THE BEE’S KNEES
Agri-food firm regains control of its data centre

DRIVE FOR RESULTS:
Enterprise HDD market analysed

MAKING HISTORY:
Preserving our digital heritage

DATA MIGRATION:
Risky move?

DISASTER RECOVERY:
Six key questions you must ask
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UNLUCKY FOR SOME?

News

- New DAS and SAN offerings from QSAN
- HPE push for all-flash data centre

CASE STUDY: MERCEDES F1

BE PREPARED

Actifio CEO Ash Ashutosh suggests six key questions that any business needs to ask about its Disaster Recovery readiness

CASE STUDY: NCG

TECHNOLOGY: FLASH VS. HDD

While flash continues to win over converts seeking high IOPS and low latency, there is still undoubtedly a place in the enterprise for the ‘humble’ HDD, argues Chanaka Ekanayake of Insight UK

EVENT: STORAGE AWARDS 2016

DRIVE FOR RESULTS

Despite some drops in demand, the HDD enterprise market remains buoyant, says Nick Powling of drive distributor Hammer

CASE STUDY: YOUNG’S SEAFOOD

RISKY MOVE

Planned data migrations and operating system upgrades pose their own distinct set of data loss threats, according to a new survey

MAKING HISTORY

The race is on, says Nik Stanbridge of Arkivum, to preserve our heritage and avoid a cultural ‘memory failure’

CASE STUDY: FERA

INTERVIEW: BACKUP TECHNOLOGY

Matthew Parker, MD of Backup Technology, speaks to Storage magazine editor David Tyler about the company’s recently launched CloudRaaS service

DARK MATTERS

Businesses need to develop the ability to identify and efficiently manage information throughout its lifecycle to avoid the consequences of Dark Data, argues Julian Cook of M-Files
As I write this column, there is not very much time left at all for reader nominations to this year’s Storage Awards: April 4th is the closing date for our 13th massive event, after which the ‘serious business’ of online voting begins. So don’t miss out on the chance to nominate the product or company – or individual, for that matter – that you feel has made a significant difference to the storage industry over the last year.

They say that 13 is an unlucky number – but it might be this year that you, or your favoured supplied or partner, strike it very lucky indeed.

Go to www.storage-awards.com to make your nomination now – and remember, you don’t have to nominate in every category, only the ones that interest you. It’s a great way to recognise and reward those businesses who have made an impact in your sector – and, as they say in a certain advertising campaign, you have to be in it to win it!

The event itself takes place on the evening of June 16th, in its regular venue of London’s spectacular Grand Connaught Rooms. Last year I was personally very disappointed that no-one there felt the urge to treat me to a surprise gift on the night from the array of sporting and celebrity memorabilia featured in the Lords Taverners silent auction – those Thierry Henry and Denis Bergkamp shirts would have looked so perfect together on my wall at home! Ah well; there’s always this year - I shall practice my subtle hinting well in advance this time.

It’s hard to believe that the Storries, as they are still known to some long-time attendees, have survived and indeed thrived, for thirteen years. The industry has changed almost beyond recognition over that time, and there are an awful lot of hugely successful firms in the marketplace now who didn’t even exist when we first posited the idea of an awards night just for the storage sector. At the same time, there are companies attending this year who have been going strong for all of those thirteen years.

I should mention that there are still sponsorship opportunities available too, so if you’re interested in using the ceremony as a way to promote your company’s brand, or just in booking a table for the event, details can be found again on the Awards website.
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SanDisk have announced a collaboration with IBM to bring out a unique class of next-generation, software-defined, all-flash storage solutions for the data centre. At the core of this collaboration are SanDisk’s InfiniFlash Systems, high-capacity and extreme-performance flash-based software defined storage system featuring IBM Spectrum Scale filesystem. The joint solution of software-defined all-flash storage addresses the escalating data centre challenges of scale, performance, agility and break-through economics.

The InfiniFlash for IBM Spectrum Scale Solution is a scale-out, ultra-dense system combined with IBM Spectrum Scale and allows private, hybrid and public cloud customers to enable Infrastructure as a Service by starting small and growing to multiple petabytes. InfiniFlash delivers best-in-class cost per IOPS/TB and the ability to scale compute and storage independently, while delivering the high reliability and low failure rate of flash, resulting in breakthrough capex and opex savings.

“Next-Gen applications demand storage services which are high-performance, cost-effective, elastic and agile while providing break-through capex and opex,” said Ashish Nadkarni, Program Director, Enterprise Servers and Storage at IDC. “This joint solution between SanDisk and IBM that combines an all-flash storage array with a software-defined storage software, effectively addresses the changing needs of the data centre.”

**Joint Flash**

Toshiba has announced a new enterprise 6.0 Gbit/s SATA solid-state drive (SSD) series designed for read-intensive and value-endurance workloads. The HK4 Series is Toshiba’s first SSD for enterprise and data centre applications to embed 15nm MLC NAND flash memory and offers low latency tuned for high quality of service. The read-intensive HK4R Series combines capacities up to 1.92TB with low operating power and is suitable for enterprise applications such as web servers, file servers, media streaming, video-on-demand, search engines and warm data storage.

The HK4E offers an endurance level of three DWPD and a capacity up to 1600GB. It is Toshiba’s first SATA SSD with optional Trusted Computing Group enterprise encryption support and is also equipped with Toshiba’s Quadruple Swing-By Code error technology. This proprietary error-correction technology is a highly efficient error correction code that helps protect customer data from corruption caused by NAND flash memory media wear, which improves reliability and extends the life of Toshiba SSDs.

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QSAN is set to launch a brand new XCubeSAN XS5200 series and XCubeDAS XD5300 series. XCubeSAN is QSAN’s next generation SAN storage platform, featuring the latest Intel Xeon D-1500 processors and the QLogic 2600 series Gen 5 (16Gb) Fibre Channel quad-port controller. XCubeDAS is QSAN’s next-gen DAS (Direct-Attached Storage) expansion enclosure product line which fully adopts native 12G SAS 3.0 technology, and can serve as an expansion enclosure for XCubeSAN while providing server storage.

Both products come available in a complete range of form factors, including 4U 24bays, 3U 16bays, 2U 12bays, and 2.5’ high density 2U 16bays. Latest Intel Xeon Broadwell-DE CPU, DDR4 ECC memory, native 12Gb SAS 3.0, and dual host board design. XCubeSAN is also optimised for SSD drives to support auto-tiering and SSD caching.

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SUSE Enterprise Storage 2.1 is available now. Based on SUSE Linux Enterprise 12 Service Pack 1, the latest version of SUSE’s self-managing, self-healing, distributed software-based storage solution is the first and only Ceph-based solution with heterogeneous operating system support, giving users the ability to deploy software-defined storage with less cost. In addition, to help customers simply and effectively implement SUSE Enterprise Storage 2.1 on Hewlett-Packard Enterprise (HPE) systems, SUSE and HPE have created a reference architecture to guide organisations as they deploy software-defined storage.

“HPE and SUSE are innovating together to deliver a unique solution to the storage market,” said Don Jones, vice president, ISV Alliances, Hewlett Packard Enterprise. “The Apollo 4000 series hardware, bundled with SUSE Enterprise Storage, brings cost-effective, open source-based software-defined storage to our customers, providing them with the flexibility, resiliency, and price/performance required to drive down the cost of storage at petabyte-scale.”

www.suse.com/storage

SPEEDY NEW SSD

Seagate has unveiled a production-ready unit of the fastest single solid-state drive (SSD) demonstrated to date, with throughput performance of 10 gigabytes per second (GB/s). The early unit meets Open Compute Project (OCP) specifications, making it ideal for hyperscale data centres looking to adopt the fastest flash technology with the latest and most sustainable standards. The 10GB/s unit, which is expected to be released this summer, is more than 4GB/s faster than the previous fastest-industry SSD on the market. It also meets the OCP storage specifications being driven by Facebook, which will help reduce the power and cost burdens associated with operating at this level of performance.

www.seagate.com

MOVING RESOURCES TO THE CLOUD

Randstad, the second largest human resources provider in the world and one of the top recruitment consultancies in the UK, has chosen NetApp to revamp its data storage infrastructure and ensure the reliability of its core business applications.

