



**Data Centre Alliance Executive Director Simon Campbell-Whyte** reflects on the industry's need for collaboration with the forces that the data centre can't control.

## What came first? The server or the data centre?

The server of course, err.. perhaps no, I forgot those 1960's data centres that were a part of the computer. It doesn't really matter, but it is a crucial matter when designing a data centre or when selecting a colocation facility. The more that is known about the computing equipment the data centre is to house then the more chance you have of your data centre achieving a long and useful life. The trouble is, the computing equipment today is likely to be gone in three or five years, but the data centre has to accommodate whatever comes along next for 15 or 20 years even though things have changed radically. So, designing the environment for only today's computing hardware is not a good idea, balls of the crystal and sometimes steel variety is needed to go for longevity, modularity and long term energy efficiency.

Moore's law, named after Intel co-founder Gordon E. Moore's 1965 paper, is amazingly still consistent today, but it is surprising how many

have believed the trend will stop and were proven wrong. Data centre types are the first to admit they are no experts on IT. Therefore, it has never been so important to involve a collective of all one's users when defining a data centre strategy. This should include the IT, information security and energy efficiency goals. Facilities management, building services and IT services departments are already coming together in enlightened organisations, but more needs to be done.

Therefore it is plain to me that the DCA should reflect this by forming strategic links to associations that drive what data centres are designed for. The DCA is currently discussing these links with Cloud, Storage, IT and Security experts and associations so that the data centre industry can get earlier realisation of trends and changes that can affect the way a data centre is designed for the long term.

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## Review of Day Two of the DCA International Conference on "Sustainable Data Centre Design and Operation"



The Data Centre Alliance holds the first of its annual two day University of Leeds Data Centre Conferences, **Dr Jon Summers** reflects on day two and the important themes raised.

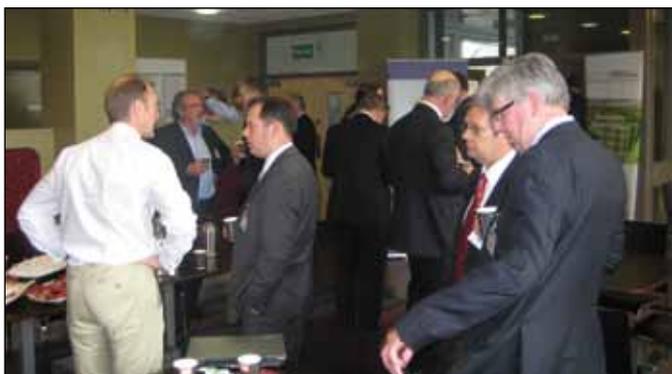
The morning session of day two was opened by Professor Jaafar Elmirghani of University of Leeds who's talk on "Data Centres, Renewable Energy and Green Communication Networks" providing a fascinating insight into energy aware networks. This was followed by Mark Seymour of Future Facilities with a session entitled "Airflow Modelling - A Tool for Managing Data Hall Configuration, What can we

learn?". Chris Scott of IBM presented "How Energy Efficiency in the data centre means cost effective computing" the debate on energy management continued with Barry Maidment of Rittal with "What really is the best cooling method for a data centre."

### The next session covered the role data centres play in cloud computing with

Paul Townend of the University of Leeds who took us through "Energy efficient fault tolerant cloud computing." Followed by Independent Fraud Management and Security Consultant, Eddy van der Hoorn's talk on "Securing the Cloud - is the data centre a potential open door."

Some "cool" technology was presented after lunch, Dr Ian Bitterlin of Ark Continuity Ltd discussed "Fluid submersion cooling of high-density server based IT loads and super-computing applications", followed by Dan Chester of Iceotope who discussed "Design considerations for commercial deployment of immersive liquid cooling in data centres" and Jon Pettitt of Munters Air Treatment with a talk entitled "Reduce data centre energy by up to 75% with Indirect Evaporative Air Coolers".



The final session provided an analysis of the design of data centres with Matthew Butler of Aecom with a thought provoking talk entitled "Is Waste Heat actually Waste" with a talk from myself on "What can opensource simulation tools tell you about improving efficiency in data centres."

