Top 10 Predictions

Asia/Pacific (Excluding Japan) Datacenter Market 2014 Top 10 Predictions

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PREDICTIONS

The datacenter markets in Asia/Pacific are under massive pressure. From the emergence of cloud computing to the demands of the business for relevant information, datacenter managers are under increased competitive pressure. Updates in technology and ongoing security threats are added to the equation, and this is a part of the IT ecosystem that needs to become an epicenter for efficiency, innovation, and predictability – not an easy task to accomplish. As a result, IDC Asia/Pacific has identified the following 10 areas that we believe will be most poignant in the next 12 months:

1. Software-Defined Confusion Will Reign
2. Automation Will Increase – But Not So Obviously
3. Divergent Datacenter Designs Will Define Markets
4. Datacenter Telemetry – A Facilities Opportunity in the Making
5. More Government Subsidies for Datacenters Will Emerge
6. End Users Will Know Less
7. Security Concerns Will Simply Not Go Away
8. Staffing Issues Will Continue to Be Problematic
9. Deep Pockets Will Define Markets
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This study examines the top 10 issues that IDC believes will have the most impact upon the datacenter markets in Asia/Pacific (excluding Japan), or APEJ, markets in 2014.

SITUATION OVERVIEW

2013 was another year of change for the datacenter markets in the region. Cloud computing has established a more solid footprint in the region with major players, such as Amazon, Google, and Microsoft (with their Azure platform), establishing large datacenters within the region — with Microsoft setting an unusual leadership example by partnering with a local vendor in the China market to establish an Azure setup. With the introduction of these hyperscale datacenters, the market is beginning to show the different architectures that are emerging, while these large service providers (SPs) bring with them concerns around power and cooling that are still not apparent within many enterprises across the region.

Security concerns remained high on the agenda for many organizations in light of some high-profile data leaks within the U.S. government and many targeted attacks within the Asia/Pacific markets, which ensured that complacency was never a concern for those responsible for data and datacenter security.

Virtualization continued apace in 2013, although IDC data indicated that there was a lack of automation software purchasing within the region, leading to the conclusion that many private cloud deployments could be far more efficient and productive than those currently existing, while at the same time overall x86 server virtualization penetration is still relatively low, indicating that this market still has a lot to deliver.

Integrated infrastructure continued to gain a strong foothold within certain key markets in the region; however, this new platform is also driving issues around staffing and resourcing since it, as well as the overall private cloud architectures, is making organizations realize that they need to establish skills not dissimilar to those that were required to manage large mainframe environments.

FUTURE OUTLOOK

Prediction #1: Software-Defined Confusion Will Reign

2013 saw the introduction of a new marketing term, "software-defined" solution, and datacenter was not immune to this new terminology. The offerings initially started coming from only a handful of vendors; however, as 2013 closed, more vendors began stepping into this ill-defined space, bringing with them their own view and definition of this technology category, leading to a high degree of confusion for many end users..

While a number of vendors claim to have "created" the term "software defined," the message first landed in the Asia/Pacific markets with the introduction of software-defined networking (SDN). Ostensibly a competitive message from a challenger to the dominant player in the networking market globally, this message is still today harangued by a lack of a single standard across the industry and more than one view of how the technology should be implemented.

Beyond SDN, the market is now hearing about software-defined storage, as well as software-defined datacenter (SDDC) and software-defined environment; however, on closer consideration, it is clear that these new areas are suffering similar issues as the networking is. There is yet to be any industry standardization over what the term means. IDC has created a definition for software-defined storage: "A loosely coupled set of software components that seek to virtualize and federate datacenter-wide hardware resources, such as storage, compute, and network resources, and eventually virtualize facilities-centric resources, as well." This could well be applied to the broader concept of software defined, but for now, since the market messaging is quite strong and the "software-defined" solution space is currently the most active in terms of messaging, IDC expects a lot of interest in this subject from end users in the region, until they realize the level of internal investment required, at which point a return to the closer study of how to evolve into a hybrid cloud environment will come to the forefront.