As a fast growing recruitment consultancy, Randstad’s legacy storage platform had neared capacity and risked undermining operations, with core business applications occasionally freezing, hindering front-line operations and business continuity.

Randstad’s CIO set a directive that within five years, all of Randstad’s IT services must be delivered from AWS cloud to consolidate the diverse legacy infrastructure, reduce overheads, gain operational flexibility and simplify management. Randstad chose to re-vamp its data infrastructure through Storm Technologies with the NetApp All-Flash FAS8040 and NetApp Cloud ONTAP for AWS.

Cloud ONTAP for AWS delivers excellent performance and meets highly variable I/O workloads and read cycles, typical of a virtualised desktop environment.

“Cloud ONTAP for AWS allows Randstad to manage its on-premise data to the cloud. It can meet varied capacity requirements and performance demands, enabling the company to develop a disaster recovery platform for AWS cloud.”

David Leybourne, IT Director of Infrastructure, Randstad, said: “The all-flash array delivered exceptionally high performance. Moving to the cloud is a big step, even though we were well placed to do this, but NetApp Cloud ONTAP with AWS makes this simple and the level of control it enables has made it easy to replicate our disaster recovery environment in the cloud.”

www.netapp.com/uk/

CUTTING EDGE, ALL-FLASH STORAGE

Pure Storage FlashBlade is a new all-flash storage platform designed to store the biggest, fastest data of today and tomorrow. FlashBlade is an elastic scale-out system that delivers all-flash performance to multi-petabyte-scale data sets at economics of less than $1/GB usable. Together, Pure Storage FlashBlade and the Pure Storage FlashArray form a complete platform for organisations to build their all-flash cloud.

All-flash storage solutions have already transformed the structured data powering databases, applications and VMs. But unstructured data, both larger and growing faster, is poised for a similar transformation. While the “big data” revolution has shown organisations the potential value dormant in their large pools of unstructured data, traditional unstructured data solutions - legacy NAS filers and scale-out NAS - have remained slow at scale.

These legacy systems are challenged in several dimensions by demands for data to be both big and fast. First and foremost, they were architected for disk - a fundamentally slow media. Second, they have limited metadata scale, which constrains performance even when retrofitted with flash. Finally, their scaling approach typically involves partitioning data to nodes, leading to data silos that cause performance bottlenecks and management frustration. FlashBlade addresses these shortcomings with a three-fold value proposition - big, fast and simple.

IDC believes that the all-flash data centre for primary storage is quickly becoming a reality, but newer storage architectures designed to deliver better cost efficiency at scale are needed for flash to be more broadly used in secondary storage environments,” said Eric Burgener, Research Director Storage, IDC.

“With the FlashBlade announcement, Pure now has an integrated portfolio of all-flash offerings that support block, file and/or object access and cost-effectively cover both primary and secondary storage environments.”

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Pure Storage has announced a global partnership with the Mercedes AMG Petronas Formula One Team. The team are the reigning FIA Formula One World Champions. In 2016, they will compete in 21 races around the world, beginning in March in Melbourne, Australia and finishing at the Abu Dhabi Grand Prix in November. The team’s drivers are the three-time Formula One World Champion, Lewis Hamilton and 14-time Grand Prix winner, Nico Rosberg.

The team chose Pure Storage based on simplicity, performance and reliability. With Pure Storage, the team is accelerating analysis of data-centric transactions that impact car performance and lap time, and is raising the bar for mission-critical business applications that underpin the entire organisation.

“We’re delighted to welcome Pure Storage as a partner of the Mercedes AMG Petronas Formula One Team,” said Toto Wolff, Head of Mercedes-Benz Motorsport. “Technology is fundamental to our success - it enables us to perform across our business and ultimately on track. As we are predicting one of the most challenging and competitive seasons in the year ahead, Pure will give us the power we need to tackle our most demanding data challenges.”

The Mercedes AMG Petronas Formula One Team requires an infrastructure that is both state-of-the-art and portable. Putting performance-critical workloads at risk of availability in the cloud was a risk the team could not afford. The density and reliability of Pure Storage offered a solution that mapped perfectly to the team’s business requirements.

Today, Mercedes AMG Petronas runs two FlashArray//m70 arrays and four FlashArray//m20 arrays in three pairs, with no single instance anywhere, while leveraging FlashStack CI, Pure’s flexible, all-flash converged infrastructure solution. The workloads running on FlashArray//m70 were initially deployed on FlashArray 450s, until Mercedes AMG Petronas leveraged Evergreen Storage to add 40TB of capacity during normal production and business hours without disruption.

“Pure and The Mercedes AMG Petronas Formula One Team found common ground in a mutual everyday mission - to push the boundaries of what’s possible,” said Jonathan Martin, CMO, Pure Storage. “When fractions of seconds mean the difference between success and second best, the reliability, simplicity and speed Pure Storage delivers can be paramount. Pure is proud to provide Mercedes AMG Petronas confidence in the performance of its storage platform, so that the team’s primary focus can be performance where it matters most - on the track.”

Mercedes AMG Petronas sought to future-proof and incorporate new innovation into an infrastructure platform that requires continuous evolution to support the operational demands of a racing organisation built to win. Seeking to enhance service availability and prevent disruption, the company considered a number of different solutions, and
"Before Pure, we virtualised storage to the point where we could introduce whatever vendor was right at the time. We soon realised that building a nuanced architecture on an intricate stack translated into building something far too complex - complexity on top of complexity. The choice was clear once we realised we could eliminate bulky, heavy hardware, improve our performance and actually save money taking the technology with us around the world."

ultimately selected Pure Storage. Although they initially sought a solution that could address primarily performance issues, the team soon realised it could cut through all performance issues while managing cost, with true simplicity from Pure.

"Before Pure, we virtualised storage to the point where we could introduce whatever vendor was right at the time. We soon realised that building a nuanced architecture on an intricate stack translated into building something far too complex - complexity on top of complexity," said Matt Harris, Head of IT at the Mercedes AMG Petronas Formula One Team. "The choice was clear once we realised we could eliminate bulky, heavy hardware, improve our performance and actually save money taking the technology with us around the world."

USING DATA TO DRIVE BUSINESS FORWARD
Everything about The Mercedes AMG Petronas Formula One Team is measured in fractions of seconds. In a world where the ability to quickly analyse data about the performance of the cars is core to the organisation, a tenth of a second delay could mean the difference between winning and losing. At Mercedes AMG Petronas, performance leads to success - the organisation’s all-encompassing mission - which is why the team has chosen to rely on Pure Storage to drive meaningful results including:

- Boosts to productivity leading to an accelerated kick-off of a business-critical project initially slated for 2017.
- Immediate time to value due to getting the Pure Storage FlashArrays up and running in four hours as opposed the 6-8 weeks required by previous vendors.
- 35 percent faster race-related transactions, such as opening race car telemetry files.
- Reduced times for backend application processing such as a 95% reduction in SQL query processing times.
- Reductions in cost, power and space by replacing 40TB and 26U with 88TB and 6U of Pure systems, resulting in significant logistical savings as the team sets up temporary and remote operations in 21 locations worldwide.
- The ability to deliver services quicker, for instance enabling IT to stand up 60 or 70 virtual machines a day versus one or two machines prior to implementing Pure Storage.

