



  
recarta

# The Future of IT Storage



## WHAT'S DRIVING INCREASING STORAGE DEMAND

We've seen a huge rise in data storage demand since we first started offering on site and virtualised storage. In fact, more data is generated every 10 minutes than in the history of humanity up to the year 2003, and this has been driven by some seismic changes in how we use data and how much of this data is relevant. For example; -

In 1 second: more than 2,100 Skype calls; 700 Instagram photos uploaded; 34,500 GB of Internet traffic; 53,900 Google searches; 121,400 YouTube videos viewed.

300 hours of video were uploaded to YouTube every minute (March 2015).

Twitter serves around 650 million active users, who produce 9100 tweets every second.

Facebook creates 10 terabytes (10x10<sup>12</sup> bytes) data every day, and Google produces 24 terabytes of data every day just from its search operations (Chang et al., 2014).

Back in 2004 Forrester research tagged the term 'Big Data'. The concept that our data consumption was to exponentially escalate through the use of consumer trends such as music and video streaming, image storage and the Internet of all things - the idea that everything can be monitored, measured and stored. Here in 2019 those prediction have proven to be right. Our levels of consumer and business data consumption have never been higher; all laying down the footing for the next stage of our digital journey - the cognitive age.

The cognitive age is when we stop making decisions and we let more informed computing power take over. Business intelligence has transformed from predictive analytics to machine learning. The notion that a single processor is capable of calculation 1000's of actions, real time and historical, to form an accurate, impartial decision whos algorithm takes into account all the knowledge we can chuck at it and deliverers a truth that no human is capable of arguing against.

Before we enter a moral debate, this paper is about the future of data storage. And the trend set before us suggests that trend will not go away. For now we need to look at new ways to storage and manage data that can cope with projected future demands. Ways that are commercially viable and easy to install and maintain.

We've also seen a trend to back up off site and offer increasingly quicker disaster recovery rates.

These demands have given rise to most organisations spending more on data storage than ever before. And it's a trend that doesn't look like subsiding anytime soon.

So in this age of rising storage demands, how can we manage escalating storage costs? How can we prepare for ever more demanding storage environments?



## THE RISKS OF DOING NOTHING

Clearly storage environments have changed. So it makes sense that our old approach to hardware architecture needs to adapt. There is a real risk that if we continue to add hardware to an 'out of date' architecture we could end up with ever growing costs of hardware and software.

So we need to adopt a new approach. An approach that takes advance of new technologies. Already those that have adopted new architectures are starting to see ROI.

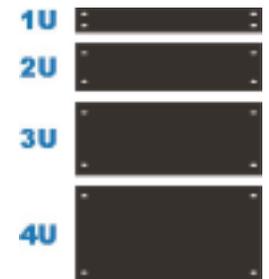
If we Explore a recent project undertaken whereby the client utilised traditional architecture to achieve a required performance metric to drive a banking application. To achieve the required 100000TB required a 3 rack solution with a mix 384 of SSD and HDD. This leads to very high costs for support and datacentre space and more importantly a resource intensive management process.

As we see greater requirements for rapid deployment of applications and workloads married with the requirement to save costs, this traditional deployment needs to change to free up resource and show cost savings on tangible metrics, such as Power and cooling and also the reallocation of technical resource to focus of the extra demands of the business.

Current Storage Infrastructure - Hybrid Configuration



Traditional Storage Infrastructure vs Hybrid Configuration



Reducing data centre costs with 1U and 2U space.

