Opportunities and threats for colocation providers around the globe

A peer-to-peer roundtable report
sponsored by Schneider Electric

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Executive summary

Colocation providers are dealing with market forces that represent both great opportunity and significant challenge – in some cases from the same development. Providers have to deal with an ever-changing set of buyers, with CFOs and COOs playing an increased role in the decision-making. And they need to address emerging trends such as the Internet of Things and cloud computing, which can have both a positive and negative impact on their businesses.

Providers are grappling with the best way to respond to all these developments, including how to find the best path for growth and survival, the most effective data center architecture, and the best tools to ensure their data centers run reliably and cost-effectively.

These were some of the issues that came to the fore during a roundtable discussion with colocation company executives gathered in Miami in November, 2015 for a daylong discussion of industry trends sponsored by Schneider Electric. Participating were some 30 executives from 16 countries, including Argentina, Australia, Colombia, France, Mexico and Russia.

The event was the 2nd annual International Colocation Club event, following a similar event in Paris in December 2014. Some of the issues remain the same, including the impact of Internet Giants and cloud computing, both of which most colo providers agree represent opportunity. And, like last year, this year's gathering also focused on the most appropriate data center architectures of the future, with the watchword being flexibility.

The Miami roundtable followed a presentation by Bob Gill, Research Director in Gartner's Data Center Strategies Group. Seven of the "colocation megatrends" from his presentation formed the basis of the roundtable discussion:

- The changing face of the colocation buyer
- Industry structure, including mergers and acquisitions
- The Internet of Things and big data
- Edge computing
- Cloud computing and Internet Giants
- The impact of data center infrastructure management (DCIM)
- Data center design architectures

In the pages that follow, we'll look at each in turn.

Adapting to the changing face of colo buyers

Whereas once colocation providers typically dealt with procurement or facilities professionals, today the decision maker may be an IT manager, CIO, business unit executive or even chief operating officer (COO) or chief financial officer (CFO), depending on the business requirement

Additionally, a new role has also emerged in recent years and is becoming more and more important, the Chief Digital Officer (CDO). The CDO oversees the full range of digital strategies and drives changes across the organization. He is more and more part of the decision process when it comes to colocation services.

The Many Functions of a Chief Digital Officer

The emerging role of Chief Digital Officer is one of many that colocation providers must be prepared to deal with.

"Today the CIO has more sense of what the business is trying to achieve than ever before," "It is not about technology only."

Knut Molaug,
CEO of Green
Mountain Norway

With all these roles to contend with, colocation providers need to expand their array of buyer personas, and be capable of talking to each audience in terms they care about, with offerings that address their specific need. That may mean building or acquiring additional pre-sales and sales expertise.

It also means being able to speak in business terms, not just technical – even when talking to a CIO. "Today the CIO has more sense of what the business is trying to achieve than ever before," said Knut Molaug, CEO of Green Mountain Norway. "It is not about technology only."

In some instances, such as when dealing with CFOs and business unit leaders, presenting a strong value proposition with facts, figures and success stories will be important.

The type of company that buys colocation services is also changing, some attendees noted. For example,

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[1]IDC FutureScape: Worldwide CIO Agenda 2015 Predictions.

whereas 5 years ago a UK bank would never consider colocation services, today it's common among financial services firms in Northern Europe.

Expectations are also different depending on what vertical industry the customer comes from. However, messaging around efficiency and sustainability has become important all around the world.

Industry structure, including Mergers & Acquisitions

Just as customers are evolving, so are colocation companies, which are positioning themselves in different segments, whether wholesale, retail, carrier or regional provider.

Mergers, acquisitions and partnerships among colocation companies are likewise changing the competitive landscape. As a result, colo companies often have to position themselves as either a "David" or "Goliath" company. The Goliaths are larger companies that have grown by acquisition while the "Davids" position themselves as boutique providers that offer more personalized services.

Opportunity lies in moving to adjacent segments to those a provider is already established in, to enlarge the opportunity pool. Companies can also acquire or get acquired to expand their footprint, or partner with others that offer similar services to expand geographic reach.