"Pure Storage’s Evergreen business model removed the anxiety of the traditional storage renewal. It’s a brilliant example of the simplicity you get with Pure and it changes the board-level conversation when trying to propose a new platform," said Harris. "The typical concerns about future issues - capacity, upgrades, maintenance and how much it will all cost us again - are no longer an issue. We were able to immediately focus on getting the technology in the door and impacting the business as quickly as possible."

More info: www.purestorage.com
You can plan for it. You can train for it. You can create as many systems designed to prevent it as you want, but at the end of the day disasters still occur - and they happen when we least expect them.

Whether it’s a natural disaster that knocks a data centre offline or a cyber attack that ravages critical systems, there’s no shortage of damage that can happen to a business any time. According to Gartner, companies can lose an average of $5,600 per minute in an outage - $300,000 per hour.

It’s imperative to have a comprehensive disaster recovery plan in place to ensure your business is properly prepared to cope with any disaster that might come along, in order to get back up and running as soon as possible. To make sure your plan is airtight and isn’t leaving any room for error, there are several questions you should ask along the way.

1. Does each member of your disaster recovery team have a defined role?

Having a disaster recovery team with defined roles is key. You need to consider each person’s responsibilities and...
"According to Gartner, companies can lose an average of $5,600 per minute in an outage - $300,000 per hour. It's imperative to have a comprehensive disaster recovery plan in place to ensure your business is properly prepared to cope with any disaster that might come along, in order to get back up and running as soon as possible." - Ash Ashutosh, Actifio

1. Establish a communication plan. This includes having contact information for the team readily accessible at all times, with roles, responsibilities and contact details outlined. Having clearly defined roles along with a concrete communication plan will make carrying out a disaster recovery plan infinitely easier from the get-go.

2. Does your budget allow for additional expenses? Much like the unpredictable nature of a disaster itself, unexpected costs can be a barrier to getting back online. Do you need to failover onto the cloud? You'll have to prepare for the usage fees associated with it. Do you need to bring in consultants or contractors to assist you? You'll have to pay them just as much, if not more than, your employees.

   Every minute of downtime can result in huge IT expenses, especially for larger enterprises. Taking into account these unplanned expenses ahead of time and building them into the overall disaster recovery plan is critical to ensure your team doesn't meet any further snags when trying to get authorisation for these costs.

3. Is your data mobile? When a data centre goes offline, your data may have to temporarily go elsewhere - i.e. the cloud - in order for the company to access it again as quickly as possible. In other words, you should ask yourself if your data is confined to your physical infrastructure, or if it's mobile and can move freely to different locations.

   Data mobility means immediate and self-service data access any time anywhere that also enables accelerated application development, faster testing and business acceptance, more development output, improved productivity and improved time-to-impact business intelligence. Without data mobility, you run the risk of higher costs and lost time.

4. Are you aware of the biggest vulnerabilities to your data? It's important to be aware of what is most likely to go wrong when creating a disaster recovery plan so you can focus on those vulnerabilities and maximise the value of the plan. Some examples of the most common data vulnerabilities include deployment failures, database inconsistencies, and data leaks. Honing in on the vulnerabilities and finding ways to avoid them will make for a much smoother disaster recovery process.

5. Does your plan actually work? Testing the plan to make sure it rolls out successfully is an absolute must. After testing, analyse the result to see if the plan performed according the specifications. After analysing the outcome, are there any areas that need to be improved? Once you're done with the analysis, test again and again. Testing a plan should be done consistently on a regular basis so the plan can evolve becoming the best it can be.

6. Are all of your systems up-to-date? Finally, having up-to-date systems is essential to have a strong disaster recovery plan. Do you have the most modern backup and recovery solution or is it just another one of the same old solutions that don't work? Considering the newest technologies such as copy data virtualisation will bring the way you manage disaster recovery to the next level.

   The risks associated with poor disaster recovery, such as data loss, unforeseen budget expenses, and loss of customer trust can be avoided by taking all of these questions into consideration during planning. Having the ability to recover as quickly as possible - while minimising downtime and expenses - will make the lives of your IT team easier, as well as the entire organisation.

More info: www.actifio.com
CASE STUDY: NCG

Arcserve's Unified Data Protection (UDP) software, coupled with deduplication and compression features, has enabled NCG, one of the UK's largest education providers, to cut the cost of protecting data created and used by more than 133,000 students by 50%, and re-allocated 50% of the staff originally dedicated to data protection to other projects.

NCG head of infrastructure Justin Hannan said: "It's vital that we can access our data 24/7 - the longevity of our organisation depends on it. But the previous software was taking far too long to complete backups. We needed something faster, easier to use and more cost effective - that's what Arcserve UDP gave us. The benefits were apparent from day one and they went beyond speed. UDP's deduplication and compression features have allowed us to save time and money, and the reporting process is much simpler. That's why we're looking to extend it throughout the organisation."

Demands on NCG's IT infrastructure are high and data loss is not an option. The group is one of the UK's largest skills and training providers. Made up of six divisions, with 102 locations across the country, it employs 3,000 staff, supports approximately 133,000 students and helps to organise over 23,000 apprenticeships every year.

Currently NCG needs to protect 172 TB of data including student and staff records, enrolment information and financial data. This includes Microsoft Exchange data, an SQL database and 350 virtual and physical servers. The IT team realised that its existing disk-only data backup tool was not satisfactory from a number of angles including its ability to cope with the group's growing volumes of data, the cost of licence fees and consumption of IT resources. It also lacked other features NCG needed such as incremental backup capabilities.

In addition daily backups involved many members of the IT team and up to 49 TB of storage space. Moreover they only offered a single report which made it impossible to get separate information for each of the six divisions. The team was also under pressure to cut costs.

The NCG IT team selected Arcserve UDP based on its ability to lower the amount of data to be protected thanks to data reduction technologies, which in turn cut the cost of licensing fees and freed up staff time. UDP's deduplication and compression features enabled NCG to squeeze its data from 172 TB to just 30 TB.

Arcserve UDP also had a significant impact on the backup process, in part due to the two-pronged drop in the volumes of data being backed-up daily: firstly, thanks to deduplication and compression and, secondly, thanks to its ability to carry out incremental backups. The result has been a dramatic reduction in the backup window of 80%. Now the process only takes a few minutes for a small 40 GB server, and approximately one hour for a file server holding user data.

The Arcserve solution also enables NCG to generate reports to show how much data is being backed up for each of its six divisions and how long each backup takes. The user-friendly interface provides real-time alerts for any issues arising during backups. NCG is now planning to extend Arcserve UDP to more servers and for offsite backup.

More info: www.arcserve.com
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CloserStill
Most technologies enjoy a shining moment in the media spotlight. Currently, the cloud is enjoying such limelight, being perceived as a disruptor and has been dominating the content of almost every tech journal since the concept was invented not too long ago. Through the early 2000s however, the tech sector was a great deal more productised and a great deal less homogenised, as a quick glance at the headlines of the day would confirm.

Regular splashes back then for instance, were articles proclaiming the ‘Death of Tape Backup’. Tape-based backup technologies were apparently under serious and terminal threat from the ever increasing in size Hard Disc Drives (HDD) with an ever decreasing price tag. As a result, it would surely only be a matter of time before tape disappeared altogether making way for Virtual Tape Libraries (VTL) backed by HDDs. Soon after, Disk to Disk backup (D2D) was a hot topic and almost every storage vendor had a D2D backup appliance offering of some sort, in fear of the inevitable death of tape backups.

