IDC MarketScape

IDC MarketScape: Asia/Pacific (Excluding Japan) Datacenter Operations and Management 2020 Vendor Assessment

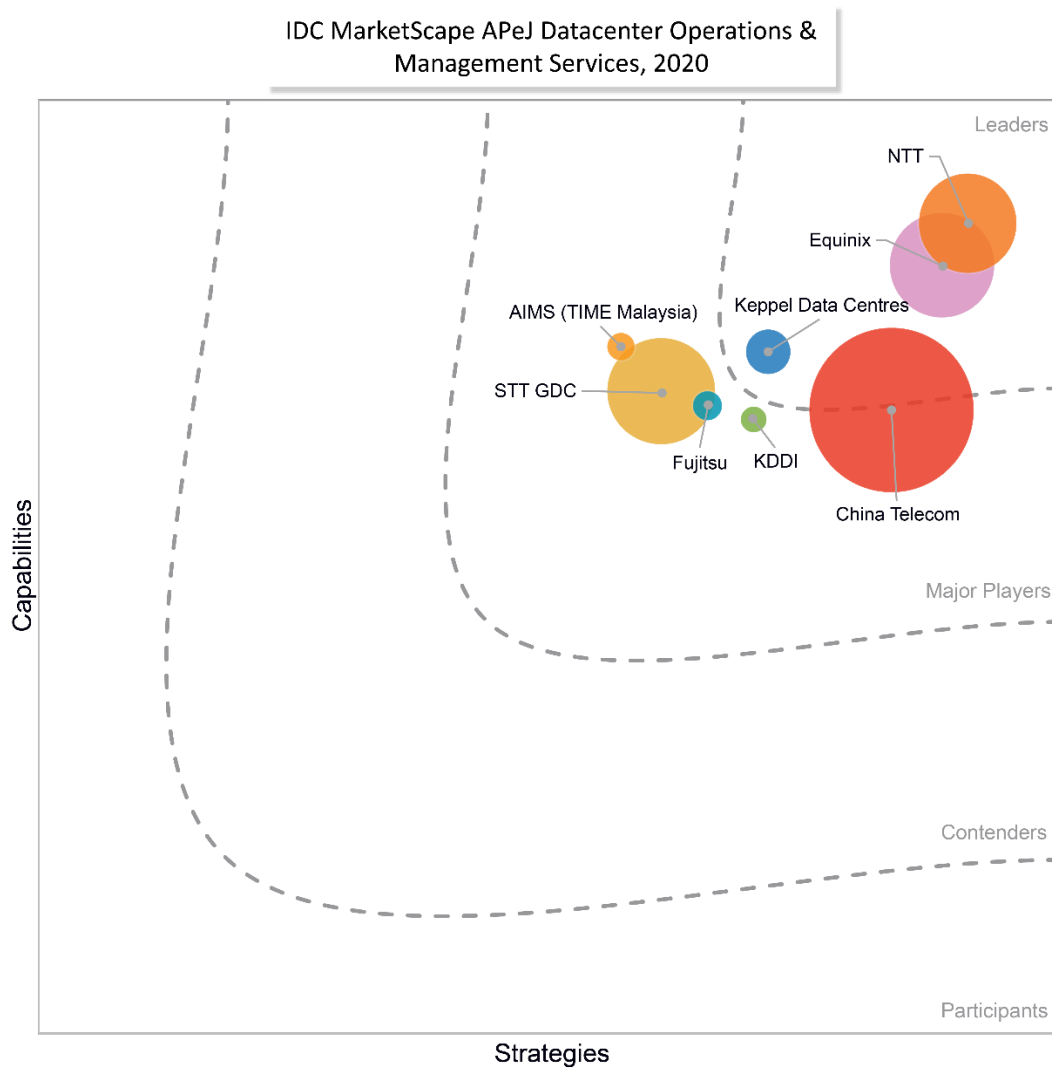Glen Duncan   Manika Marwah

THIS MARKETSCAPE EXCERPT FEATURES: NTT LTD.

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape APeJ Datacenter Operations & Management Services, 2020

IDC MarketScape APeJ Datacenter Operations & Management Services, 2020

Source: IDC, 2020

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Asia/Pacific (Excluding Japan) Datacenter Operations and Management 2020 Vendor Assessment (Doc #AP45352820). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Advice for Technology Buyers, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

In the last 10 years, the Asia/Pacific region has emerged as the dominant region for global economic growth. This has been on the back of the rapid development of China, which has now become an economic superpower, contributing approximately 16% to the 2019 global gross domestic product (GDP) in contrast to the 25% of the United States. Other subregions, including South Asia (India) and Southeast Asia, are also presenting significant opportunities because of developing economies and large population bases. This economic development has resulted in a corresponding growth in the digital economy as a cashed-up burgeoning middle class has engaged in digital services through personal devices.