Providers need to determine where they fit in the regional or national hierarchy of colocation companies, and then look for partners that can help them grow.

"The best way for larger companies to differentiate is to offer a breadth of services," said Dax Simpson, Infrastructure Director at Kio Networks Mexico, "Sometimes forming a partnership is the fastest way to expand your service offerings as well as your geographic reach."

The Internet of Things (IoT) and big data

Colocation providers would do well to position themselves to help customers deal with the opportunities and challenges that the Internet of Things and big data present, which are many and varied.

Source: IDC, IDC's Worldwide Internet of Things Taxonomy, 2015,#256186, May 2015
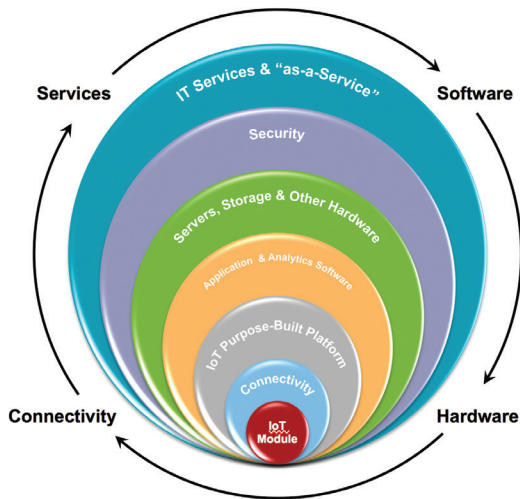
IoT impacts multiple layers of the IT solution stack:
- Infrastructure, meaning compute power and data storage
- Middleware, including IoT protocols, integration and platforms
- Logic and data, including applications, data analytics and business process management

Colo providers are well-positioned to help clients make the right investments in new IoT solutions and to help them renovate their existing IT systems for IoT projects.

Opportunity also exists in helping enterprises build their own IoT networks to collect data from sensors, cameras and other end points. Often the data will be aggregated at different collection points and then sent to hyper converged systems in a data center, where it's analyzed to deliver business value.

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> Dax Simpson, Infrastructure Director at Kio Networks Mexico

Data can provide information needed to operate more efficiently, effectively and safely. Predictive analytics solutions allow prioritizing maintenance activities while reducing operational and maintenance expenditures.

But efficiency is not the only advantage. Today, businesses can turn large quantities of data into actionable intelligence that directly affects their bottom lines.

It's a challenging environment because it involves dealing with data coming from thousands of disparate devices located all over the world, which means a massive amount of data aggregation. In many cases, the traffic is erratic in nature, with bursts of activity at some times and only a trickle at others. That makes capacity planning a challenge on both the network and compute sides (which makes IoT a natural fit for cloud computing, as we'll discuss below).

"We see significant opportunity in IoT and big data," said Marcio Lotto, Head of Data center and Managed Services in Telefónica Business Solutions. "Few enterprises have the resources and reach to set up an effective IoT network and deal with all the resulting data. Telefónica is also a Colocation and Cloud provider and we have the expertise and the resources, so we're in a great position to help."

Edge computing

The IoT and big data are also driving a need for edge computing, which attendees agreed is another big opportunity for colocation providers.

Edge computing involves moving data acquisition, compute and storage resources closer to end users. Edge devices sit at the logical end point of a network, whether the public Internet or a private network, as part of a larger cloud computing architecture.