Sure, all this fanfare did increase the utilisation of disk based backup solutions and started somewhat of a disk based backup trend in the market, steadily usurping in to tape’s territory. However, as things turned out, complete death of the tape backup has proved not to be the case yet.

While there was a clear use and often an important place in the enterprise data centre for the use of disk based backups, the poor old tapes still carry through as the final destination of a typical backup cycle for most organisations, where long term retention at a minimum price point is key. One can argue that this is because old habits die hard, but it would be more logical to deduce that’s because they both have their rightful place in today’s data centre - given their individual characteristics for different use cases.

FLASH FORWARD
Similar to that debate, HDD is now finding itself under threat from solid state and flash storage technologies at present. Flash storage is far from fledgling and with its latest incarnation of Solid State Device (SSD), has been around in varying flavours since the 1980s.

While flash has enjoyed huge popularity in smaller, consumer devices (tablets, smartphones, cameras etc.), SSD is gaining
serious traction in larger high-end applications - up to and including enterprise-class storage arrays. Almost all legacy storage array vendors have an all flash (SSD) SAN offering available now, while a raft of Silicon Valley based startups have also sprung up specialising in just offering All Flash Array (AFA) storage solutions to meet every enterprise storage requirement.

The undoubted technical advantages of flash are obvious; it offers nanosecond seek times (aka. ultra-low latency) against the milliseconds of mechanical HDDs. It is also much quieter than HDD technology, more compact, uses around 50% less power and - with no moving parts and a much greater resistance to high-G bumps and drops - is extremely reliable and robust too. But most importantly, flash storage is capable of performing an obscenely high number of Input Output (IO) operations. Often a single SSD can outperform the collective throughput of a substantially high number of HDDs together.

THE RAW TRUTH
Despite the advantages of flash, the consensus agreement is that flash capacity costs more per raw unit of storage (GB) compared to HDD. This is true as flash uses more expensive NAND technology in comparison to cheaper mechanical disks used by HDD. As a result, many enterprise SAN vendors have had to come up with innovative techniques to maximise the use of flash capacity through the use of inline de-duplication and in-line compression of data, prior to being written to flash - effectively optimising the useable capacity. At the same time, it should also be noted that the cost of flash in general has been gradually coming down and capacity has been going up.

The evolution of the SSD storage technologies from expensive SLC (Single Level Cell) to MLC (Multi Level Cell) and the invention of new TLC (Triple Level Cell) technologies are all signs of flash storage continuing to become cheaper, while also increasing the capacity in time to come. This is likely to move in the same direction in the future and will therefore be the preferred choice for many workloads. It’s worth noting however, that at the same time, HDDs are also growing in capacity and further reducing in cost, maintaining their cost per GB advantage over flash somewhat. It is reasonable to assume that this trend will continue in to the future and as such HDDs are very much likely to continue to maintain this price and capacity advantage over SSD for the reasonable future.

When considering HDD vs. flash, which will come out on top? The answer is unlikely to be straight forward and may depend on the context. In consumer electronics such as tablets and smartphones, traditional HDD based storage has almost ceased to exist as these have mostly been replaced by consumer grade flash storage of late.

These consumer devices do not require extreme capacity as current flash technologies provide more than sufficient capacity at a reasonable price point that make it an obvious choice. This, in addition to its other benefits, such as high throughput rates, directly translates into better product experiences for the consumers of those devices. So flash comfortably wins this round over HDD.

ENTER THE ENTERPRISE
In the context of the enterprise storage requirements however, the decision becomes somewhat complicated. Enterprise storage requirements typically have two broad use cases:

1. High performance (tier 1 or 2 workloads such as enterprise applications and private clouds)
2. High capacity (backups, archiving, big data, public cloud storage and cloud native applications).

Flash storage has slowly been replacing HDDs for the first use case, where the high throughput capabilities of SSD technologies are naturally a better fit to deliver ever increasing demand for faster response times and larger throughputs. This is evident in the rise of All Flash Array vendors over the recent demise of legacy, HDD based storage in the data centre. This trend will continue and while future innovations in other storage technologies are likely to replace flash storage in some cases, for the foreseeable future, SSD based flash will likely saturate this segment - slowly pushing the HDDs out of consideration.

When it comes to the second use case of capacity however, HDDs indeed still remain the viable solution and therefore the de-facto choice for many. Similar to tapes in the backup debate, HDDs have far superior capacities at a much lower price point in comparison to flash and given the requirement of capacity over throughput, HDDs will continue to dominate this segment. This use case will only continue to grow, largely due to the ever increasing appetite to generate more static data in today’s world.

For developments such as the Internet of Things (IoT) where most electronic devices in use in the future are likely going be generating large amounts of static data that would require being stored centrally over a long period of time, HDDs are best placed to meet such capacity requirements, given their lower price per GB; so HDD is going to be a clear winner here.

Therefore, for the short to medium term at least, SSD and HDD will both be winners and as a consequence, so too will hybrids of the two. Flash is undoubtedly set to capture more hearts, more minds, and more enterprise storage budget. But, just as with tape, any reports of HDD demise will be an exaggeration for some time to come, given its invincible capacity characteristics that are clear necessities for many.

More info: www.uk.insight.com
April 4th is the closing date for nominations for the thirteenth annual Storage Awards, after which the ‘serious business’ of online voting begins. So don’t miss out on the chance to reward the product or company - or individual, for that matter - that you feel has made a significant difference to the storage industry over the last year. They say that 13 is an unlucky number - but it might be this year that you, or your favoured supplied or partner, strike it very lucky indeed.

Go to the website below to make your nomination now - and remember, you don’t have to nominate in every category, only the ones that interest you. It’s a great way to recognise and reward those businesses who have made an impact in your sector - and, as they say in a certain advertising campaign, you have to be in it to win it!

The event itself takes place on the evening of June 16th, in its regular venue of London’s spectacular Grand Connaught Rooms. Last year I was personally very disappointed that no-one there felt the urge to treat me to a surprise gift on the night from the array of sporting and celebrity memorabilia featured in the Lords Taverners silent auction - those Thierry Henry and Denis Bergkamp shirts would have looked so perfect together on my wall at home! Ah well; there’s always this year - I shall practice my subtle hinting well in advance this time.

It’s hard to believe that the Storries, as they are still known to some long-time attendees, have survived and indeed thrived, for thirteen years. The industry has changed almost beyond recognition over that time, and there are an awful lot of hugely successful firms in the marketplace now who didn’t even exist when we first posited the idea of an awards night just for the storage sector. At the same time, there are companies attending this year who have been going strong for all of those thirteen years.

I should mention that there are still sponsorship opportunities available too, so if you’re interested in using the ceremony as a way to promote your company’s brand, or just in booking a table for the event, details can be found again on the Awards website.

