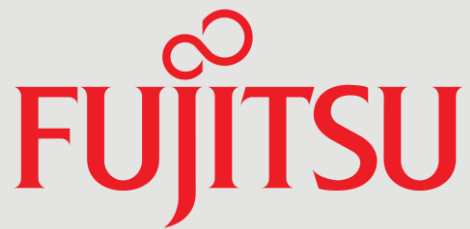




Inside Track Research Note

In association with



Enterprise Storage Architectures

Is it only about scale up or scale out?

August 2015

About this Inside Track

The insights presented in this document are derived from independent research conducted by Freeform Dynamics. Inputs into this include in-depth discussions with IT vendors and service providers on the latest technology developments, along with intelligence gathered from mainstream enterprises during broader market studies.

Enterprise storage arrays have always been designed with very clear objectives in mind, namely to deliver reliable storage platforms that could operate for many years with very high availability and good consistency of service quality.

With limited ability to upgrade capacity and performance without service interruption, organisations were often compelled to acquire arrays that had far more storage than was required at system installation time.

In a nutshell

Enterprise scale up storage arrays have traditionally been expensive to acquire and complex to manage. While effective, scale up systems are not without their challenges. For example, you may well recognise the issue of storage capacity paid for up front that is still unused three, four or even five years later. To tackle this and other challenges inherent in scale up storage systems, vendors have developed new offerings designed to meet the challenges of today. In particular 'software defined scale out' storage architectures have recently gained high visibility, but don't fall into the trap of thinking they are the answer to life, the universe and everything. This paper looks at the pros and cons of both scale up and scale out storage solutions and asks if there might be a third storage architecture that combines the best features of both approaches without bringing along too many of their limitations.

A history refresher

Traditional enterprise storage arrays have always been designed with very clear objectives in mind, namely to deliver reliable storage platforms that could operate for many years with very high availability and good consistency of service quality. In addition they were built with 'enterprise class' data protection capabilities to ensure data could be safely accessed over the lifetime of the platform. Most were built using 'scale up' architectures.

Such systems usually came bundled with an expensive price tag and required highly skilled IT staff to keep them functioning effectively. They were also notoriously difficult to size cost-effectively as few organisations had an accurate idea of just how much data they would need to hold over the extended lifetime of the storage. As a consequence some systems were very poorly utilised in terms of storage capacity usage, making them less cost-efficient than desired.

Alternatively if they were initially under scoped they could quickly run into trouble when it became necessary to upgrade storage capacity. In addition it could be difficult, if not impossible, to add required functionality as business needs changed.

Today new approaches to storage are grabbing the headlines, especially with scale out systems such as Ceph and Swift attracting considerable interest. Some commentators even go so far as to say that enterprise scale up storage systems, are dead or dying. The reality is that enterprise storage is still evolving and this paper looks to see if there is still life in the old dog.

Traditional enterprise scale up challenges

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