



A busy year for the Data Centre Alliance

With the DCA calendar expanding, Executive Director, Simon Campbell-Whyte looks ahead to a busy year and the relationship between buyers and sellers.



AFTER a successful two days at Data Centre World in March, the rest of year is shaping up for a packed calendar ahead of us. The DCA will be present at events in Singapore, France, UK and Germany this year to further widen the membership and participation. May 23rd sees the inaugural Outsourcing, Hosting and Colocation Conference at the Grange Tower Bridge Hotel,

London. This is the first "pure play" colocation event and as this area of the data centre industry expands, I expect this event to reflect this growth in future years.

It will be interesting to see the development within the DCA of collaboration between those who provide colocation and hosting space and those that buy it. The DCA has members from both camps. It does seem that mutual benefits can be achieved, for example can colocation providers do more to provide the data centre space and service that customers want and on the flip side

can users do more to specify what they need?

Also, maybe a collective forum between the two can assist; I'm often surprised when I walk around a data centre and you can see the some customer installations that apply the correct practice, for example; good airflow management, cabling, security and housekeeping next to a neighbouring cage that appears to be doing an impression of a teenage LAN party gone wrong!

Clearly demarcation lines exist, but with education and the exploration of acceptable compromise can surely play a part in minimising these issues to benefit both parties. This is of course just a reflection of the situation in many organisations where perhaps IT, FM and buildings departments have had to work closer together in recent years, but this shouldn't just stop when outsourcing. The DCA certification programme will help kick start this process, no doubt "LAN party" cages can be discouraged during the process to the benefit of all, but I'm sure other issues both commercial and technical can be addressed via the DCA platform.

A Very Green Enterprise

SERVERHOUSE LTD has recently become a member of Data Centre Alliance and in comment Gary Coates, the Data Centre Manager, said "we view the Data Centre Alliance as the leading independent forum for the industry and fully support its promotion of best practice and its support for the development and application of emerging standards. We look forward to being an active member of this dynamic organisation".

ServerHouse has been operational for 15 years and remains at the forefront of data centre technology. Located on the prestigious 400 acre private Cams Estate in Fareham there are currently 2 data centres on the site to provide resilience and back-up. The data centres are manned 24x7 by staff which Gary notes "are not just security staff but engineers who can provide the highest level of service for our valued customers day or night".

Unusually for a data centre Serverhouse has a lot of character with one facility being located within the very attractive wood beamed West Barn which dates back to 1865. The equipment within the barn is very much 21st century, however with the emphasis on maximum energy efficiency, low running cost and high resilience, all within a highly secure environment. ServerHouse is proud of its green credentials, not only being mindful of the need to conserve power but also with the new state-of-the-art Data Centre to be constructed within the walled garden of the estate.

Planning such an enterprise brings with it unique challenges. The walled garden had fallen into disrepair when it was acquired by Merlin Communications in 1999 in order to build a teleport as part of a centre for global communications excellence on the south coast of England. The planned teleport included the installation of nine major satellite antennas interconnected with the fibre networks for international connectivity, connected by two POPs in London. Merlin cleared the site of brambles, repaired the walls, landscaped the area in order

to ensure that the antennas and equipment were out of the sight-line, and obtained outline planning permission for a new building within the walls.

ServerHouse subsequently acquired the site in 2003 and submitted plans for a building in accordance with the outline planning permission but these plans were rejected in favour of a curved outline building to follow the contours of the landscaping carried out by Merlin. So began a close working relationship with the local authority in order to ensure that the plans met the strict requirements of the Cams Hall Conservation Plan which itself continued to evolve throughout this period.

The protracted planning process gave rise to additional challenges as Data Centre technology moved on and, in particular, energy conservation became more important with new regulations coming into force during this time. The ServerHouse planning process for the new building has therefore been a steadily evolving mix of submissions to the local authority together with updates to the design and specification of the building and the facilities within it. This process is now converging to a successful conclusion, enabling a new state-of-the-art Data Centre to be constructed whilst ensuring the conservation of the architectural and historic character of the Cams Estate. Gary comments "Data Centres don't come much greener than this, not only in the context of a high specification highly efficient facility but also in the green environment of the walled garden which is being preserved through careful and sympathetic development. The added unique benefits of diverse fibre from multiple carriers and dual independent power rings at this location enable us to create something very special".



Why DCIM?

By Andy Barrett, Head of New Technologies at COMPUTERLINKS, Next Generation Distribution

WORLDWIDE demand for new and more powerful IT-based applications, combined with the economic benefits of consolidation of physical assets, has led to an unprecedented expansion of data centres in both size and density. Limitations of space and power, along with the enormous complexity of managing a large data centre, have given rise to a new category of tools with integrated processes – Data Centre Infrastructure Management (DCIM).