Prediction #2: Automation Will Increase — But Not So Obviously

Virtualization, and specifically server virtualization, has driven he need for higher levels of automation within infrastructure, in order to both leverage the advantages that virtualization can deliver and also to cope with the speed and dynamic of provisioning, re-provisioning, and moving virtualized server environments.

However, IDC Asia/Pacific has noticed that sales of automation software, while growing, are coming from a very small base, indicating a large degree of under investment within this area over the past years. Since this was first highlighted in 2012, the anecdotal evidence created does not lead this study to believe that this will change much in the near future because the reasons and attitudes that existed during this low investment period have not changed.

What has changed, however, is the availability of a new breed of integrated systems; systems architected with server, storage, and networking within a single environment managed by a single tool. As more and more organizations adopt this architecture, automation comes within the box and, for the most part, is forced upon the organization.

Prediction #3: Divergent Datacenter Designs Will Define Markets

Hyperscale datacenters are being established within the Asia/Pacific markets and they are changing the face of the IT business landscape at a local level. The three big players of Amazon, Google, and Microsoft not only change the dynamics due to the services they offer locally but also due to the size of their operations in the geographies they are located at. They materially impact the look and feel of the local IT market, but they are not present in all markets. Singapore, Australia, Hong Kong, China, and potentially Korea are few of the countries that are hosting these hyperscale datacenters and, in most of these markets, they are changing the landscape of the buying habits. China is in a somewhat unique situation in that it is a hyperscale country and, until Microsoft arrived with its Azure datacenters, their hyperscale offerings were all local and were built by local organizations.

This is important for the markets from a strategic planning perspective. Traditionally, such planners could look at, for example, server growth in a market and then resource accordingly. However, in a market such as Singapore where such a small number of organizations are now accounting for a significant slice of the overall server market, such plans become untenable since both the datacenter characteristics and architecture, as well as the customer buying habits and patterns, no longer meet the established patterns.

At the same time, hyperscale datacenters tend to operate on very different architectures to established enterprise datacenters and, in markets where the hyperscale market is prevalent, many of these designs will leach themselves into the local architecture at a more rapid pace than those markets where such scale does not exist.

Prediction #4: Datacenter Telemetry — A Facilities Opportunity in the Making

It has been a while since the market has been filled with new buzzwords and solutions for datacenter owners, while the performance and benefits are only in the air. One of the solutions we have seen over the past couple of years is datacenter infrastructure management (DCIM). Last year, we saw new entrants in the market for this solution with very strong messaging going out to the datacenter managers and owners.

DCIM seems to have picked up at a decent pace because it offers incremental value over the solutions that datacenter managers have been using over the years. The concept of DCIM is about a decade old, but only now do we see mature solutions that could offer good capabilities and are possibly worth investing into. However, they still have not found enough ground for themselves to survive and thrive upon. The issue here is both the solutions address the challenges faced by datacenter owners in isolation and do not give complete visibility of the datacenter.

With management tools developers realizing this, it is very likely that the paths of both DCIM and SDDC solutions will intersect in a way that these solutions are bundled together into one ultimate end-to-end solution for datacenters management. They can really complement each other; for example, with a DCIM system, SDDC will not need to make assumptions about the underlying infrastructure and can look at the real-time information about the datacenter environment, server hot zones, power loading, and so on. Similarly, an SDDC can provide DCIM with a heads-up when it is going to provision additional compute in a datacenter zone, and the DCIM can direct some additional cooling. We yet do not know what it may ultimately be known as, because some people are calling it "software-defined critical infrastructure" and others "software-defined infrastructure access and control." What we surely know now is we will soon see this space evolve, along with new entrants with offerings around these.