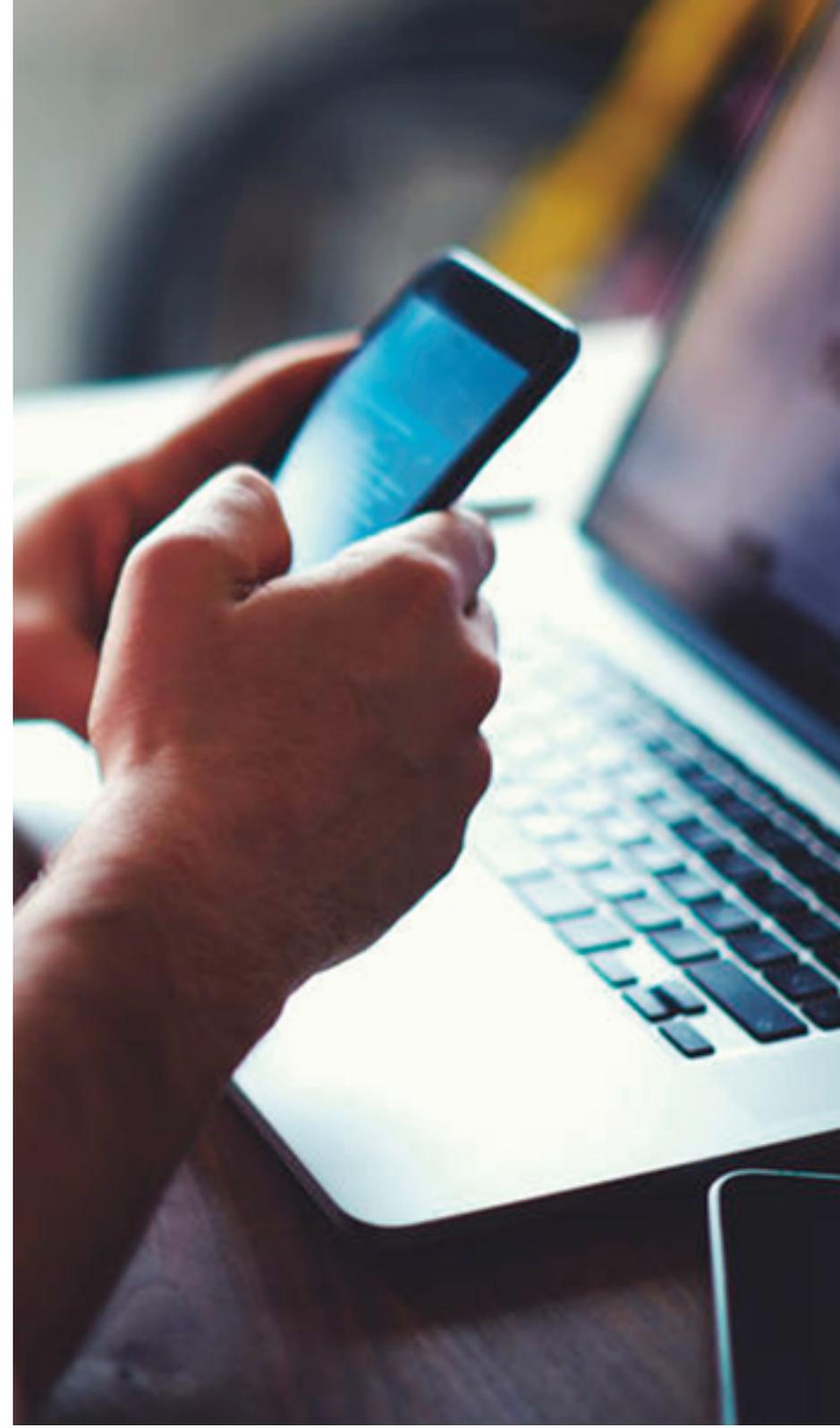
## DON'T SCALE THE UNSCALABLE

For many, conventional on site, off site storage for DR and back up represent a major IT expenditure. combine this with escalating storage demands and you'll understand why many are seeking alternative ways to structure their storage environments. For most the old school approach of adding hardware just isn't commercially viable or scalable. Both short term or long term.

When it comes to IT storage we're open to taking a new approach. It's why we've been looking at Software defined data centres for many years now. More recently we've been looking into more revolutionary approaches such as hyper converged.

This new approach to managing hardware opens up a new perspective on storage and how we use expensive data centre resources.

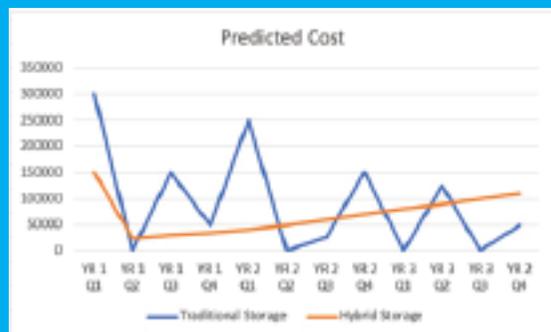
### BENEFITS OF HYPER CONVERGED ARCHITECTURE



# THE MOVE TO CLOUD AND HYBRID CLOUD

As companies move to a “Cloud first” Strategy it is important to firstly understand why the move is required, what the key drivers are and are there any factors that could prevent the move. As we move in to the cloud generation and as the market gets more mature, it has become that there is not a “one option fits all” and a combination of traditional on site and cloud storage is often the final solution.