In the case of IoT, edge computing platforms distribute loads closer to the devices that are producing data, to reduce latency. As such, it involves a series of smaller, distributed data centers (see Figure 1).
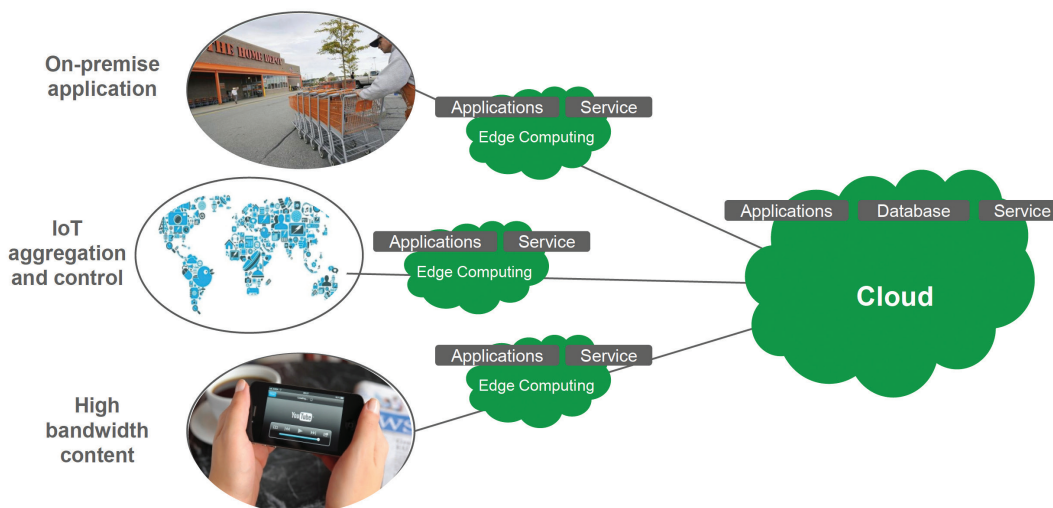
Edge Computing Provides a Bridge to the Cloud

Figure 1: Edge devices and data centers sit at the periphery of a cloud computing network, close to end users, and are crucial to an Internet of Things environment.

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Consider an IoT network with thousands of sensors spread all over a country or even multiple countries. Rather than have them all send data to a single central location, it's more efficient to establish a number of regional, or edge, locations to collect and massage the data before sending it on to a central data center.

Such a setup helps address not only latency but also the sheer amount of traffic now flowing over our networks. Cisco estimates global IP traffic increased more than fivefold from 2010 to 2014 and will increase nearly threefold by 2019. Overall, IP traffic will grow at a compound annual growth rate (CAGR) of 23 percent from 2014 to 2019. Put another way, global Internet traffic in 2019 will be equivalent to 64 times the volume of the entire global Internet in 2005.[2]

All that traffic is driving the need for content delivery networks to more efficiently handle it, in much the same way that edge computing helps more efficiently handle IoT and other large, distributed computing environments.

Distributed colocation centers are ideally suited to act as edge data centers. What's more, roundtable participants agreed edge applications and the way they interconnect with other sites creates a high degree of "stickiness," which is another plus for colocation providers.

"There's a cultural aspect as well, at least in France, where enterprises like to have their data near their business," said Olivier Micheli, CEO of Data4. "The trend is generally to have edge computing data centers nearer to the end users, which means we need more decentralized data centers. That's creating good opportunities for colocation providers."

Edge data centers are also ideal as on- and off-ramps to cloud computing providers, attendees noted.

Cloud computing and Internet Giants

Cloud computing prompted some lively discussion at the roundtable. Whereas it can be seen as both a threat and an opportunity to colocation providers, most agreed all have an important place in the data center ecosystem.

As mentioned above, cloud is a natural fit for IoT implementations because, due to its elastic nature, it's able to more easily handle the variation in traffic levels. Cloud implementations also offer the capacity for compute-intensive tasks such as data analytics that are prevalent in IoT environments.

The question for colo providers is, do they offer cloud services themselves, partner with cloud providers or simply provide the infrastructure for cloud providers to use. Roundtable attendees see colocation providers fulfilling all of these roles.

On the one hand, they are ideally suited to offer the infrastructure that large cloud providers need, including Internet Giants like Amazon Web Services and Microsoft Azure. This is especially true as these large players seek to extend their reach into new markets where they don't yet have data centers. Colo providers can satisfy Internet Giant goals around energy efficiency as well as low latency and security.