To date, the missing element in most datacenter, however, is in-depth, real-time telemetry that can provide insightful feedback on how best to operate the underlying infrastructure. Some organizations are making headway in this space, and it is an area that DCIM vendors should be able to excel in.

Prediction #5: More Government Subsidies for Datacenters Will Emerge

The Asian market has been drawing attention of the large global conglomerates in the datacenter space for quite some time. This is due to the increasing demand for cloud services and high volumes of adoption of these services. In the past 5–7 years, several countries in this region have seen a surge in the growth of large datacenters and vendors offering co-location, cloud services, and managed services.

With this growth, a huge amount of money have been brought into the countries where they have blossomed and governments have started to feel the impact on economy. The impact is high both due to the growing investments in datacenters and the development of service ecosystem needed to support them. IT services have been the core competency of many Asian countries for more than a decade. Some countries have embraced this growth with responsible and effective measures from governments, like subsidized power, better rentals for leasing land, and also indirect tax subsidies, to promote themselves as the ideal destinations for these mega structures. One of the best examples of this is Singapore government, which has successfully made the country very attractive as a financial center, as well as a datacenter hub to support the needs of the financial industry. Singapore government has built the Data Center Park for setting up new datacenters and, under the investment allowance scheme for energy-efficiency projects, this grants eligible companies with investment allowance (IA) to offset the fixed capital expenditure incurred in implementing energy-efficiency retrofits for their datacenters.

In Malaysia, the Iskandar Regional Development Authority is about to embark on an event to woo datacenter investors into the special economic zone set up in the southern Malaysian state of Johore, a mere 20 minutes by road from Singapore, and governments in other countries are now waking up to this fact and have started to ensure they stay on top of the list of the investors considering for expansion. In Hong Kong, over the past few years, the government has announced incentives for companies to convert old warehouses into data storage facilities, as well as to build ones from scratch. They also give temporary fee exemptions and discounts on land leases. On the other hand, the Australian government is encouraging the datacenter to get energy audits, combined with a NABERS rating. If they do so, they are entitled to receive a 50% subsidy. However, this scenario, so far, is only limited to mostly the developed countries in the region. Governments in developing countries have hardly shown interest or taken initiative in promoting the industry to their countries. Countries like India, Philippines, and China have huge opportunity to grow into the hubs for datacenter industry only if the governments are willing to support what it takes to make the countries attractive enough.

Prediction #6: End Users Will Know Less

While not necessarily a datacenter-only concern, the harsh reality is that new users of IT are both more and less IT savvy than their predecessors, and the impact will be felt by datacenter managers when these new users find themselves in decision-making roles within organizations that use IT.

For many newcomers to IT, the smartphone or tablet is the device first used to access the Internet, and their view of the Internet is a collection of applications, such as Facebook, Instagram, YouTube, and the likes that look and feel like applications. Indeed, many younger users are unfamiliar with the difference between these social applications and "the Internet," simply switching from application to application, across devices and networks so seamlessly, and the experience is so integrated that the rant "My Facebook doesn't work anymore" already became a frequently heard helpdesk cry.

Unless datacenter owners are able to step up to the service catalog approach to application provisioning, these new users and decision makers that have grown up with automatic backups to the "cloud" and simple provisioning of storage and applications will find fewer reasons to support internal IT and will arrive with a preference for, and anticipation of, a public cloud-like experience

Prediction #7: Security Concerns Will Simply Not Go Away

IT security is almost an oxymoron. Since much of the value of IT systems is their ability to connect to and interact with a wide range of other systems, frequently outside of the traditional organizational boundaries, the ability to successfully secure these systems declines with every new connection, every new user, every new email in or out of the organizations, and every time there is a human interaction with the systems.

In 2013, the number, scale, and sophistication of attacks continued to increase, and more organizations in the Asia/Pacific markets suffered breaches and denial of service which, for many, had not been such a significant issue until recently.