Here we discuss the main drivers to cloud storage; -



## Data center Costs

Many enterprises have contracts with private data centers that need to be periodically renewed. When you get to renegotiation time for these contracts, considerations like cost adjustments or other limiting factors often come up. Consequently, it's during these contract renewal periods that many businesses begin to consider moving to the cloud. However, it is key to identify not only the data moving to cloud, but how quickly this can be recovered in the event of a site failure.

## Increased capacity requirements

Whether it's the normal progression of a growing business or the need to accommodate huge capacity jumps during seasonal shifts, cloud and Hybrid cloud allows the ability to “burst” capacity when required and adopt a pay as your grow strategy. This reduces high cost initial capital expenditure and allows for a clear operational costs based model as the business grows.

## Software and hardware refresh cycles

When you manage an on-prem data center, it's up to you to keep everything up to date. This can mean costly on-prem software licenses.

## Compliance needs

If you're working in industries like financial services and healthcare, ensuring data compliance is essential for business operations. Moving to the cloud can mean businesses can use cloud-based tools and services that are already compliant, helping remove some of

the burden of compliance from enterprise IT teams.

Conversely, it is also important to consider the data sovereignty and integrity of the data and whether this needs to remain within the constraints of the data centre.

## Product development benefits

By taking advantage of benefits like a pay-as-you-go cost model and dynamic provisioning for product development and testing, many enterprises are finding that the cloud helps them get products to market faster. We see businesses migrating to the cloud not just to save time and money, but also to realize revenue faster.

Products such as IBM Spectrum Cloud address the issues with Cloud and Hybrid Cloud management by; -

- Enabling data migration between on-premises and cloud data centers or between cloud data centers

- Implementing disaster recovery strategies between on-premises and cloud data centers or between cloud data centers

- Enabling cloud-based DevOps with easy replication of data from on-premises sources

- Enhancing performance and functionality of basic IBM Cloud Endurance or Performance block storage with advanced data services such as FlashCopy..

- All from a single pane of glass management portal.

## SOFTWARE DEFINED STORAGE

Software defined storage (SDS) re engineers traditional server hardware to provide unified use of hardware that has traditionally been siloed into operational functions such as compute and storage. By unifying server hardware and giving a control software layer an end user can optimise the use of their server investment fully. Reducing on-going costs and breaking the benchmark for server efficiency.

Recarta have recently completed a Software defined project for a client where the client saw a power consumption reduction of 95% and a reduction in data centre costs of over 50%. Clear proof that SDS architecture can deliver long term cost saving in your data centre.

SDS adoption can provide significant cost savings for data centre users by reducing rack space requirements and power consumption.



**“ the client saw a power consumption reduction of 95% and a reduction in data centre costs of over 50% ”**

## HOW CAN RECARTA HELP YOU?

### **Review**

Review your current IT storage capability and architecture for your on premise, cloud and hybrid environments. Our IT architects can advise on best use of legacy hardware and provide total cost of ownership comparisons on new hardware. Our analyst can provide projected storage requirement based on historic data use.

Our storage review will identify any immediate risk to your company against current data use and projected storage needs based on historic growth and demand.

### **Deploy**

Our team can help identify the best server and storage hardware solutions to suit your needs.

Recarta partner with the worlds leading storage vendors including IBM, HP, Lenovo, EMC/DELL, Cisco, Citrix. We maintain a list of certified implimentation consultants who work in congunction with our impartial IT analysts.