More info: www.storage-awards.com
AWARDS CATEGORIES IN FULL

STORAGE MAGAZINE "ONE TO WATCH" AWARD - PRODUCT
STORAGE MAGAZINE "ONE TO WATCH" AWARD - COMPANY
STORAGE MAGAZINE "VALUE FOR MONEY" AWARD
STORAGE MARKETING TEAM OF THE YEAR
STORAGE MAGAZINE SERVICE TO INDUSTRY AWARD
CHANNEL EXCELLENCE AWARD
STORAGE MAGAZINE SOLUTION OF THE YEAR
ARCHIVING & COMPLIANCE PRODUCT OF THE YEAR
STORAGE INNOVATORS AWARD
DR & BACKUP PRODUCT OF THE YEAR
STORAGE MONITORING PRODUCT OF THE YEAR
CONNECTIVITY PRODUCT OF THE YEAR
OBJECT STORAGE VENDOR OF THE YEAR
HYPER CONVERGED PRODUCT OF THE YEAR
DISK BASED PRODUCT OF THE YEAR
FLASH / SSD PRODUCT OF THE YEAR
CLOUD ENABLER OF THE YEAR
HOSTING COMPANY OF THE YEAR
STORAGE VIRTUALISATION PRODUCT OF THE YEAR
CHANNEL PARTNER PROGRAM OF THE YEAR
EDITOR'S CHOICE
STORAGE SERVICE COMPANY OF THE YEAR
CORPORATE STORAGE RESELLER OF THE YEAR
SPECIALIST STORAGE RESELLER OF THE YEAR
STORAGE DISTRIBUTOR OF THE YEAR
STORAGE PRODUCT OF THE YEAR
STORAGE COMPANY OF THE YEAR
The HDD market is experiencing something of a readjustment. Yet both the actual, and expected ongoing, drop in global demand for these drives paints a misleading picture. True, the volume of HDDs shipped fell by 6% last year, according to John Roy, analyst with UBS (with a prediction it will drop a further 10% this year), while sales of SSDs rose by almost 3%. But the shift from HDDs to SSDs is being driven almost entirely by the falling demand for desktop hard drives as consumers switch to using mobile and smart devices.

To assume SSDs are replacing HDDs across the board is wrong: there is a whole segment of the HDD market that remains strong, even buoyant as the number of new and innovative products, backed by commitment to research and development, shows. When it comes to the enterprise market, driven mainly by cloud data centres, HDDs have a healthy future. With prices dropping and capacity increasing, it all spells good news for the user and consumer.

"More than 40% of the HDD industry revenue and 45% of HDD petabyte demand will be derived from the enterprise segment by 2018," said John Rydning, research vice president, worldwide HDDs at market analysts IDC in a report. He added: "Enterprise customers will increasingly influence HDD product road map and technology development plans."

If proof were needed that there is still plenty of mileage in the HDD enterprise market, then it was provided by Toshiba’s recent announcement that it is to remain in the sector, quashing rumours of its withdrawal. It means the HDD market remains competitive with Seagate and WDC (comprising WD and HGST), currently taking 44% and 40% market share respectively with Toshiba the remaining 16%.

All three are pioneering new products aimed at the enterprise market. Toshiba has stated that its strategy is to reallocate resources away from the PC end of the market towards meeting this strong demand for enterprise-level HDDs. At the same time, Seagate Technology has joined HGST in supplying helium-filled HDDs with the announcement of a new seven-platter, 10TB helium-filled hard disk drive. With a 25% increase in storage density, these helium disks are aimed at the enterprise data centre market. Seagate is also expected to ship a heat assisted magnetic recording drive in 2018. All three manufacturers have also shown interest in shingled magnetic recording (SMR), a technology that layers tracks on a disc so doubling storage capacity, with the first drives being shipped last year. The industry expects to see 40TB HDDs available by 2020.

This move towards higher capacity drives is another factor in the overall reduction of HDD units being shipped, as WD’s CEO Steve Milligan said: "Obviously, as we ship higher capacity points, we’re going to ship fewer units. We continue to see strong petabyte growth."

Capacity and costs are the two aces in the HDD hand. “High capacity spinning disks will remain the storage of choice for broad cloud infrastructure,” said Barbara Murphy, VP of marketing, Cloud Infrastructure Business Unit, HGST in an interview late last year with Tech Radar, adding: “Ultimately, core business applications like big data, data analytics, and content lifecycle demands will continue to drive the implementation of HDDs. HDDs are the only solution that can meet the cost point while maintaining instant access to data.”

That’s a view endorsed wholeheartedly by us here at Hammer; the demand for enterprise-class data storage capacity is increasing as businesses capture and analyse data on competitors, customers and markets. Another advantage for HDDs is the cost per gigabyte as SSDs currently cost five times as much, per usable gigabyte, as HDDs. And as manufacturers enhance their enterprise HDD range, focusing on the demand from this segment, the investment and increased choice in the enterprise space is clearly advantageous to customers.

More info: www.hammerplc.com
THE STORIES XIII

JUNE 16TH - 2016

MAKE YOUR VOICE HEARD!

WWW.STORAGE-AWARDS.COM
CASE STUDY: YOUNG'S SEAFOOD

CASE STUDY

NET BENEFITS

MANAGEMENT TOOLS HAVE HELPED YOUNG'S SEAFOOD TO IMPROVE SUPPORT AND RESPONSE TO STORAGE ISSUES, TO THE POINT WHERE PROBLEMS ARE OFTEN RESOLVED BEFORE USERS ARE AWARE OF THEM HAVING ARisen

Young's Seafood Limited is the leading UK fish and seafood processor, providing frozen and chilled, branded and retailer-branded fish. With a team of over 3,000 people across the UK and prepares over 300 million seafood dishes for UK consumers every year. Founded in 1805 and supplying many major retailers, Young’s describe themselves as ‘passionate about fish and excellent food values’.

Gary Allwood, IT Lead for Service Delivery and Operations Support at Young’s Seafood, heads up the new internal IT Team and ensures that they provide the business with high quality IT services. As well as leading the teams and delivering all the day-to-day IT activities, Allwood is responsible for the management of suppliers and senior business stakeholders.

A FRESH CHALLENGE

Being a provider of chilled goods, the company is dependent on its IT systems for getting the goods out the door, so it is essential that Young’s IT team has a responsive and pro-active approach to the delivery of IT services. Factories could still function without the network, but dispatching goods would become very difficult and additional costs would be incurred as a result of the manual processes, so an efficient network maintains Young’s good reputation with its customers by ensuring that all goods are delivered accurately and on time.

WHY SOLARWINDS?

A number of solutions were reviewed as the new IT team was set up and SolarWinds came recommended as a well-recognised and proven product. Initial impressions suggested it was easy to use, had potential to deliver added benefits and covered everything Young’s Seafood required from an IT management and monitoring solution.

SolarWinds enabled Young’s Seafood to bring services in house rapidly, without disrupting service. In addition, with SolarWinds products already in place for the new team, a pro-active culture was immediately adopted allowing Young’s IT team to deliver an improved service and report and demonstrate where improvements are being made. "We use a number of SolarWinds products at Young’s," said Allwood. "We selected SolarWinds Storage Manager as it provides effective capacity..."
SolarWinds has automated and simplified numerous manual operational processes in Young’s Seafood’s daily routine; it is now immediately apparent when a significant incident has occurred and the team can respond immediately.

“SolarWinds is very easy to set up, easy to use and has lots of potential,” said Allwood. “It works very well, is easy to tweak and there are minimal training requirements. Each team holds a different view as to which features are most useful. The management team view availability reporting as the most useful, whilst the day-to-day operations teams see capacity disk and network monitoring as most useful.”

Young’s have a number of clocking terminals which, due to the age of the system in use, were being manually checked every hour or so. SolarWinds has allowed the company to automate the monitoring of these devices, for the first time, issuing an immediate alert when terminals fail. Young’s IT team have real-time screens in support areas showing the health of all the IT systems at all of the company’s sites, so issues or potential issues are immediately visible with both a screen notification and an email notification, which allows for a proactive response.

“We have seen a reduction in the number of call-outs as we can clearly distinguish business critical issues,” said Allwood. “While our systems are resilient, when a component fails SolarWinds allows us to react before the failure becomes an issue.”

RETURN ON INVESTMENT
SolarWinds simplifies management of the estate, delivering real-time performance metrics and automated monitoring which has given Young’s IT team a higher level of self-sufficiency, and reduced reliance on third parties. The Young’s IT team has also automated a significant number of operational checks which previously were performed manually, freeing analysts to focus on service improvements.

