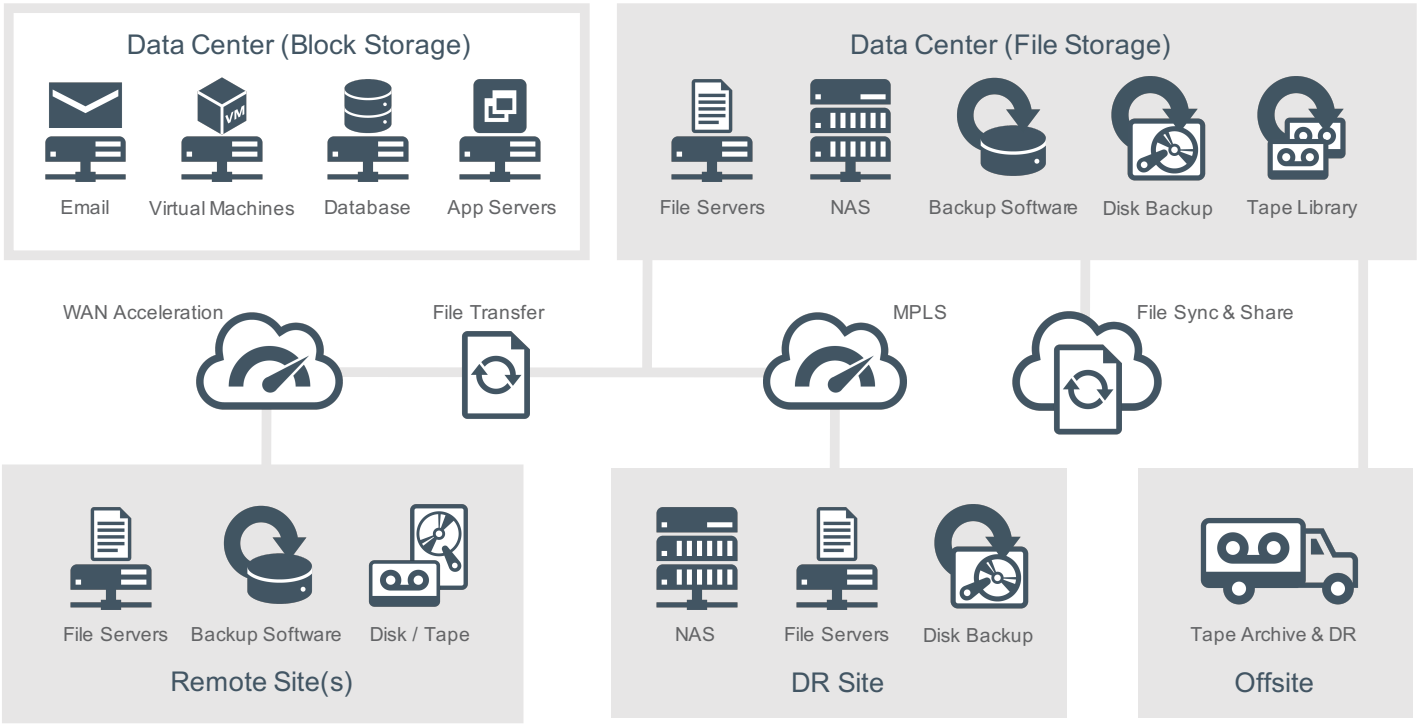
#5: Go Digital AND Improve Operational Efficiency

By undergoing digital transformation, businesses expect dramatic boosts in the pace of innovation and product or service delivery. But new classes of risk can arise from digital initiatives that can end up eroding the benefits of going digital in the first place.

In the book, "Managing Digital" by Forrester analyst Charles Betz, several digital transformation challenges are cited that can "reduce or destroy revenues, erode organizational effectiveness, and worse." One of these is technical debt caused by increased cost and complexity. Betz cautions enterprises to avoid implementing inefficient IT processes and technologies that can end up washing out any gains from digital transformational efforts.