Datacenters are platforms for cloud, connectivity, and applications, positioning them as an essential platform for the digital economy. Because of their central role of dense connectivity to captive, hosted, and cloud environments, third-party datacenters are becoming the core of the hybrid multicloud environment as similar to hyperscale cloud service providers (CSPs), always-on and compliant infrastructure is critical for most enterprises and hyperscalers. Business resiliency is top-of-mind for most executives and business continuity/disaster recovery (BCDR) is an essential part of a resilience strategy.

Current developments are forcing executives to consider balancing their strategies and rethink their plans for using hosting services, with the result that organizations are using datacenter services more often than before as they lock in sources of high-quality, resilient, and secure datacenter infrastructure to support their digital initiatives.

This IDC MarketScape covers important evaluation criteria, such as space, power, connectivity, value-added services, partner ecosystems, and customer viewpoints. Most importantly, this IDC MarketScape assesses datacenter providers' capabilities in helping Asia/Pacific (excluding Japan) (APEJ) enterprises migrate from enterprise-run, captive facilities to third-party datacenters and hybrid cloud environments.

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

The scope of this IDC MarketScape includes service providers that offer datacenter services to the broader APEJ market, addressing the needs of organizations of all sizes. For inclusion in this IDC MarketScape, the datacenter service provider had to satisfy six criteria. They must:

- Actively market datacenter services across four or more countries in APEJ.
- Operate datacenters across four or more countries in APEJ to provide customers with multitenant datacenter services external to their captive datacenters.
- Own, operate, manage, or lease datacenter space in APEJ in excess of 150,000 sq ft.
- Generate more than US$10 million in annualized revenue from managed datacenter, hosting, or colocation services across four or more countries in APEJ.

- Focus primarily on end-user organizations rather than wholesale services to technology providers.
- Provide managed datacenter services rather than public cloud services self-managed by customers.

ADVICE FOR TECHNOLOGY BUYERS

The retail datacenter services market in APEJ varies in maturity, and each country has its own specific characteristics and dynamics. Despite the varying degrees of country-level maturity, the market continues to grow as datacenters are built across the region. This indicates that demand continues to grow across the region, and datacenters in established countries are filling up. Although there has been a significant shift in the market away from retail to wholesale services in the last few years, the market for retail datacenter services remains strong, particularly in developing countries.

Part of the reason that datacenter services growth has been strong is because both enterprises and service providers have been experiencing problems with aging facilities. From 2019 to 2020, 32% of enterprises and service providers reported experiencing downtime because of system failure, 26% had delays in IT deployments because of power or space constraints, and 25% had downtime because of human error, according to IDC's *2020 APEJ Datacenter Operational Survey* (n = 506). These problems in the datacenter have resulted in slower deployment times (42%), loss of business because of datacenter downtime (36%), inability to meet deadlines (31%), data security breaches (31%), and an inability to remain competitive (28%). In order to overcome their physical datacenter facility challenges, 22.5% of enterprises and service providers reported that they will be moving more infrastructure to a colocation provider.

Typically, a datacenter services vendor will come from a property, IT services, or telecommunications company background. It will also usually have a national, regional, or global focus in terms of the buildout of its datacenter footprint. National telecommunications companies in developing countries tend to do well in an overall market dominated by global and regional providers, but as the datacenter market expands and global connectivity from local datacenters becomes a critical factor, the market will be characterized by significant mergers and acquisition activity as well as partnerships between local, national, regional and global providers, with telecommunications companies having an important role providing last-mile datacenter services. Internet of things (IoT), mobile devices, smart cities, smart homes, and large populations working from home are driving the need for datacenters at the edge. This is reflected in prediction 1.

