Buyers Guide
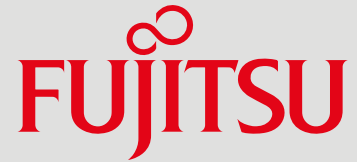Business Executives

The business need for simpler storage

What to consider when planning for modern IT in the hybrid cloud era

The data deluge facing modern business

As businesses seek to become more agile and adaptable, ready to meet an uncertain future, their IT plays an ever-greater role in this evolution. Examples are the key areas of digital transformation and flexible working – business change here is accelerated from time to time by outside events, but these are developments that were already underway in many organizations, and were long overdue in others.

Underpinning these services, and all the rest of your business IT, is data – and the one thing we can guarantee, as the adoption of digital platforms grows, is that you will end up with more data to look after.

So how can organizations respond to this potential data deluge? The simplest solution is of course to buy more capacity, updating if possible to the latest storage technology. It may make considerable sense here to consolidate as much as possible, for example to have multiple applications storing to one storage server or array (or perhaps to a pair of such devices, for resilience and data protection).

The problem is that, as we add more and more services and applications, each brings its own data store, and before long we have multiple separate 'silos' of data. Not only must each of these be monitored and managed individually, but each must have its own excess storage space as headroom for expansion. These data silos remain even when consolidated onto a single storage system, as each application may require its own dedicated slice of storage.

Turning complex data into business value

The bigger issue is that as the demands upon business grow, so do the needs and reasons for greater and better access to data. For example, here are some of the data-related issues that must be considered.

Business transformation	In the search for agility, organizations have moved more and more processes and work online. This means their software tools need to be able to **quickly and efficiently share data**.
Becoming data-driven	A data-driven business exploits data at every level to achieve strategic and operational advantage. **Modern data storage platforms, tools and policies are essential** to this.
Data management and governance	Can you see how much data you have, what kind it is, who's using it, how it's secured and how fast it's growing? And can you **find it quickly when it's needed**, e.g. for a GDPR request?
Cloud-ready, cloud-enabled	Most modern organizations have - or want - systems and data both on-site and in the cloud. The ability to **seamlessly interoperate and move between them** is important.
Future-tolerant systems	Will the technology investments that you have today limit your choices in the future? Or will your data storage systems grow and adapt **as your needs grow and change**?

These challenges cannot readily be addressed by a "business as usual, but with bigger boxes" tactic. They will require a new, shared foundation for your applications and services. A storage infrastructure where data is not silo'd, but can be available to all – the requirements of data governance, security and privacy permitting, of course – and which is very much oriented towards the future needs of the business.

Planning the future of your business data

As we have seen, as the adoption of digital services and platforms grows, and as businesses make more and more use of online technology, it's almost inevitable that you will end up with more data to look after. This will cost more to store and manage, especially if – as was formerly the norm – each platform or service maintains its own data store or silo.

At the same time, there is a growing requirement for our data to be accessed, managed and governed effectively, for business insight and data protection, and for regulatory and legal compliance. All that is easier if it is stored in one place, not in disparate silo'd systems.

Large enterprises addressed all this years ago by building storage area networks (SANs), where data and storage space is networked and shared. However, SANs are the domain of the kind of technical specialist that rarely exists in smaller and midsize organizations, where technical generalists are more common.

A SAN for the masses: hyper-converged storage

That's changed now, thanks to huge advances in virtualization and networking technologies, and the shift from purpose-built hardware to commodity server-based platforms. Today, it is possible to build a 'SAN in a box' using software-defined technologies and hyper-converged infrastructure (HCI).

In effect, all the elements that make up a SAN are converted to virtualized software services that run together on a single HCI server or an easily-expanded cluster. And because it is all software, it can be controlled and automated much more readily. It's a concept called hyper-converged storage.

This single data platform, software-driven and based on virtualization, can be considerably more agile, flexible and adaptable than individual storage silos. It is also possible to run the same software in a public or private cloud, for example as an extension, or as a duplicate to replace your on-site systems in case of disaster. Here's some of the other ways that such a route could generate value for the modern business.

Business insight
Access to all the data across every application is important, if not essential, for gaining insight – although data governance rules must of course be followed. Many applications will still create and curate their own data stores, but if these are virtualized and located on shared storage, it becomes much simpler to get business value from them.

Hybrid cloud
The different forms of IT available to the modern organization – public cloud, private cloud, and traditional on-site or hosted systems – all have their advantages. Hyper-converged storage operates across all these, allowing you to use whichever best fits your needs. In the hybrid model, you can also build composite services with elements from different sources.

Unified application management
Most modern organizations use applications from a variety of sources – e.g. some cloud-based, others run on-site, and some from software-as-a-service providers. Putting a common management layer across all of these, for example via a Cloud Services Marketplace, is simpler when they share storage infrastructure.

Regulatory and legal compliance
Many regions, countries and industries have rules governing data storage, processing and usage. Having multiple data silos makes it hard to know what personal data you have stored and where. This can present serious business risks, for example if you are required to produce or delete all the data you hold on a specific individual.

Evaluating the costs and benefits

One way to start evaluating your storage modernization options is to take two copies of the list here, and use them to consider how your capabilities would be impacted by a) simply updating your storage systems to accommodate data growth, and b) updating your overall strategy to adopt hyper-converged storage. The key factor here is that the big benefits only accrue when you make that leap to a shared and hyper-converged platform. The 'real cost', on the other hand, is rarely the hyper-converged storage - it's how much **extra** that would cost over what you'd need to spend anyway on routine upgrades, incremental administrative workloads, etc.

Solution assessment: acquisition & ownership

Cost impacts	Win	Neutral	Loss
Capital costs for new storage hardware	☐	☐	☐
Capital costs for new networking equipment	☐	☐	☐
Storage systems maintenance and support costs	☐	☐	☐
Rack space, power and cooling requirements	☐	☐	☐
Storage software licensing costs	☐	☐	☐

Capability impacts	Yes	Maybe	No
Reduction or elimination of routine storage administration work?	☐	☐	☐
Support for hybrid cloud and for a hybrid IT strategy?	☐	☐	☐
Becoming cloud ready and/or cloud connected?	☐	☐	☐
Ability to integrate new applications and services faster and more efficiently?	☐	☐	☐
Ability to redistribute IT skills to projects that generate innovation and/or business value?	☐	☐	☐
Visibility over all the data we have, who uses it, how it is protected, etc.?	☐	☐	☐

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