Whereas some roundtable attendees see Internet Giants as a threat, others see them as a potential partner, in the sense that colo providers can resell the giants' cloud services to their own customers. Opportunities for colo providers include cloud providers as tenants as well as providers offering private and public cloud services, access to cloud services, and software-as-a-service (SaaS) offerings.

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[2] Cisco Visual Networking Index: Forecast and Methodology, 2014-2019 White Paper

The overarching challenge for colo companies is to understand cloud not just as individual pieces of technology, but how they play together in different combinations, and how some of the elements can compete with others. Those who understand the problems their customers are going through, how to solve those problems and how to sell the solutions to those customers will provide the most value.

Another point of discussion was hybrid IT, also known as hybrid cloud, which is a technique in which an enterprise uses both in-house and cloud-based services to fulfill their IT requirements.

"Hybrid IT is what we believe to be the next driver of colocation requests. Companies need to have a data center, as well as on-demand cloud services," said Robert C. Vermeulen, CEO of E-Commerce Park in Curaçao. "The simplicity of the public cloud with the security and stability of a data center is a great asset."

The impact of DCIM

In terms of how they manage their data centers, roundtable attendees clearly see DCIM playing an increasingly important role both for their own internal use and to provide value-added services and reports to customers.

By embracing DCIM, organizations can bring consistency, predictability and control to operational metrics while also improving service assurance. DCIM provides the integrated framework and automated formulas needed to convert metrics into meaningful analytics. From centralizing data collection, managing physical capacity and assets, and integrating with critical IT management applications, DCIM unifies the processes, tools and raw data needed to provide an accurate view of data center performance across both IT and facilities.

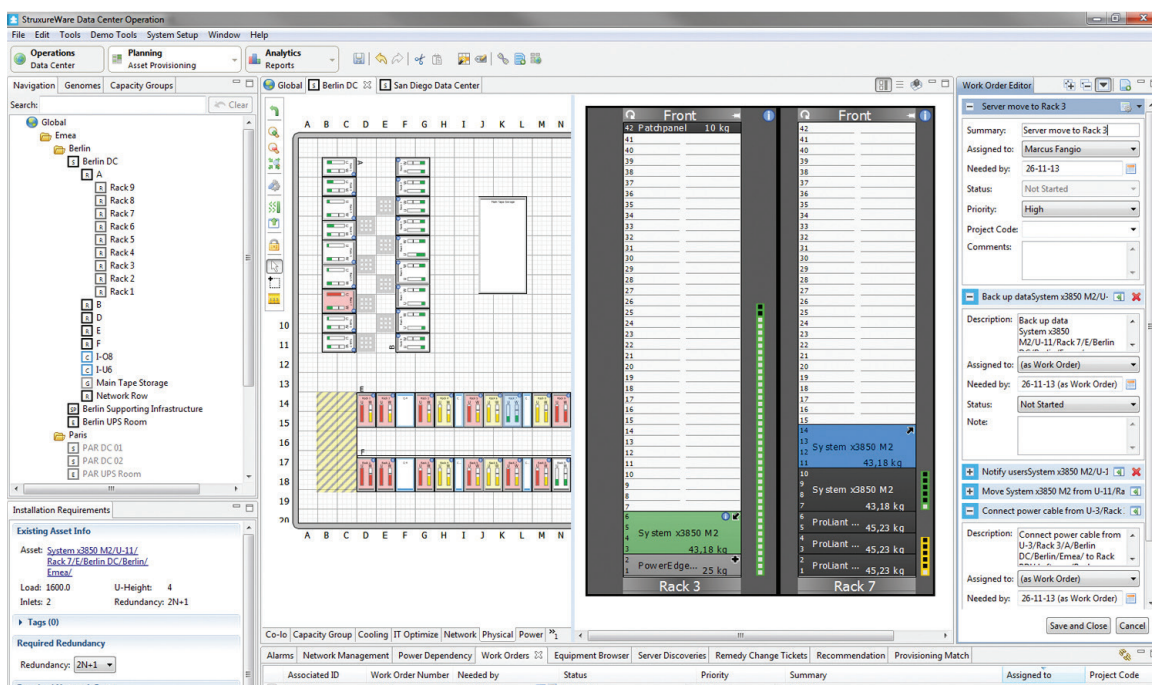### DCIM: A Powerful Tool for Colocation Provider Data Centers

Figure 3: A sample screen shot from the Schneider Electric StruxureWare Data Center Operation console illustrates how DCIM systems can be used for real-time simulations, which leads to improved performance and lower costs.

