



## Changing Lanes: Top Drivers of Today's Data Centre Roadmaps

The data centre has gone through several major evolutionary changes over the past several decades... from the mainframe era to client/server computing, and then on to the virtual data centre. And the changes keep coming. Kevin Leahy, Dimension Data's Group General Manager, Data Centre Business Unit, believes there are a number of chief driving forces that are – or should be – shaping CIOs' data centre strategies. These forces are the result of several prevailing macro-economic, geographical and developmental shifts: location, policy and automation and cloud communities.

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## Location, location, location

For many businesses, data centre location is a thorny issue, explains Leahy.

“Right now, many organisations are in the process of upgrading sometimes 20-year-old data centres, and the ideal site for the new data centres is not always immediately obvious. Since the original facilities were constructed, decades ago, the business may have entered new geographies and markets or expanded through a series of mergers and acquisitions. “Globalising is accelerating the pace of business change,”

he explains.

“The locations in which businesses are looking to operate are growing, many are seeking to enter into entirely new markets or even operate on a global scale, in order to remain competitive and enhance profitability. This wasn't something a data centre professional needed to worry about a few decades ago.”

A new breed of consumption models is making globalisation aspirations achievable. Cloud computing has emerged as a way to embrace globalisation without necessarily establishing new data centres in the new geographies you're looking to enter. Take, for example, a Western European university that might be looking to sell its education services in Singapore. Serving students from the other side of the world might not immediately appear feasible, but thanks to cloud computing, today the institution could realistically pursue this opportunity by running this section of its business school out of a public cloud facility based in Singapore.

“Data centre professionals need to factor their organisation globalisation plans into their data centre strategies and consider how cloud-based models can enable expansion into new markets and territories,” says Leahy.

Risk is working its way to the top of the list of considerations regarding identification and selection of the optimal data centre location. Following recent earthquake activity around the globe, for example, the wisdom in moving primary facilities away from areas with high levels of seismic activity needn't be spelled out. Meanwhile, as a result of the ever-increasing cost of energy, a number of businesses are eyeing with growing interest geographies where energy is both affordable and renewable.

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explains Leahy.

“Then there's also the notion of ‘following the sun’, in other words, being able to automatically direct workloads to the data centres where energy is less expensive. Almost everywhere in the world, at night energy is cheaper.”

The network is also relevant to the matter of data centre location, according to Leahy.

“While access to highly available network facilities and adequate bandwidth have always been ‘must-have's’ for effective data centre operations, today, networking costs, quality, latency and availability have jumped up to number one or two on the list of considerations. Amsterdam, for example, is receiving significant levels of interest, as it benefits from greater access to physical space compared to many major cities and, more importantly, is the closest city to AMS-IX, the fastest Internet exchange in Europe. The country is emerging as a popular data centre facility setting, and is seeing the highest take-up among European tier-one markets.”

Leahy believes that today's data centre location plans also need to heed the advent of ‘big data’ and the new sources from which businesses are obtaining data.

“Today, businesses are collecting data from places and devices never before imagined. For example, it's becoming common for utility providers to station smart grids or meters in consumers' homes, which monitor usage patterns. This has resulted in a fundamental shift in terms of questions such as: Where's my data coming from? What data am I going to keep? What data will I share with others? The rise of big data and analytics therefore fundamentally influences decisions in relation to where you build your data centre, or even whether you build one at all – and instead participate in a shared or cloud-based facility,” explains Leahy.

“In days gone by, you'd station your data centres in close proximity to your knowledge workers; today it may make more sense to locate them close to where the data itself is being gathered.”

The notion of opex versus capex models, is also an important factor in charting your data centre journey, and selecting the most appropriate location.

“If you see merit in moving to a cloud-based, pay-as-you-go operating model, does it make sense to put it in a facility that's going to remain on your books as an asset for 20 years? On the other hand, if you put your data in a cloud provider's data centre, then it's truly running as an operating expense,” says Leahy.

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## Opportunity knocks: policy and automation

Leahy believes that some businesses may be overlooking the importance of a strong focus on policy and automation.

“As businesses move ahead on their next-generation data centre journeys, it's important that they think long and hard about what needs to be done differently. How can technology advances be exploited for the benefit of the business? If, for example, I opt to virtualise my desktop, what additional data centre space will be required? Are there workloads that could be better run in the cloud or in a third-party facility? Can I revisit my policies and automate my system so that, for example, I can redirect capacity and resources to alternative workloads on weekends and public holidays? How do you automate your workloads to direct usage to areas where energy is cheapest, depending on the time of day?

Leahy cites an example of a major tax authority that identified it could save thousands of dollars a month by isolating its customer online self-help environment and placing it in a public cloud. Originally, the organisation assumed that, as a financial services operator subject to stringent governance and privacy regulations, using public cloud facilities was simply not an option. However, it was pointed out to them that online customer self-help activity, which represented 40% of its overall workload during the busy tax season, didn't involve the sharing of confidential data, and could indeed be operated in a less expensive public cloud environment for which the organisation would pay only during a few weeks of the year.

## Cloud gets communal

While the concept of community clouds is not new, Leahy believes that the true value that organisations can extract from community cloud constructs remains largely untapped.

“Community clouds involve more than just sharing infrastructure and computing power among affiliated organisations in a public cloud environment... they hold immense potential to facilitate sharing of intellectual property, best practice and enhance collaboration and productivity. Consider for example, how much more quickly and effectively a complex medical diagnosis can be made if a single radiology image can be shared in real-time among a geographically dispersed team of experts – as opposed to it residing in a single, on-premise hospital data centre”, he says.

The rise in popularity of community clouds is influencing many organisations' thinking regarding their data centres.

“If you decide you're going to participate in a community cloud, you need to decide whether all participants will build a single facility – and benefit from the associated economies of scale – or alternatively make use of a co-location environment. If, on the other hand, you elect to use your own data centre, you'll need to ensure that it has access to adequate bandwidth so that all community members can participate and communicate with one another effectively,” cautions Leahy.

## Data centre dynamics

These are dynamic and exciting times for data centre professionals. Data centre projects are traditionally long-term, multi-year investments. That's not to say, however, that they should be progressed in isolation of – or without taking cognisance of – emerging pressures and trends. Such projects need to be regularly revisited and their progress assessed in the context of whether their ultimate outputs will indeed serve the business' needs as well as originally anticipated.

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