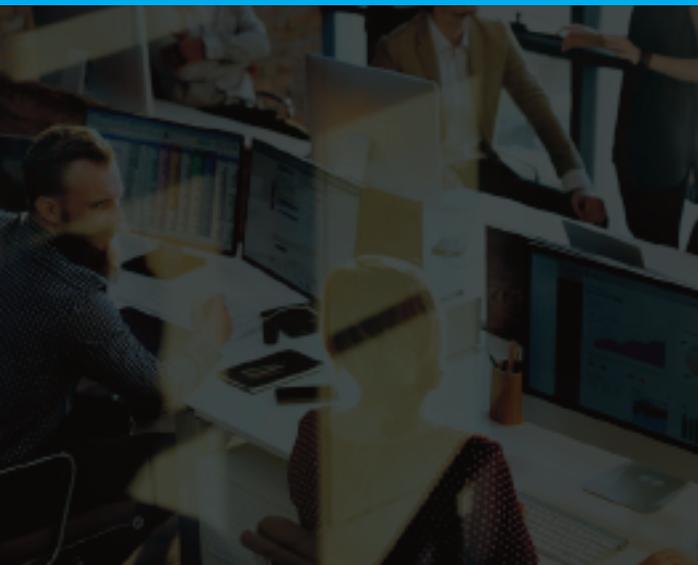
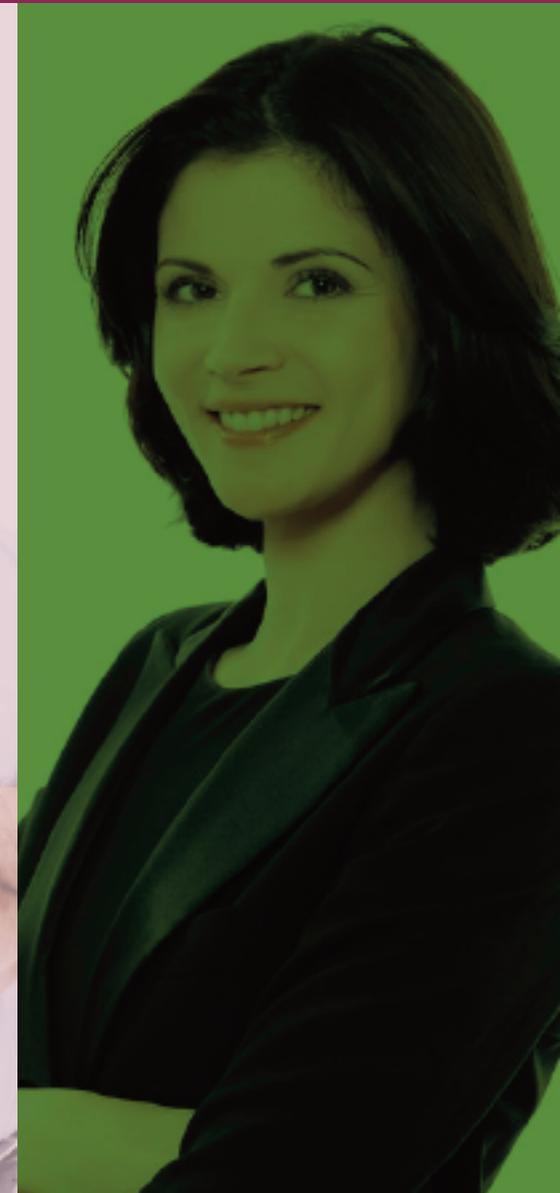
### **Manage**

Our teams can provide on-going IT storage support and monitoring for all your IT infrastructure environments. Whether on-premise, data centre or hybrid we can provide your with SLA assurances that will provide you with the assurance that your IT storage requirements are always met and costs are efficient.

## ACT NOW!

As we've previously discussed storage demands are ever increasing. The need to evaluate future workloads , capacity and potential risks is ever present.

Recarta's team of infrastructure experts can help you identify your future risks, costs and offer alternatives to current architecture. If you would like to request a free, no obligation initial discussion with the aim of reducing your future storage costs please contact us.





## ABOUT RECARTA

Recarta IT is an award-winning IT infrastructure consultancy. Established over 11 years ago, Recarta work with many of the worlds leading business brands to ensure their IT infrastructures remain resilient, compliant and perform efficiently.

Recarta partner with leading infrastructure hardware and software vendors. Their partnerships include IBM, Lenovo, HP, Microsoft, Cisco & EMC/DELL. They are recognised as a leading provider of impartial IT infrastructure advise to leading financial services, retail and logistics brands. Thier team marries the skills and experience of over 50 certified specialists who sit alongside impartial business analysts who are measured on delivering and meeting individual client requirements.

Recarta have offices in Dorking, Bristol, Manchester and Guernsey and remain independent and self governed by the founding management team.



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