SolarWinds has changed the way in which Young’s IT team delivers service reports and support teams are able to respond much quicker than before. This has enabled Young’s IT team to deliver a more proactive service, and in many cases issues are fixed before colleagues are even aware there’s a problem.

More info: www.solarwinds.com/uk
RESEARCH: DATA LOSS THREATS

New research from Kroll Ontrack has found that a third (32%) of organisations have lost data while migrating between devices or upgrading operating systems. The global survey of nearly 600 IT administrators also found that while over half (57%) of respondents had a backup solution in place, three quarters (75%) were not able to restore all of their lost data, with more than one-in-five (23%) unable to recover any data at all.

The results of this year’s survey are consistent with research undertaken in the previous three years, where over half of consumers/businesses reported data loss even when backups are made. Specific to data loss experienced while migrating or upgrading operating systems, respondents in 2016 cite that the backup was not current (17%) or it was not operating correctly at the time of data loss (15%), the device was not included in the backup (14%), or the backup media itself was corrupted (11%).

OS OR HW: WHAT’S RISKIEST?
The problem of data loss occurs as regularly on standalone devices as on servers, highlighting the fact that this is a challenge for individual users as well as businesses. In fact half (50%) of respondents said they had lost data when migrating to new software or platforms from a desktop or laptop. The riskiest upgrades in these cases were upgrading operating systems (39%), reimaging desktop hardware (22%), physically migrating hardware (20%), or upgrading the hardware (17%).

Data loss appears to be less of a problem for mobile users, but still affected more than a third (34%) of respondents. Despite the automated update processes available when upgrading mobiles, 53% of respondents said that they lost data when migrating users to a new mobile device.

HOW DO BRITS COMPARE?
In the UK specifically, 26% of IT administrators said that they had experienced data loss when migrating to new software or platforms from a server, but this rose to 48% when migrating from a desktop or laptop and 50% when migrating from mobile devices. Of those who had lost data, 26% said they had backup in place but it wasn’t operating properly at the time, while 11% said the device in question wasn’t included in the backup.

Interestingly, in looking ahead to what respondents believe will be the major causes of corporate data loss in the next 12 months, global respondents rank migration and upgrading systems low on the scale of concern, even though our research reveals one-third of respondents had lost data during such exercises. Instead, respondents believe that hardware failure (22%), user error (22%) and unforeseen and unexpected errors (21%) as the top-ranking risks to corporate data loss. Only 11% believe that poor internal controls and data governance will be a top three risk, despite the fact that so many backup systems fail and mean that data cannot be restored.

Robin England, Senior Research & Development Engineer, Kroll Ontrack UK commented: “Upgrades and data migration are part of the day-to-day IT workload, so it is alarming to see that so many organisations are experiencing data loss because their backups fail for whatever reason. Organisations need to ensure that they have a rigorous backup strategy in place. While they should check their capability to restore frequently, it’s especially important before a migration.”

More info: www.krollontrack.co.uk
**The Award Goes to Infortrend**

Disk Based Product of The Year at Storage Magazine’s Storage Awards

Infortrend EonStor DS 4000 series, with its outstanding performance and enterprise-class solutions, was awarded the title of “Disk Based Product of the Year: Small/Mid-range” at the 2015 Storage Awards. Meanwhile, Infortrend EonStor DS 3000 series won the top spot for best IOPS per dollar ratio ($0.24) by delivering an impressive and reliable performance score of 218K in the latest round of SPC-1 evaluation.

**Highlights of EonStor DS Family**

- Up to 1.5M IOPS and 11,000 MBps throughput.
- Modular and upgradable hosts design (up to 16G FC, 12G SAS and 10G iSCSI)
- SSD optimized with all-flash, SSD Cache and tiering
- Scalability up to 444 drives via JBOD
- Extensive data services include remote replication, snapshot, etc…
- All-around 12G SAS support options
- SFF storage option with our 2.5” drive dedicate model

**IOPS Per Dollar on Top SPC-1 Results**

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Source: Top SPC-1 Results - price-performance ($/SPC-1 IOPS)
Updated: June 12, 2015

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I recently read a fascinating article about how a new process called ‘cyber-archaeology’ is helping us to save some of our endangered cultural heritage sites. The article highlighted the plight of St. Elijah’s Monastery, the oldest Christian monastery in Iraq, which was completely destroyed by ISIS earlier this year after standing for 1,400 years near the city of Mosul. While nothing can now be done for St Elijah’s, the race is now on to digitally preserve thousands of other at-risk sites around the world before they meet a similar fate.

The idea of ‘cyber-archaeology’ has been devised as a means to digitally preserve historical sites, which simplified down involves the coupling of archaeology with engineering, computer and natural sciences. Thomas Levy, distinguished professor of anthropology at UC San Diego and director of the Centre for Cyber-Archaeology and Sustainability at the Qualcomm Institute, has been undertaking a great deal of this work. He and his team have been focusing their efforts on the Middle East, currently the most critical area for threatened archaeological sites.

Religious extremism is just one of many threats facing cultural heritage sites around the world. They are also suffering from looting, erosion, natural disasters and redevelopment. Professor Levy and his team were recently working at Petra, Jordan’s famous World Heritage Site, dating from the third century BCE, where they brought in helium balloons and high-definition 3D photography systems in order to record Petra’s extensive ancient city centre in 3D. What piqued my interest is that all of this data needs to not only be captured, but also stored, accessed and shared, so that it can be displayed to other researchers and of course the general public, both today and for many decades to come.

If cyber-archaeology sounds a bit far-fetched and somewhat abstract from the day-to-day, let me talk about a related concept; that of digital preservation. Digital preservation is also a hot topic amongst museums, galleries and other memory institutions right now, who are urgently looking at how they can save our
"There is a lot of debate going on about the price we are prepared to put on our nation's memory. How do we decide what is worth preserving or not? Can we afford to preserve it all? These are the questions that many memory institutions are grappling with right now. In the last 12 months, digital archiving has hit the headlines in a big way as people begin to worry publicly about our society's digital memory."

THE VALUE OF MEMORY
There is a lot of debate going on about the price we are prepared to put on our nation's memory. How do we decide what is worth preserving or not? Can we afford to preserve it all? These are the questions that many memory institutions are grappling with right now. In the last 12 months, digital archiving has hit the headlines in a big way as people begin to worry publicly about our society's digital memory.

Just last week, it was reported that the Australian Government is making cuts to the National Library of Australia (NLA), which will probably lead to a scaling back of its digitisation efforts. The NLA has spent many years improving digital access to its collections as well as digitising government records from the pre-Internet era, where it has been offering newspaper archives and its collection of books. However, the Australian Broadcasting Corporation now needs to make cuts and the largest reduction will come from "cutting the library's digitisation project."

This is all part of a larger Australian funding cut announcement that has slashed $36m from ‘cultural and collecting entities’ in the commonwealth arts portfolio. This translates to about $20m from the combined budgets of six major cultural institutions - the National Museum of Australia, National Portrait Gallery, Museum of Australian Democracy, National Film and Sound Archive, National Gallery of Australia, and as I have already mentioned, the National Library. These cuts will take place over the next four years and are expected to not only limit exhibitions, but also curtail functions such as the digitisation of Australia’s heritage.

CULTURAL ALZHEIMER’S
So why is this of concern? To my mind this will equate to a type of cultural Alzheimer’s, or memory failure that will inevitably impact on the way we access the records of Australia’s evolution, from the first Australians who walked the continent 60,000 years ago until now.

How we preserve and manage our cultural assets for the long term is of major concern for many national culture and memory institutions. Today, they already hold vast amounts of digital content and they are charged with preserving these digital assets for the next generations of historians and researchers.