Once properly deployed, a comprehensive DCIM solution provides data centre operations managers with clear visibility of all data centre assets along with their connectivity and relationships to support infrastructure – networks, copper and fibre cable plants, power chains and cooling systems. DCIM tools provide data centre operations managers with the ability to identify, locate, visualize and manage all physical data centre assets, simply provision new equipment and confidently plan capacity for future growth and/or consolidation. These tools can also help control energy costs and increase operational efficiency.

The trend for consolidation and construction of ever larger data centres has been basically driven by economy-of-scale benefits. This trend has been accelerated and facilitated by technological advances such as Web-based applications, system virtualization, more powerful servers delivered in a smaller footprint and an overabundance of low-cost bandwidth.

Not many years ago, most computer sites were sufficiently small so that the local, dedicated IT and facilities staff could reasonably manage most everything with manual processes and tools such as spread sheets and Visio diagrams. It has now become painfully clear that IT and facilities professionals need better tools and processes to effectively manage the enormous inventory of physical assets and the complexity of the modern data centre infrastructure. Experience shows that once a data centre approaches 50-75 racks, management via spread sheets and Visio becomes unwieldy and ineffective.

At the highest level, the enterprise data centre should be organized and operated to deliver quality service, reliably, securely and economically to support the corporate mission. However, the natural evolution of roles and responsibilities among three principal groups within the data centre – facilities, networking and systems – has

Louise Fairley, DCA PR & Marketing Manager



IN the last few months I have seen a steady increase in both DCA membership and member participation. With opportunities for event sponsorship, regular blog spots, webinar broadcasting and of course article submission for our official journal, interest has been growing.

All of these activities whether taken independently or as part of overall long term plan are excellent opportunities for promotion, networking and ultimately increasing profile awareness and we have further plans afoot, watch this space..... Please do

What Is DCIM?

Basic DCIM components and functions include:

- **A Single Repository:** One accurate, authoritative database to house all data from across all data centres and sites of all physical assets, including data centre layout, with detailed data for IT, power and HVAC equipment and end-to-end network and power cable connections.
- **Asset Discovery and Asset Tracking:** Tools to capture assets, their details, relationships and interdependencies.
- **Visualization:** Graphical visualization, tracking and management of all data centre assets and their related physical and logical attributes – servers, structured cable plants, networks, power infrastructure and cooling equipment.
- **Provisioning New Equipment:** Automated tools to support prompt and reliable deployment of new systems and all their related physical and logical resources.
- **Real-Time Data Collection:** Integration with real time monitoring systems to collect actual power usage/environmental data to optimize capacity management, allowing review of real-time data versus assumptions around nameplate data.
- **Process-Driven Structure:** Change management workflow procedures to ensure complete and accurate adds, changes and moves.
- **Capacity Planning:** Capacity planning tools to determine requirements for future floor and rack space, power, cooling expansion, what-if analysis and modelling.
- **Reporting:** Simplified reporting to set operational goals, measure performance and drive improvement.
- **A Holistic Approach:** Bridge across organizational domains – facilities, networking and systems, filling all functional gaps; used by all data centre domains and groups regardless of hierarchy, including managers, system administrators and technicians.

A comprehensive DCIM solution will directly address the major issues of asset management, system provisioning, space and resource utilization and future capacity planning. Most importantly, it will provide an effective bridge to support the operational responsibilities and dependencies between facilities and IT personnel to eliminate the potential silos.

in itself made this objective less achievable. Responsibilities have historically been distributed based on specific expertise relating to the physical layers of the infrastructure:

- **Facilities:** Physical space, power and cooling
- **Networking:** Fibre optic and copper cable plants, LANs, SANs and WANs
- **Systems:** Servers, virtual servers and storage.

contact me with any thoughts and/or questions surrounding the initiatives we are running for this year.

May I now take this opportunity to extend a very warm welcome to some of our latest DCA members namely, Nextconnex, Portal Data Centres, Goethe-Universitat Frankfurt, Sentrum, IXcellerate, University of East London, Vtesse Cirrus, University of Hertfordshire, Spherical Cow SL, 8Solutions, Nominet and GlassHouse Technologies. We very much look forward to working with you now and in the future for continual development of standards, guidelines and programmes to support the data centre industry.

The secrets to managing disruptive migrations and consolidations



By Chris James, Director of EMEA Marketing, Virtual Instruments Ltd.