Sadly, there is no panacea to this issue, but attitudes and processes can and must evolve and adapt to the new environment we now live in. In the same way that the lock on the front door is only useful at keeping honest people out (a suitably motivated burglar will not come in that way anyway), so a firewall is only useful to keep only the lowest levels of attacks from the internal networks.

What must happen is that datacenter mangers need to think in terms of zones of trust, and zones of mistrust while also adopting a defense in-depth strategy. This strategy, essentially, assumes your outer perimeter has been breached and then implements a number of processes and procedures designed to "slow" any breach to the point it can become manageable.

Prediction #8: Staffing Issues Will Continue to Be Problematic

In 2013, IDC Asia/Pacific highlighted the challenge many organizations would experience with regard to acquiring and retaining well-qualified staff, due to the rapid growth of the overall IT markets leading to competitive hiring practices. This effect will continue throughout 2014 and will likely contribute to the inability of many organizations to fully realize their IT strategies of a highly automated and virtualized private cloud environment. Ironically, the kind of skills needed to operate such an environment, where multiple applications are vying for the resources of a single compute platform, can loosely be found in those individuals that have deep mainframe experience. IDC has commented in the past that the drive toward server virtualization that has emerged in the past few years can be likened to building a mainframe-like environment on the x86 platform. The corollary to this is that anyone with skills of managing in the mainframe environment has, at least notionally, a good understanding of how to manage resources in the highly virtualized and automated x86 private cloud and, while the mainframe has not completely died out, those individuals with such skills are not highly likely to wish to trade them in for the same on the new x86 platform.

What are required to overcome this shortage of suitably experienced individuals are time, a strong culture of key staff retention, and the willingness to push into new areas that put many CIOs outside of their comfort zones.

Prediction #9: Deep Pockets Will Define Markets

Recent announcements in the industry around cloud computing strategies and server platforms are creating frontiers within the market that will define which providers are likely to win or fail in the overall markets. For example, Dell announced it will not build its own cloud system but will resell those belonging to others, including Amazon and Microsoft, and very recently IBM announced it will sell its x86 server business to Lenovo. These two announcements are examples of how the markets will realign themselves around where the vendor is focusing.

For example, any organization that has a strong migration to cloud strategy is likely to want to talk to the principal cloud providers that Dell is planning to resell. Dell has placed itself into the role of channel partner which, for an organization that is also trying to establish itself as a full-service enterprise solution vendor, is likely to create some challenges.

IBM's decision is equally interesting, due to the impact on the market overall. For many years now, the x86 server platform has been the platform of choice for many customers and especially when deploying high virtualized systems. By exiting this market, IBM now has little reason to have partnerships with any of the leading x86 virtualization players, and so its relationships with VMware and Microsoft will decline considerably. Oracle, too, has made some significant investments in the past, which places it firmly as competition to most of the other hardware and software vendors in the market.

For the end user, this is a double-edged sword. To begin with, it becomes a lot easier to know which vendor to approach for certain offerings. There is no point, including IBM and Oracle, if your primary platform is a Microsoft one but, at the same time, from an enterprise database play, the two major players are now so different (IBM and Oracle) that the opportunity for vendor lock-in increases.

Oracle has been quite successful with this somewhat isolationists strategy, while IBM has long focused on its non-x86 platform but has been challenged to create the value needed. Moreover, both of these strategies fly in the face of the long-accepted "open standards" conversation, which has long dominated the enterprise infrastructure markets.

This is not necessarily a new event within the IT industry, deep-pockets have often led to "buying market share and markets," but the two events here are examples of vendors deciding not to participate in what has been established as somewhat lucrative markets. Whether this decision to "focus on less" will continue remains to be seen, but battle lines have been drawn and now appear to be undergoing some reinforcement.