## The conference closed with an Open Forum – "Future Challenges for the

Data Centre Industry" led by DCA Technical Officer Dr Shaun Smith from CS Technology Ltd. This brought together the developing themes and issues that had been stimulated by the presentations and discussions between delegates. It highlighted the need for system level approaches to data centre efficiency and the limitations of popular measures such as PUE for categorizing data centre performance.

## DCA Conference Dinner

On the evening between the two days, a Conference Dinner was held

at University House where delegates enjoyed a silver service four course meal. Debate continued over very good food and wine prepared by the University's highly rated chef.

After the conference, very positive feedback was received from the delegates, who contrasted the openness and frankness of the discussions after presentations with other industry events they had attended recently.

Delegates encouraged the conference organisers Dr Jonathan Summers and Dr Harvey Thompson from the University of Leeds, to ensure that future conferences and events have the same transparency of discussion and promote the development of an independent, 'peer-review' culture throughout the Data Centre industry. The University of Leeds will be working closely with the Data Centre Alliance to organise the second conference in the summer of 2012.

## The DCA Welcomes the European led Initiative for Data Centre Standards as an opportunity for better clarity.

Leaders of the Data Centre Alliance's standards panel met in London on the 25<sup>th</sup> August to review activities on national level standards committees and to assess what other groups, bodies and initiatives can bring to the overall DCA objective of defining the industry's own best practice for data centre design, construction and operation.

Dr Shaun Smith said "Some data centres are still being built today based around out-dated concepts, misleading information and misinterpreted definitions as to what is "best practice". This unfortunately can often lead to expensive mistakes. Amongst the confusion, there are genuine efforts within our industry that demonstrate exceptional expertise in the design, construction, and operation of critical facilities. It is the convergence of these sectional efforts that lies within the mission of the DCA. This can only be achieved by contributions from all fields within the industry. This can be speeded up by collaboration between professional groups that have already invested valuable expertise and knowledge into many areas of the subject matter."

The panel were able to conclude that the CENELEC programme for EN50600 was an important development for the industry and, if enough industry experts from the right sectors are able to contribute, it could provide much needed clarity for European data centre developers and operators. The Key opportunity for EN50600 is the breadth of scope it covers, some good work has been done in USA for example on engineering guidelines for system resilience levels, such as TIA942, BICSI002 and Uptime Institute "tier" levels, however, some areas of user concern such as data centre security is missing altogether. It is also a key objective of the DCA to focus on the operational aspects of the data centre as this is seen by many DCA members as critically important for both continuous operation of the data centre and energy efficiency. Dr. Ian Bitterlin of Ark Continuity commented "When it comes to data-centre M&E design there is a loose framework of standards, design guides, codes-of-conduct and white papers - none of which emanate from the UK and most of which come from North America. The substantial differences in normal practices and local regulations



DCA Standards Panel: L-R Lee Funnell, The Siemon Company, Dr Shaun Smith, CS Technology, Dr Ian Bitterlin, ARK Continuity.

between, say, TIA 942 and UK wiring and engineering standards can result in lack of clarity as to 'which' authority is considered to be the most relevant. The work by the DCA in trying to support the fledgling EN50600 will, I am sure, prove valuable in future. We need a European centric design guide and EN50600 need to be clear, concise and up-to-date - which can be enabled by DCA members' contributions."

The Data Centre Alliance provides the platform for anyone in the data centre industry to gain a "voice" on standards development, our full contributing members will gain the opportunity to contribute and collaborate with virtual specialist teams led by members who are represented on standards committees. DCA Director Steve Hone said "it is essential to ensure that the working methodology behind the DCA is aligned with the input of individuals who have past experience in developing standards."

The day was also spent reviewing all major worldwide groups that influence the data centre's design, construction and operation. It is intended to ensure contact has been made with all groups that can assist with work already ongoing that can help speed up the process of a unified best practice guideline and to ensure any resulting gaps that are identified receive appropriate attention. This will be the subject of an upcoming DCA whitepaper.