

## ComputerWeekly – Measuring the Data Centre's Green Power

By Clive Longbottom, Service Director, Quocirca Ltd

Recent Quocirca research shows that few data centre managers know how much power their data centres are using - which makes it difficult for them to come up with a well-constructed plan to optimise power consumption and enhance their "green" credentials. Even those who have access to the power bill do not seem to have any granular breakdown of how that power is being used. With data centres representing the greatest energy spend for most large organisations, such a lack of visibility should not be allowed to continue.

A company that is looking to address this issue is Server Technology, Inc. - not the most descriptive of company names, but a company that provides a very simple but effective means of identifying what power is really being used where and by what. As a company, Server Technology is focused on providing equipment for monitoring and managing power within data centres, and a major part of the company's portfolio is based on what it calls CDUs (cabinet distribution units) and PDUs (power distribution units).

CDUs and PDUs are essentially power distribution strips consisting of multiple standard International Electrotechnical Commission (IEC) or National Electrical Manufacturers Association (NEMA) sockets enabling multiple electrical devices to be plugged in to a single strip - in other words, they look and function pretty much like a multi-socket electrical extension lead.

However, Server Technology's CDUs provide the capability to directly measure the amount of power that is being consumed by a chassis or an individual piece of kit. This measurement is of the true power being used by the equipment, and as more kit is added to a chassis or frame, its impact on the cumulative power can be easily seen through a highly visible LED readout, or via a remote feed capability.

All very simple and useful in seeing what power different pieces of equipment really draw, rather than just reading the tag on the back that gives a nominal power value based on a fully loaded system, plus a bit for good luck. Data centre

managers who use the additive power tag approach will find that their backup power systems may well be well over-architected for real needs. This can have massive knock-on effects - if you believe that your backup capability is nearing its limits, you will be loathe to add new servers to the data centre, or will look to prioritising what equipment has to be left to fail to leave power for mission critical areas. All a bit of a palaver when you find that in reality, you're only running total power of 60% of your rated backup capability

But Quocirca believes that such measurement can have a host of other uses. For example, your current air conditioning in the data centre is probably sized to cool the nominal heat output of the sum total of the power shown on the visible tags on kit. This will generally be well over the true value, as average loads on pieces of equipment will not be as much as the tag shows, and ancillary equipment may not have tags to read at all. Therefore, you may be running your air conditioning too hard for the real need - and this has high costs associated with it.

How about equipment lifecycle under a green data centre approach? Through a full understanding of what power is being drawn by older equipment, plans can be put in place for older equipment to be replaced by new, more energy efficient kit when it best fits - not just because of some gut feel.

And for cross charging, it becomes possible to identify exactly what power is being used by workloads that are dedicated to specific servers - and so the business unit responsible can be charged for that usage. One aspect of this is that the business units may well take a decision to change its approach to lower its power bill from the IT department, so improving the business' green credentials further, and optimising power utilisation within the data centre itself.

Only by fully understanding the real power draw of equipment within the data centre can a base line be created so that plans for improvement can be made. Only knowing what the real draw is can lead to the optimum cooling approach

being created. Knowledge of what current loads are will provide the information you need to manage the lifecycle of your backup power systems, and not jump too soon to new equipment.

Through such a simple approach as using these CDU power strips, data centre managers can gain true visibility as to their energy usage - and do something about it.

### **About Quocirca**

Quocirca is one of Europe's leading independent industry analyst firms. One of its biggest assets is the core team of highly experienced analysts drawn from both the corporate and the vendor communities. This team prides itself on maintaining a bigger picture view of what's going on in the IT and communications marketplaces. This allows all of Quocirca's activities to be carried out in the context of the real world and avoids distractions with fads, fashions and the nuts and bolts of specific technologies. Quocirca's focus has always been the point of intersection at which IT meets "the business".

### **Quocirca Services**

The insight and experience that comes from working as an industry analyst as well as a practitioner allows the Quocirca team to contribute significantly to IT Vendors, Service Providers and Corporate clients. To this end, it provides a range of consulting and advisory services. Details of these, along with some of Quocirca's latest analysis, may be obtained by visiting <http://www.quocirca.com>

Quocirca also provides bespoke primary research services through its daughter company QNB Intelligence. This involves interviewing thousands of senior decision makers on a quarterly basis.