



Data Centre Alliance launches data-central.org - the data centres own collaboration, project and business networking platform



Simon Campbell-Whyte DCA Executive Director provides an overview of what this means for the industry.

I'm pleased to announce that the DCA has launched Data-Central.org, the industry's own online collaboration and networking platform and the first of its kind. The DCA has provided this essential tool for its members for many reasons and has been built to last with the long term needs of the industry in mind.

DCA members will by now have been issued with their log in credentials. However for those who have yet to explore the site, here's a quick overview of the features and functionality Data-Central.org offers.

Collaboration & project workspace

As the DCA engages in more R&D projects in conjunction with research councils, Universities and the industry at large, it is essential to be able to manage these securely and efficiently, Data Central provides the ability to set up "Groups" of participants with the relevant tools who are able to conduct these activities effectively.

Communication, staying in touch and getting involved

As the DCA membership has grown widely and internationally, it is important that the DCA is able to communicate effectively with its members. Data Central provides rich functionality whilst providing the appropriate privacy settings.

Member organisations can create a public profile of up to 10 pages of content including video, whilst individuals can connect and communicate easily with each other whilst linking and integrating external networks such as LinkedIn, Twitter etc.

The data centre industry is extremely fast moving and Data Central provides newsfeeds, instant chat, blogs, and site wide events calendar to stay in touch with developments and up to date with what's happening. A centralised library of information is provided for members to submit the latest industry white papers, guidelines and reports.

A democratic voice

Crucial to the effective function of an independent industry association is its ability to consult its members on important issues, Data Central provides the ability to ballot and survey its members on matters important to the industry and the direction of the DCA.

Entry point for working in the data centre industry

Through its engagement with universities and programmes of skills



development the DCA aims to provide an entry point for the next generation of data centre professionals, Data Central allows students to display their experience, training and development to industry employers via the DCA's individual "Associate" membership.

In Summary...

I hope this gives a flavour for Data-Central and I look forward to seeing you and working with you online in the very near future.

Louise Fairley gives a round up on the latest DCA events



We've certainly ramped up the events calendar for 2012. On the 12th/13th June we will be in Frankfurt for the Gartner IT Infrastructure and IT Operations Management Summit. On the 26th/27th

June the DCA is co-ordinating the Data Centre Transformation Convention, a two day

Conference hosted by the University of Leeds.

September we will be in London for two events, The Green Data Centre Conference on the 18th-20th and Big Data World Europe on the 19th/20th plus partnering for The Data Centre Management Forum in Amsterdam on the 24th-26th. For more details on all events including registration, please visit www.datacentrealliance.org/events.php

The agenda for the Datacentre Transformation Conference has been announced! Are you going to be there?

The Datacentre Transformation Conference in Leeds will be held on the 26-27 June at the University of Leeds. The modern datacentre is transforming, impacted by efficiency demands, new design concepts, legislation and IT innovation, where solutions that worked yesterday can soon be rendered uncompetitive or even obsolete. This educational event will be supported by members of the DCA and other leading vendors in the industry and be coordinated by senior members from the Faculty of Engineering at the University of Leeds.

The agenda

Speakers at the event will be drawn from a wide cross section of IT professional bodies, associations and the academic community and themed sessions will include a mix of thought-provoking keynote presentations, educational master classes and sponsoring vendor updates. Targeted at a technically biased audience drawn from the public, private and academic sectors (with associated delegate rates) delegates will hear talks on the current thinking from a broad base of speakers including renowned data centre professionals and leading suppliers.

Keynote presentations include:

● **Grand Project?** Presented by Professor Dennis Kehoe, Aimes Grid CIC

Professor Dennis Kehoe is the Chief Executive Officer of Aimes Grid Services Ltd based in Liverpool, where he was previously the Saxby Professor and Royal Academy of Engineering Research Professor at the University of Liverpool. He has specific interest in the creation of new high growth, high technology businesses emanating from cloud computing and is a non-executive director of a number of technology start-up and spin-out businesses created from the Aimes Centre at the University and was formerly a director of the North Liverpool Academy Trust and Chairman of the Board of Aerogistics Holdings Ltd. He is currently Chairman of Opticare Ltd and Chairman of Containerport Ltd and has led a number of major research and development projects funded by the UK Government and the EU.

● **The Future of Data Centres.** Presented by Dr Ian Bitterlin, Ark Continuity

With a BA Mathematics, a First Class BSc(Hons) Technology, a postgraduate Diploma in Design & Innovation and an Honorary Doctorate in Management, Ian's long engineering career has taken him from the design office through site installation, design, service and sales to management. Since 2001 appointments include VP EMEA and AsiaPac for Active Power, International Sales Director for Chloride, CTO of Prism Power and in 2011 CTO of Ark Continuity, a developer of low-carbon critical infrastructure data-facilities. Ian is an active author of technical papers on critical power and cooling with presentations and keynote speeches made in numerous European and conferences worldwide. He is also the co-author for the CIBSE publication Guide K, Electricity in Buildings, in two chapters, UPS Systems and HV Switchgear, sits on the expert panel for the new data-centre standard, EN50600, the Data Centre Council of the UK ICT Trade Association, Intellect, and is a Member of several UK Engineering Institutions, including CIBSE, IET, BCS and the BIFM as well as the IEEE and DCA Technical Director covering Power Distribution for The Data Centre Alliance.