ENTERPRISE IT is always on the move. Data centres, servers and storage are forever being consolidated, migrated or renewed, typically involving virtualisation. Until now the only way to ensure business critical applications continue to perform during the disruption is to over provision capacity and over use IT staff resources. There is, however, a smarter, better and less expensive way. Here are 3 key steps.

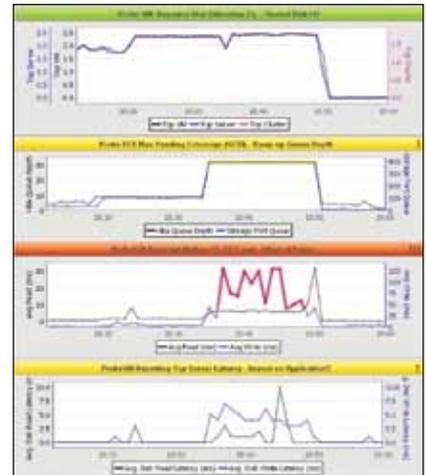
Baseline application performance

Firstly, you need to take a look at the current infrastructure. How are you measuring application performance across the data centre elements, especially the SAN where the critical applications and data reside? In most cases this is done element by element (switch, server, storage), rather than looking at an end-to-end view. The reason for this is often down to previous consolidations. Element tools can only give you a view of capacity, performance or utilisation on their part of the SAN. If you have multiple vendors supplying your SAN storage infrastructure, then you use each vendor's tools to see their bit. Have you ever had a major trouble ticket raised and the people responsible (both internal and external) for the elements blame one another? This finger pointing exercise is both massively inefficient and costly to the business. What you need is a view of the whole SAN and all its components regardless of vendor. Once you have that you can then go about baselining the application performance. The old adage of 'you can't manage what you can't measure' comes into play here. You need to know how an application is performing before a migration or consolidation - if you don't know how it's performing how will you know it is performing better in the new system? Vendors are very reluctant to give a service level agreement for their new system but they will all assure you that: 'Trust me the new system will be far higher performance with a far greater return on investment than before!' Be sure you talk about performance rather than availability. Availability is, of course, massively important but an application can have five 9's availability and still run slowly. It's vital to know what you have currently and what to expect in the new or consolidated system. Monitor the migration or consolidation in real-time.

Secondly, now that you know how the application is performing (i.e. you have set a threshold of 10 milliseconds per transaction as an end-to-end baseline), you can start the migration or consolidation process. Vendors are very helpful here and will provide services to ensure this process goes smoothly. However it would be better to be able to model what is going to happen with an application before the migration or consolidation, particularly when virtualisation is involved. For example, you are consolidating 5 physical machines down to one and supporting 50 or more virtual machines - it is a good idea to see if it will work before you commit to moving the live application. Also, by monitoring in real time you can see everything that is going on across the SAN and alleviate any potential or real bottlenecks that cause application latency. A typical recent example is a company (who shall

remain nameless) that bought a million Euro array to improve the latency performance of their data warehouse by a couple of milliseconds. While they were waiting for delivery, they added monitoring to their

infrastructure and discovered that the data warehouse, which was still attached via the SAN to an array, had a faulty cable and faulty HBA that was causing the excess latency. A few hundred Euros spent on the problem would have averted the array.



Optimise the infrastructure

Thirdly, the SAN is made up of many components, often many thousand, and each one of these has the potential to cause a problem. By far the best way to manage this complexity is to 'ring fence' an application and monitor it in real-time. For example you may have an SAP based application that is running your supply chain, this application can be isolated so you know what virtual and physical machines, switch ports, storage ports, etc. it is using. A performance threshold can then be set for this application and a window in a console created with a simple traffic light visual to show how it is performing. This graphical view can be customised to show each department involved in supporting the application what is going on. Switch port utilisation is typically less than 10% so savings can be quickly made by load balancing traffic across them and deferring buying additional capacity until it is really needed. The main reason business critical applications are not virtualised is because performance and availability SLAs can't be set in an environment that has a large area of 'SAN blindness'. By monitoring the application in real-time, end-to-end across the SAN, cost efficiencies of virtualisation and private cloud technologies can be fully realised.

On-going performance monitoring

Finally, staff managing elements of the SAN can sometimes forget why they are there - to keep the critical applications that are running the business available and performing well. On-going real-time monitoring of the SAN will confirm problems before they impact the users, alert you to inefficiency in capacity or I/O throughput, and allow a far better understanding of the SAN so future consolidations and migrations are performed on the elements that need improvement. Many large enterprises across the globe are now adopting real time, end-to-end application and infrastructure performance monitoring to improve their competitive advantage. Organisation that stay with a 'black hole' in their SAN and an 'overprovision and hope' policy will become less competitive on the market as their IT systems cost more and are far less efficient than their competitors.