Recent research undertaken by Arkivum shows that many institutions in this space are now seriously considering a digital preservation strategy and supporting systems to help them achieve this. Indeed, 93% of the companies Arkivum surveyed have digital preservation as a priority in one form or another.

That said, it is quite daunting to determine where to start and what to preserve, especially if the organisation is working with reduced budgets, cf. what is happening in Australia. Again, in our survey nearly a third of the respondents stated that they needed help developing their digital preservation strategies, while 24% want ready-made digital preservation processes that they can use in their own IT infrastructure and workflows. What we have also found is that many are looking for information on how to bridge the gap between the digitising of physical assets and the ability to access, trust and use the resulting digital files at some point in the future. The true value and purpose of digital preservation lies in bridging this gap and making it possible.

BY THE BOOK
As a long-term digital archiving specialist with a stronghold in the heritage and culture sector, servicing clients such as New York’s Museum of Modern Art and Tate Galleries, we are well aware of the issues that memory institutions face right now. In fact, we have developed an eBook: 'Digital Preservation - A How-To Guide for Beginners,' which helps to answer questions such as: where do I start, what should I preserve, how do I get onto the digital preservation ladder, and many other issues besides. The book keeps its feet very firmly on the ground and provides institutions with information on the fundamental building blocks needed to make those all-important decisions about how to start digitally preserving their collections.

I believe the race is well and truly on now for memory organisations to determine how they can preserve our heritage. Digitisation and digital preservation are just as much about posterity as they are online accessibility and democratisation of knowledge. Writers and historians are in the game of giving shape and life to others' memories - providing, of course, that those memories are there to be surveyed, now and for generations to come.

More info: www.arkivum.com

www.storagemagazine.co.uk  @STMagAndAwards March/April 2016

OPINION: PRESERVING DIGITAL HERITAGE
**THE BEE’S KNEES**

*AGRI-FOOD SPECIALISTS FERA SCIENCE LTD WAS STRUGGLING TO CONTROL PETABYTES OF DATA IN ITS DATA CENTRE, BUT HAS NOW ACHIEVED UNIFIED MANAGEMENT; HIGH AVAILABILITY; REDUCED HARDWARE TCO AND VENDOR INDEPENDENCE*

Fera Science Limited is a national and international centre of excellence for interdisciplinary investigation and problem solving across plant and bee health, crop protection, sustainable agriculture, food and feed quality and chemical safety in the environment. Internally, Fera employees are predominantly scientists accessing information and readings in order to make recommendations for optimal yields. Externally, Fera provides services to 7,500 commercial Agri Food customers alongside UK governmental organisations including DEFRA.

Ben Jones, Data Centre Manager at Fera is responsible for securely holding and delivering the vast wealth of research data gleaned from ongoing field instruments and trials. From their Yorkshire based data centre, Ben provides constant availability and high performance for Petabytes of data and assures ongoing business application performance. Faced with large fluctuating data sets five years ago, Fera’s IT team sought a solution that would both unify their legacy divergent hardware based estate and optimise struggling applications held on their Virtual Machines (VMs) to provide fast data mining.

Ben reflects, “Today Fera provides a large, single campus modern metro cluster split across 2 sites, for assured High Availability and we enjoy fast performance even in peak transaction times. Roll-back five years and the situation was far less clear with a large, fragmented estate that contained a mix of legacy devices, brands and technology. We needed an overlay layer that would unify and manage our assets maximising the investment that we had already made. We ultimately found this using software defined storage provided though DataCore’s SANsymphony-V platform.”

Five years ago, Fera’s then beleaguered IT Team took the decision to go back to the drawing board to address the multiple problem areas whilst future-proofing the size of the data set that was known to be quadrupling every four years. Containing Fera’s diverse and sprawling IT server and storage estate was the first pressing issue for the team, with multiple Dell/HP/NetApp/IBM standalone servers and hundreds of legacy Direct Attached and Network Attached Storage devices across the mirrored data centre.

Each year, IT had the onerous task of accurately anticipating the up-front storage
requirements of departmental storage - or risk running out of space if storage had been inadvertently designated to another path. Performing maintenance, upgrades and critical updates across so many brands was also a huge overhead. Each time maintenance was performed, the mirrored device also had to be disabled, taken offline and then resumed. It also wished to curtail the ongoing spiralling cost of network connections, multiples of which had been added in an effort to assist business continuity.

For the Fera user internally, the failing IT infrastructure manifested in ongoing issues with speed of access to their applications, together with the inability to mine reports and record and access information as the maintenance window grew. At different times across the seasons, productivity levels dwindled further still as vast swathes of data arrived in unpredictable, colossal batches.

With these problems identified, the IT team sensed that their current environment was fast becoming unsustainable and sought alternate solutions that would not add to the hardware overhead. The clustered NetApp setup was becoming restrictive meaning that the VMware hosted application performance was becoming an ongoing bottleneck as applications competed for I/O. The team selected DataCore's software storage virtualisation platform - then known as SANmelody - to run on a pair of Dell 2U PowerEdge 2950s - and thereby centralising the VMware critical hosts to improve performance and allow live migration of VMs without downtime.

A couple of years later, Fera seamlessly upgraded and expanded their environment to DataCore's enterprise solution, SANsymphony-6.0, to provide parity across the mirror and to connect via fibre channel for speed. An upgrade to SANsymphony-V followed two years later, with DataCore’s software platform now running on a pair of Dell PowerEdge R910s, with dual Fibre Channel Brocade switches each side of the mirror for ultimate resiliency and true High Availability.

Eighteen months on, all data is accessed through SANsymphony-V and it is the established backbone to Fera’s ongoing IT infrastructure. Today Fera provides its members with a large, modern metro cluster split across 2 same-campus sites for high availability. Through DataCore, Fera offers twelve VMware VSphere 5.1 ESX hosts running 300 VMs offering essential business applications. Additionally, SANsymphony-V manages and protects 250 physical servers with all legacy NetApp storage served and front-ended by DataCore's SANsymphony-V.

All of Fera’s storage pools and virtual disks are mirrored giving ongoing availability. Downtime is firmly an issue of the past as through SANsymphony-V, one side of the mirror stays functioning and fully available, while IT perform patches, Windows updates, backend fixes and essential critical updates to the other side.

Ben Jones explains “Essentially DataCore gives us the freedom of procurement across the estate. That’s a powerful statement. We can now research and select which disk chassis and vendors are most suited to Fera and select those which we know will have the best controllers and offer the highest density. Using DataCore as the software layer, we have found ourselves being able to confidently migrate away from incumbent brands as management is now unified and assured. With it, we have significantly reduced the ongoing maintenance overhead.”

DataCore’s Continuous Data Protection (CDP) continues to assist the VMware platform with a planned and gradual migration away from NetApp. To assist this migration, Fera use DataCore’s CDP feature to provide 24 hourly snapshots to recreate VM functionality. So, in the event of a failure occurring, Fera can roll back in time to the last hourly point. DataCore’s inbuilt caching has also helped increase performance optimisation of the virtual environment and due to its inbuilt algorithms, VMware performance has been boosted by 15%.

High Availability is now assured within Fera. This became increasingly important nine months ago when Fera formed a joint commercial partnership with DEFRA (Department of Environment, Farming & Rural Affairs) to provide 24x7 access to focussed research across both organisations.

DataCore’s Thin Provisioning is another useful weapon in controlling future Fera storage overheads. Using SANsymphony-V, IT can now Thin Provision disk on-the-fly to Fera scientists with a few clicks, as and when required. Before, each employee would have a 2TB disk allocation and further provisioning had to be speculated based on historical usage.

