



2009 - real limits to datacentres?

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The global credit crisis is making financial companies cut back, and one effect is to limit the investment in new data centres. With demand still rising, as it must, almost in spite of any economic downturn, some people are predicting a crisis in data centre availability in the next two years....

A crisis in datacentres availability could hit in the next two years, as the problems of financing them hits home and reduces the available facilities. Digital Realty Trust, which has properties located in 26 metro areas across North America and Europe says that customers have no choice but to expand, but the space may still run out. And even those centres with green features, supposedly in demand by clients are finding it hard to use them, citing lack of tools and performance issues.



“Certainly, demand continues to be strong and by all indications, the datacentre facilities for many corporations really are not discretionary. They are required for continued productivity and continued expansion of the businesses, and I think they cut across virtually all vertical markets,” says Mike Foust, CEO of Digital Realty Trust.

But in a market that continues to be significantly underserved by independent research, it says it has analysed the top markets and found that some 86% of respondents in the 2008 study noted that they will probably expand their number of datacentres in the next 12 months. This indicates an active phase of datacentre expansions during the second half of 2008 and first

half of 2009.

Then, it found that some 45% of respondents plan to expand in three or more locations. This is an increase of nearly 20% over the 2007 result indicating that the scope of datacentre projects has increased along with the number of projects. Thirdly, the planned square footage requirement for an average expansion site has risen 50%, from 10,000 feet in 2007 to 15,000 square feet in 2008, another indication that the scope of datacentre projects has increased significantly in the past year. Power availability is a common limiting factor in expansion plans.

But the irony is that, even when the power saving features are available, they aren't used. In the latest ARI study, 74% of those surveyed refused to activate power saving features on devices if it would mean a drop in overall performance. While some 37% are concerned that the power/performance ratio doesn't add up, 15% say that they have no way to track whether the power saving setting is on or off. Nearly half (48%) of those surveyed blame business issues for not using power-saving features, saying that users wouldn't tolerate

a drop in performance in the interests of saving power.

When it comes to procurement, energy efficiency and ease of disposal are the lowest priorities, rated as less significant than brand and price, says the ARI study. Some 37% of data centres have no plans to measure energy efficiency, and 76% do not charge the business for the power used by the IT side. One reason for that is a lack of infrastructure for measuring power consumption, ARI says.

Steve Yellen, Principal of the Aperture Research Institute, comments: “Although many organisations have made a commitment to cutting their environmental impact, when it comes to the data centre, most lack the tools and processes they need if they are to deliver on that promise. The number



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one cause of increasing power consumption is an increase in demand for IT services, so business managers must be made accountable for the energy their applications consume. Only 24% of organisations we surveyed said the IT department charges the business for energy use. They simply don't have the technology to be able to implement the management processes they need."

But demand is still rising. DRT's own research finds:

"The results of this study confirms what our team is already experiencing in the market, which is that demand for datacentre space is increasing and being driven by the growing IT infrastructure needs of companies across all industry sectors. Despite the challenging economic environment, companies are still making significant investments in IT infrastructure, reporting the critical needs of these assets for today's corporations," says Mike Foust.

"The findings of this US-based study are consistent with those from a study of the European datacentre market that Digital Realty Trust commissioned in late 2007. We will be conducting a follow-up European study later this year, and we expect to see strong metrics once again"

The current turmoil in finance is obviously having an effect.

Bill Stein, CFO of DRT: "Liquidity continues to be a significant concern for real estate companies as access to capital has become increasingly constrained over the past year. We believe that we have sufficient capital to fund our current acquisition plans and redevelopment program for the year, when offset against our planned activities in the debt markets."

But other datacentre providers may not be so lucky, and the result could be a shortage of space in the next two years. In Europe, DRT is expanding strongly and is in various stages of due diligence and documentation on two standalone secured financings. The first transaction is for a datacentre facility located on London's perimeter. Estimated proceeds range from £50m to £55m with a five-year term and an interest rate in the range of 6.5% to 6.75%. The second transaction involves two datacentres located in Dublin.

Digital Realty Trust also reported that it has multiple projects under way in the European market, including three in London, one in Dublin and one in Paris. This growing prevalence of large data centres for web-based operations has been noted by industry analyst Gartner. The research organisation has published figures that detect an increase in such installations amid an overall acceleration in server shipments over the first quarter of 2008. Revenue during the three-month period increased by 4.3%, while individual server shipments were up by 7.6% over the quarter.

www.digitalrealtytrust.com

Economics rule datacentres

We're already seeing the centres hit the limits of density even with low power technology. Rental and leasing still make up most of the cost of running them in Europe. Will economics and the limited availability of power at the right levels force data centres to use lower energy settings? Steve Yellen, VP Product and Market Strategy, Aperture Technologies, says: "There is indeed a problem here, but it's not just one of scarcity: it's also a problem of managing the limited resources that are available. Surveys conducted by the Aperture Research Institute (ARI) on over 100 data centre professionals have shown that many are not adequately managing the power density of their racks, with an alarming 21% unaware of their maximum power density per rack. When management processes are inadequate, there's a clear trade-off between density and reliability. 26% of those surveyed said they had suffered outage as a result of PDU, breaker or power strip problems and 22% said they'd suffered downtime caused by overheating."

Data centre management is conservative by nature, and will be reluctant to rely on unproven technologies, such as low power settings, even in these circumstances, he says. Low power settings are too much of an unknown quantity. It's tempting to think that low power settings can solve the problem of limited capacity, but the reality is that datacentres need to have more robust processes in place to manage power and cooling. "This becomes exponentially more important as the datacentre nears its capacity limits, and the risk of outage from human error increases. Low power settings would at best postpone an impending problem if not coupled with better management. In the meantime, we'd expect to see datacentres deploying low power devices experimentally. Over time, we expect them to increase the use of low power settings in line with management's understanding of their capabilities, risks and limitations. And as the devices improve over time, the performance penalty will drop, making them a more effective and desirable solution." www.aperture.com

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We've heard this from other sources, though, as DRT says, accurate figures are hard to come by. One answer is to watch those who do know about this market and the likely demand in future across Europe. Look at HP, look at IBM, and look at what Gartner is saying about the size of these centres. Now might be a good time to start looking at your client's plans.