Prediction #10: Digital Communities Will Enhance Datacenter Business Opportunities

The concept of a community is not a new one. It has been the bedrock of civilization for centuries. In recent years, management authors have borrowed the concept from sociology and have developed ideas like "communities of practice" in their quest for more efficient and effective running of organizations and the fostering of innovation. The term has found its way into IT with concepts such as "online community." With the advent of the Internet, it has been interesting to observe the creation of virtual rather than physical communities. Virtual and physical communities each have their own advantages and disadvantages. Sometimes, we overlook the fact that physical geographic communities have advantages that cannot currently be replicated by distributed virtual ones.

Communities afford a number of advantages. They provide protection and order for their members. They provide an environment for economic and social development. They provide access to resources (like information), security, and joint infrastructure. In a community, individuals are able to do things that they otherwise would not be able to do. Communities are synergistic. Not only are groups able to achieve more than an individual but also more than the individual contributions of the individuals. A community is able to achieve more and develop to grow financially collectively. There are particular advantages that close proximity gives, particularly the speed at which information is exchanged and the connectivity that is enabled.

Across the region, various types of communities (both virtual or digital and physical) are being fostered behind the walls of third-party datacenters. These communities vary in terms of focus, scope, reach, and catalyst for development.

One example is The Australian Liquidity Centre (ALC) — a separate business unit of the ASX — which has developed a digital financial trading community behind the walls (and firewalls) of its Sydney datacenter. In the datacenter sits the servers (matching engines) for the ASX and other financial markets. These markets (and their associated data repositories) serve as anchors around which an internal digital community has been built using cross connects. The first layer around these anchors are the financial brokers, including high-speed traders, for whom closeness to the exchange has always been important and for whom being part of a community is an industry legacy. Around this layer is a second that consists of market data providers and SPs for the industry. The various stakeholders in each of the markets cross-connect across markets to form a financial markets ecosystem. Participants in the community outside the datacenter are still able to connect via ASX-Net or a communications link. Customers choose to co-locate their servers in the ALC not just to reduce latency but also for the access and availability afforded.

Communities can be fostered through the efforts of the datacenter facility provider. They can also develop more organically between datacenter tenants. The general trend in the IT industry is toward geographical independence of the computing experience through mobility and the cloud. However, there is still a strategic place for geographically bound infrastructure. In the future, the development of communities within datacenters will escalate. Datacenter providers need to be aware of this phenomenon and to consider strategically which communities they wish to proactively engage with, foster, and encourage. Other industries where communities are developing or may exist include healthcare, pharmaceuticals, and government, but there are potentially many more.

ESSENTIAL GUIDANCE

The datacenter markets in Asia/Pacific are undergoing a tremendous continental shift. The introduction of many hyperscale datacenters across the region, the rapid growth in the datacenter SP markets, and the greater willingness to use public cloud infrastructure are all changing this very traditional market.

At the same time, IT infrastructure is becoming more complex than ever before and, combined with the limitations on hiring suitably qualified individuals, many organizations are looking at managed services and outsourcing as options that both help reduce the complexity to them while also addressing the resourcing issues.

Captive internal datacenters will still continue to thrive, for the time being, but the architectures within need to evolve more rapidly than their current pace, in order to maintain both the attention and investment of the business.

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Related Research

- *The Evolving Datacenter* (IDC #AP8628002V, November 2013)

Synopsis

This IDC study acknowledges that the arrival of hyperscale datacenters into the Asia/Pacific markets from major cloud providers, such as Amazon, Google, and Microsoft, to name a few, is going to radically change the makeup of the markets in the region. Not only does cloud computing become significantly more accessible, providing CIOs with a broader range of sourcing options, but it is almost inevitable that the types of architecture and technology used within these environments, which are quite different to the more well-known enterprise datacenters, will begin to appear within the captive datacenter market over time.

"The datacenter markets in the region are undergoing some radical changes. Not only are cloud vendors changing the landscape but many organizations from outside the region are setting up new datacenters, be they captive in-house or with a service provider of one form or another," says Simon Piff, associate vice president for Enterprise Infrastructure Research at IDC Asia/Pacific.

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