More info: www.datacore.com
David Tyler: Let’s start with the obvious question: what exactly is ClouDRaaS, and what are its benefits?

Matthew Parker: ClouDRaaS is a new ‘one click’ Disaster Recovery service which offers cost-effective, automated, DR for all sizes of business. We believe it’s the first disaster recovery service to solve the problem of production-ready DR in one simple click. ClouDRaaS makes effective DR possible within the private Cloud, to the public Cloud and in the public Cloud. It delivers robust block-level replication and offsite backup in one simple product with ‘one click’ recovery and rollback of your applications. It means - and this is particularly important for the enterprise - that you can ‘test the water’ without giving up control over your production applications in your own data centres.

By being array- and hypervisor-agnostic, it replicates any environment regardless of your storage vendor or your architecture and enables replication and migration to public Cloud services such as AWS. The customer gets to choose the Cloud DR environment they want to use.

It’s also incredibly quick and can be installed remotely within a couple of hours without requiring any changes to your environment. It can be tested and validated at any time and applications can be recovered with one click of a button. You can pick the specific applications to protect, regardless of what server they’re on. There’s simple pricing so you can automatically see the benefits and there’s certified annual managed invocation testing which will keep your compliance people happy.

DT: The service is based on hypervisor-based replication software; what is the thinking behind that approach?

MP: One of the big problems for large organisations is how to manage the incredible amount of data they are creating. Traditionally some poor guy in
the IT department changes tapes every night and if there’s a problem has to go and find the right tape to restore which can lead to hours of downtime and loss of data. Equally even in a Cloud environment the problem of VM sprawl means you can be managing hundreds of virtual machines using manual processes which can be a huge IT headache - particularly when a disaster strikes.

Our ClouDRaaS service provides a really simple automated solution which does away with snapshots so you get instant DR that never impacts performance, with RPOs of seconds and RTOs of minutes. By designing it around reducing complexity and speed of service we believe we have the means to help businesses protect and recover their data from a virtual Cloud environment safely, quickly and efficiently.

DT: So there’s a real - and measurable - business case for this approach?

MP: Absolutely. When you look at the cost of unplanned downtime it can be crippling. For an e-commerce business it can mean the loss of £1000s per minute in sales, whereas for the likes of legal or financial companies there’s the whole issue of compliance as well as the resulting loss of confidence and trust in your services.

When you add in the faster recovery times and better recovery points you can achieve, even in a smaller organisation the cost benefits can be huge. For instance, we did a cash-only comparison of what using ClouDRaaS would mean for a smallish local authority recently and even just looking at the monetary side the savings amounted to almost £150,000 a year.

I think there’s a realisation now that traditional tape-based backup and DR is expensive because of the need to invest in duplicate hardware and software. ClouDRaaS offers a completely inclusive service so you’re not wasting manpower - meaning IT staff can be better deployed, which in turn means your organisation becomes more efficient. It also improves your licensing costs because your software licences disappear too. You save on off-site storage and, if you’ve been buying in IT support, then costs for that would disappear as well.

It’s all about seeing the real value of the Cloud and giving proper consideration to the complete business case, all of which we can help with. Replacing upfront investments with ongoing monthly bills and ensuring higher performance and reliability is a huge business benefit; not forgetting the security, peace of mind and compliance to help meet your legal and regulatory requirements. It’s a win-win.
"When you look at the cost of unplanned downtime it can be crippling. For an e-commerce business it can mean the loss of £1000s per minute in sales, whereas for the likes of legal or financial companies there's the whole issue of compliance as well as the resulting loss of confidence and trust in your services. When you add in the faster recovery times and better recovery points you can achieve, even in a smaller organisation the cost benefits can be huge."

DT: There still seems to be some reluctance by companies to consider DR in the Cloud as opposed to traditional colocation. Why do you think that is?
MP: There are a number of issues that hold people back from going down the DR route let alone the DR in the Cloud route. The bottom line is that it just hasn't been seen as a business priority. In some companies business continuity and disaster recovery plans are just seen as a tick box for the IT department and not an inherent part of their overall strategy.

However with the growth in data we're seeing and the inability of us as human beings to manage it all properly, DR in the Cloud can help us get on top of these issues. By working with a Cloud service provider you can trust, you can establish a clear process for ensuring your whole IT infrastructure, not just your applications, can be brought back up to where it was just seconds rather than hours or days after it goes down.

Amongst those organisations who already have DR, there have been a number of surveys of IT professionals done that show that the reality of their Recovery Time Objectives do not match up to the times they believe they should be achieving. I think there's a realisation now that traditional tape-based backup and DR is expensive because of the need to invest in duplicate hardware and software and manpower.

DT: It sounds as though you believe that this 'reluctant' attitude is changing over time?
MP: The DRaaS market is estimated to grow almost tenfold to $11.92bn in 2020 so yes, I think it is. We are a 24/7 online society and all organisations have to accept this and put strategies in place to manage their internal processes and the data they are creating to reflect this. We are also in a global world, a global economy, where companies have offices across multiple geographical locations. Managing this through a centralised, simple and effective backup, DR and business continuity strategy is one of the key challenges and I think ClouDRaaS can help deliver this.

If you can automate as much of the business continuity and DR process as possible you should be able to get to a point where the tool you use is so simple that anyone can use it. This can only make you more effective as a business. More info: www.backup-technology.com
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Instead of accepting the issue of Dark Data as inevitable and unavoidable, we at M-Files Corporation argue that businesses need to develop the ability to identify and efficiently manage information at all phases of the lifecycle.

Many define Dark Data as information assets that are created and used only once. But it is a deeper issue than that because even content that is actively used for a period of time can turn into Dark Data when organisational and project priority changes. Active information that becomes inactive is typically left where it was and is easily forgotten. To make matters worse, employees often recreate data when they can’t quickly find their copy. Duplication and recreation therefore multiply the incremental volumes of any data that subsequently goes dark.

We are beginning to see many businesses taking a proactive approach to recycling their Dark Data by harnessing best-in-class enterprise content management (ECM) solutions. The current business climate requires more thorough record keeping and the ability to produce evidence for quality control, compliance, legal actions, risk mitigation, and more.

Employees can waste excessive amounts of time searching for misplaced or lost information, and often have to re-create content assets that cannot be located. Instead of ignoring the problem, businesses need to develop the ability to identify and efficiently manage information throughout its lifecycle. Some data should go dark; once it has served its purpose, it can be archived appropriately based on retention rules, to simplify any future discovery requirements.

The identification of legitimate dark data allows it to remain visible only to authorised individuals. For example, if an information asset contains sensitive information about employees or confidential activities, it can be encrypted and protected with access restrictions.

Metadata-based ECM solutions can greatly simplify the classification and identification of Dark Data versus active assets. Content can be tagged in a manner that enables it to be accessed and synced between various systems and devices, with no duplication of content. Information is not tethered to a specific location; it is freed from the confines of applications, platforms and information silos.

Injecting more intelligence in your data essentially makes it greener - the assets live longer and can be used by more people. In many cases, dark data never stays dark for long, since it can be regularly recycled for uses that go beyond the original intent.

The benefits and saved time add up quickly. Decision makers can achieve better results as they are able to find and use all relevant information, and productivity goes up for all of the knowledge workers in the organisation since everyone will spend less time looking for misplaced information.

More info: www.m-files.com

Gartner defines dark data as the information assets organisations collect, process and store during regular business activities, but generally fail to use for other purposes (for example, analytics, business relationships and direct monetising).

Similar to dark matter in physics, dark data often comprises most organisations’ universe of information assets. Thus, organisations often retain dark data for compliance purposes only. Storing and securing data typically incurs more expense (and sometimes greater risk) than value.

WHAT IS DARK DATA?

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