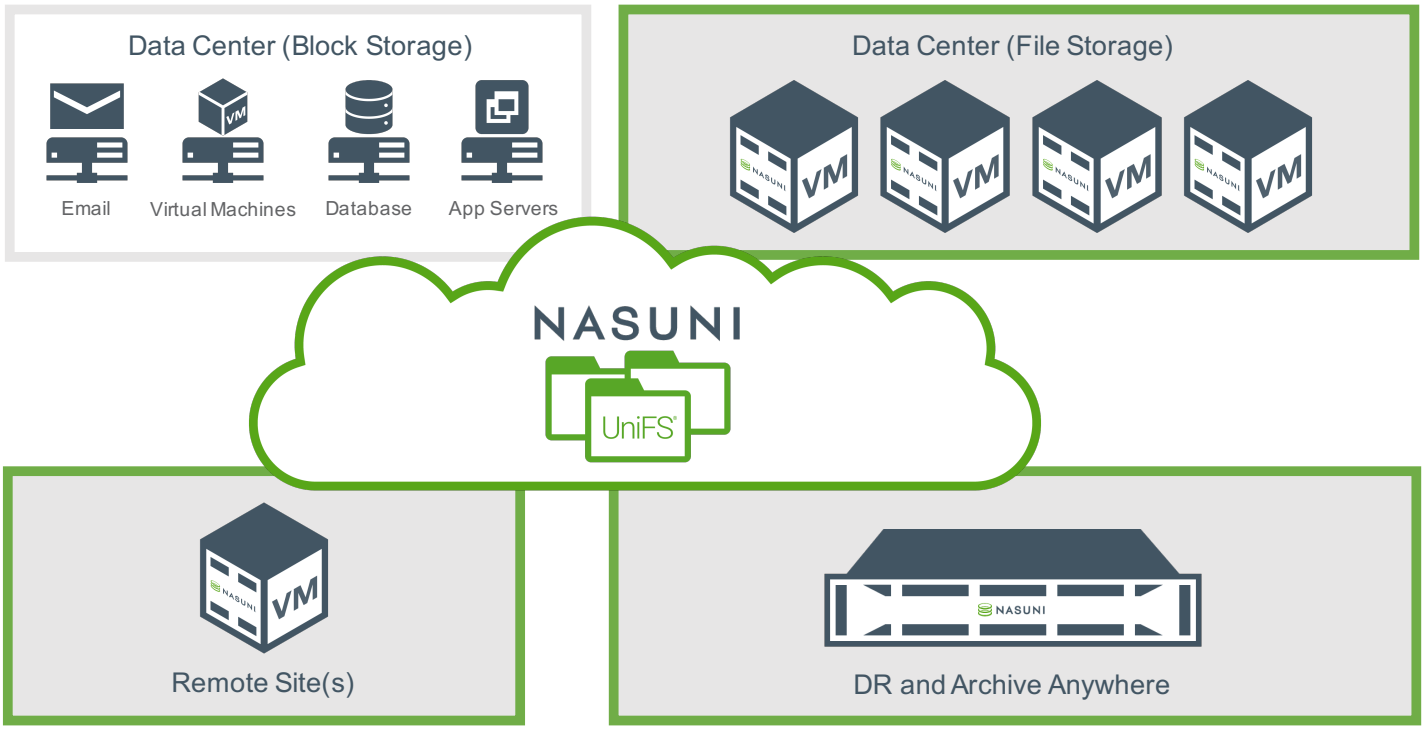
Cloud storage and Nasuni enterprise file services have the opposite effect. The combination accelerates digital transformation in the 4 ways previously discussed, while significantly reducing IT cost and complexity and minimizing technical debt.

With traditional file infrastructure, IT is burdened with building and managing racks of file servers, Network Attached Storage (NAS) devices, and backup software, devices, and media. These resources are duplicated in regional and branch offices, then again in DR sites. Costly MPLS, WAN acceleration, and file transfer solutions are added to synchronize files or provide remote access. When these investments still fail to meet the needs of the digital business, users take matters into their own hands and sign up for consumer-grade file sync solutions.



Traditional file infrastructure increases cost and complexity and introduces technical debt that is counter-productive to the objectives of digital transformation.

With private or public cloud object storage and Nasuni's global file system, digital businesses gain a scalable, high-performance file infrastructure that is easy and efficient to deploy, operate, and manage.



Modern file infrastructure with private or public cloud storage and Nasuni accelerates digital transformation, while greatly reducing IT cost and complexity and minimizing technical debt.

Capacity can be added simply by increasing the cloud storage and Nasuni subscription. Because Nasuni Edge Appliances only cache active working files, which rarely increase in size, capacity upgrades are rarely required at the edge.

Nasuni's continuously versioning file system snapshots files as they change, encrypting, de-duplicating, and compressing them and storing the delta differences in cloud storage. This eliminates the need for file backup software, hardware, and media – and the IT overhead to manage it – while reducing recovery times and increasing the number of recovery points.

The need for MPLS, WAN acceleration, and file transfer software is also minimized. Nasuni file services uses fast, affordable Internet bandwidth to automatically synchronize the gold copies of files in cloud storage with all edge appliances that require them to be in cache.

As discussed above, DR is also built-in, freeing up the IT costs and resources previously needed for dedicated DR sites. Because edge appliances are stateless and can be instantiated in about 15 minutes, fast access to enterprise files can be quickly provided in any site that has power and Internet connectivity. In the event of a disaster, simply choose a location for an edge appliance, or deploy virtual edge appliances in the cloud to restore fast file access.

Conclusion

Digital transformation continues to gain momentum with businesses worldwide, with International Data Corporation (IDC) predicting that spending on digital transformation technologies will reach $1.7 trillion worldwide by the end of 2019, a 42% increase from 2017.

Yet, IDC also reports that 59% of companies remain at either stage two or three of digital transformation maturity. This "digital impasse" is preventing more companies from becoming digitally capable and is widening the gap between leaders and laggards.

To help CIOs and IT professionals successfully advance their organization's digital maturity, modern technologies like cloud storage and Nasuni are needed.

This e-Guide has covered 5 ways cloud storage and Nasuni's global file system accelerate digital transformation. Share this e-Guide with your colleagues. Then, start a proof of concept with Nasuni to validate how you can accelerate your transition to a digital-native enterprise.

About Nasuni

Nasuni enables enterprises to store and synchronize files across all locations at any scale. Powered by the Nasuni UniFS® global file system, Nasuni file services stores unstructured data in object storage from providers such as Amazon, Dell EMC, IBM, and Microsoft, while caching actively used data wherever it is needed – on-premises or in the cloud – for high performance access. By using Nasuni to collaborate on files across multiple sites and consolidate Network Attached Storage (NAS) and remote office file servers, customers maximize workforce productivity while reducing IT cost and complexity.

Contact Us

www.Nasuni.com | info@Nasuni.com | +1.857.444.8500