Designing for demand to reduce opex



Correct system design methodology is essential in order to reduce operating costs, says Airedale UK sales director Paul Oliver.

There is no one ideal solution for data centre cooling. The actual demands of a data centre fluctuate on a daily basis and are nearly always lower than the maximum design figures. Some never reach their maximum design parameters.

Measuring efficiency

The accepted measure of efficiency for a chiller is ESEER (European Seasonal Energy Efficiency Ratio). The average chiller loading works out to be 54% of its full load and the temperatures under which it is measured only represents 7% of the typical UK ambient hours. Whilst this loading profile may match comfort cooling applications, few if any data centres will have these loading characteristics. Because the demands of the data centre are now higher densities at higher operating temperatures, it means that the traditional chilled water temperatures of 7°/12°C are no longer appropriate and we are more likely, to use chilled water at around 14°/19°C.

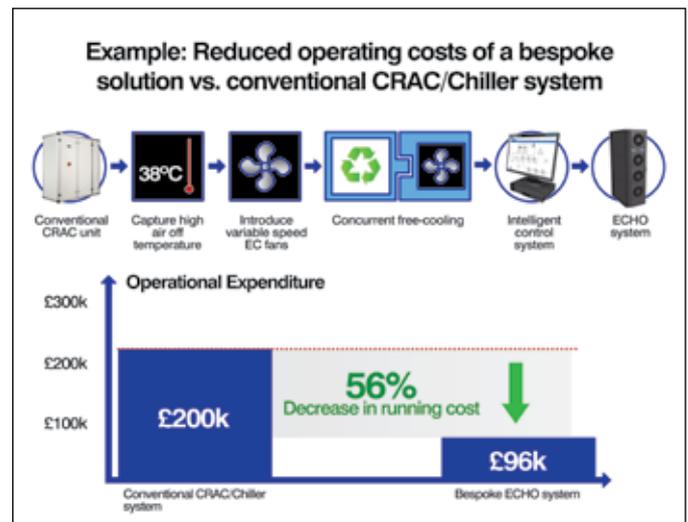
Selecting a chiller based on its ESEER rating only, without further considering its actual annual overall energy efficiency including its ability (or not) to meet the cooling demand with concurrent free cooling, is not appropriate. In the following example, two chillers are run at 7°-12°C:

- 400kW conventional chiller, ESEER of 4.1, cost £35k, energy consumption £53k p.a.
- 400kW free-cooling chiller, ESEER of 4.0, cost £48k, energy consumption 28k p.a.
- The increased cost of the free-cooling chiller, £13k, is paid off in less than two years.

When run at 14°/19°C, the free-cooling chiller is repaid in six months.

Efficient design

Resistance of air movement in data centres is a demon. More air means higher velocities, more resistance and an increase in the power requirements of the system fans – which are a significant consumer of power in the data centre. EC fans consume power in relation to the cube of their speed. So a fan running at 80% speed uses 51% of the power of a fan running at 100%. A good quality EC fan fitted to an 80kW chilled water CRAC unit will cost approximately £3.4k p.a. to run. A poor quality fan badly selected and applied would increase the running cost by over 75% to around £6k p.a. It is usual to supply CRAC units on an N+1 basis but historically, the standby unit has remained dormant for long periods. In a system comprising four run units and one standby unit, it is much more efficient to run all five units at 80% airflow, than four units at 100%. This scenario alone



Reduced operating costs of a bespoke solution vs. conventional CRAC/Chiller system

would reduce the fan power consumption by around 49%.

Integrated free-cooling

Rising temperatures in the data centre give greater opportunities for free-cooling. The opportunity for free-cooling is present when the ambient temperature is below the room operating temperature, i.e. 98% of the UK ambient year (London, UK). The best free-cooling chiller systems bring together concurrent free-cooling and mechanical cooling, enabling free-cooling to be captured whenever the ambient is below the return water temperature. Non-concurrent free-cooling chillers require a very low ambient temperature to operate and whenever free-cooling cannot deliver 100% of the required capacity, free-cooling is sacrificed and completely replaced by mechanical cooling. Some free cooling systems will only operate for less than 2.5% of the UK year and will actually cost more to run than a conventional chiller system.

Bespoke solution

When increased temperatures are combined with medium/high density loads; concurrent free-cooling; variable speed fans and clever, dynamic controls to create an intelligent, bespoke system, real end user benefits can be achieved in reduced power usage in the region of 56% and payback of the increased capital costs of the system retrieved in less than a year.

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