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DCIM gives multi-tenant environments access to advanced power and full infrastructure monitoring. With complete visibility from the building to servers, data center managers can manage all operations from one screen.

"Enterprise customers tend to be under-staffed, however increasingly need intelligent management services and in-depth reporting on their colocation environments," said Peter Hensen, Chief Technology Officer at CDC Australia. "DCIM helps us provide those services, which make customers confident in the services provided, while offering additional opportunities and revenue for us."

Providers may offer reports such as statistics on data center operations and the physical location of servers, along with updates on the environment, including power usage effectiveness (PUE) as well as power and cooling consumption. They could provide "power reports" that provide a high level view of the facility and enable customers to drill down on specific areas.

Providers could also offer a customer portal through which customers could get whatever reports they like on their own.

Data center design architectures

Keeping up with requirements such as edge computing and cloud will require resilient, flexible data center designs going forward. That said, roundtable attendees did not feel that cloud demanded a specific type of data center architecture.

The idea is to architect for flexibility, such that a single colocation data center can cost effectively address a broad set of customer use cases. Threats to that capability include stranded data center capacity due to a lack of power or cooling, and limited offerings that make it difficult to acquire new customers.

To address these issues providers need to consider data center density both at commissioning and over time and be able to support mixed density rows. That connotes a modular approach to data center design that enables a provider to add capacity as demand warrants, rather than over-building out of the gate.

"We have noticed that the prefabricated data center solutions are very rewarding and will allow us to grow along with demand," said Mario Graci from Telefónica in Argentina. "It is optimizing most of the resources provided by this technology and generating extensions supported through the growth of our market; we believe this is the next trend, why our company is interested in this business."

Employee safety was another issue raised by roundtable participants. As data centers get larger and operate at higher power densities, safety is becoming more important than ever. Colocation providers need to have a commitment to training and to using method statements as a communication tool, to ensure employees follow proper procedures. They need to verify conditions are safe by conducting periodic audits and supporting standards and best practice procedures.

Providers likewise need to consider the degree of resiliency their data centers should offer, which requires an assessment of the target customers and their requirements. It also requires rationalizing the degree of resiliency vs. density, since a high-density, highly resilient data center will obviously cost more than a low-density, low resiliency one.

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Conclusion

As the roundtable made clear, there's no doubt colocation providers face challenges in building highly resilient, cost-effective data centers that can address the various requirements and opportunities discussed in this paper. But it's equally clear that there's no shortage of solutions available to help them.

About Schneider Electric

Schneider Electric is the global specialist in energy management and automation. With revenues of ~ 27 billion in FY2015, our 160,000+ employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives. At Schneider Electric, we call this Life Is On.
www.schneider-electric.com

Schneider Electric has a leading DCIM package in its StruxureWare offering, including a version specifically designed for colocation providers, along with a bevy of data center reference architectures and modular, prefabricated data center solutions, switchgear, electrical distribution systems, racks, cooling systems, intelligent UPSs, PDUs and more. We've also got the expertise to manage projects end-to-end, adapting reference architectures to meet business requirements.

To learn more, visit the Cloud and Data Center Service Provider Solutions area of our global website. You'll learn about the work we've done with other colocation companies and the solutions available to help you build resilient, flexible and profitable data centers.

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About Schneider Electric Colocation Club

The Schneider Electric Colocation Club was created in France a few years ago and federates colocation actors together to exchange ideas and opinions around their market challenges and business experience.