Prediction 1. By 2022, in APEJ, 40% of Companies Will Rely on Colocation Partners to Provide Most of the Connectivity Services and Power-Optimized Facilities Designed to Improve Performance for Edge-Based Artificial Intelligence Investments

Regional Hubs

Many third-party datacenter providers first look to existing customers when establishing new geographies where to build. Their enterprises and hyperscalers initially look to service their customers from a single regional hub. They then tend to expand their physical footprint into adjacent countries based on growth in demand for their services or local data sovereignty regulation. When considering the APEJ region, there are several hubs, including Singapore, Hong Kong, and Sydney, that have established themselves despite relatively higher land utility costs compared with other countries in the region. This is because of a range of factors:

- The government's support for the industry

- Political stability and internal safety/security
- The country's role as the regional headquarters for many multinational corporations (MNCs)
- The country's central geography within the region
- External connectivity through many submarine cable networks
- Existing dense network of enterprises, network service providers (NSPs), and CSPs

These APEJ hubs will remain for the foreseeable future. They have already developed critical mass and enjoy the advantages of their existing presence. Therefore, it will be difficult for other cities and countries to build up the dense enterprise ecosystems, network connectivity infrastructure, and service provider capabilities of these hubs. Enterprises and hyperscalers will plan to centralize or consolidate low-latency workloads from throughout the region into these hubs to enjoy economies of scale, minimize excess capacity, and centralize governance.

Prediction 2. By 2023, in APEJ, More Than 30% of the New Infrastructure Deployed Will Be in Increasingly Critical Edge Locations Rather Than in Corporate Datacenters, Up from Less Than 10% Today

In the medium term, the proliferation of mobile devices and IoT will push workloads closer to the user and the edge of the enterprise in both an organization and infrastructure context. International networks will be unable to accommodate the bandwidth demands of next-generation applications based on artificial intelligence (AI), machine learning, and augmented reality or will require latency unobtainable out of regional hubs. Along with local data sovereignty laws, this shift will drive the demand for a physical datacenter presence and the development of subregional hubs. However, these new subregional and national hubs will not be enough to challenge the current dominance of regional hubs. In fact, these new subregional hubs will cement the role of regional hubs by creating interdependencies by being key elements of the digital enterprise mosaic.

Getting Started

When evaluating datacenter providers for sourcing of datacenter services, IDC recommends a stepped approach with the following guiding principles:

- **Start with the business.** Assess how technology currently supports the strategy, plans, and current business environment and identify any gaps that exist. The gaps could include required technology investments and risk exposure.
- **What is on your server?** Infrastructure is nothing without applications. Technology leaders need to view datacenter services as a portfolio of solutions to support a company's applications and systems. This includes prioritizing applications, identifying which systems are core to the business and their associated support requirements and what delivery models are currently used. An optimized state matches applications and data with the appropriate infrastructure platform and model, captive, or delivered by a third-party datacenter provider. IT plans should also include a migration road map that includes sunsetting, upgrading, and potentially transitioning to the cloud.
- **What are your current IT management capabilities?** This includes a review of the datacenter operations, network solutions, and staffing and skills. Key in this step is the assessment of your ability to manage IT delivery and vendor relations.
- **There is no single correct answer.** There are more delivery choices available ~~on~~ in the marketplace than ever before, from managed private cloud in captive datacenters to remote management to private and public cloud and the combinations of all options. Factors, such as regulatory compliance, including data residency and financial options (such as operating expense versus capital expenditure), need to be taken into consideration. Flexibility and, perhaps most importantly, provider relationship are critical in

driving the greatest return from technology. It is not an all-or-nothing decision. The ideal solution is not about one platform, one vendor, or multiple vendors but leveraging the options and choices you have to maximize the value of IT.

No Two Datacenter Providers Are Alike

The APEJ datacenter market is characterized by a diverse mix of participants, and no two providers are the same. For some, the management and operation of datacenters and the provision of datacenter services were their initial core business, with each datacenter provider continually developing new services through innovation, and investment and expansion. As noted earlier, these decisions are heavily influenced by existing customers. However, for other providers, the provision of datacenter services developed from other services that they have been providing for a long time, such as telecommunications or IT services.

Although the datacenter market is continually evolving and maturing, an individual provider's development is constrained by its core legacy services, particularly so for telecommunications companies. The APEJ market is not yet commoditized and is subject to simple laws of supply and demand with significant variation between providers in terms of value propositions. Provider differences include physical facility characteristics, regional footprint, internal ecosystems, physical connectivity, virtual connectivity, and value-added services.

Hence, the initial question technology buyers need to ask is, "[Question 1]: How does this decision relate to your business needs?"

To answer this complex question, the evaluation must consider four separate areas:

- Identification of the most important value propositions for the business problems that need to be solved.
- Whether the business problem requires the industrial scale facility, connectivity, and low latency of an industry cloud.
- The role of value-added services in any solution.
- The resulting key characteristics that datacenter services provider must demonstrate.

Datacenter Value Propositions

Facility

The following questions that need to be asked are:

- **Question 2**. Do you have high-density workloads, such as machine learning, cognitive/AI, or augmented reality, that require high-performance computing, integrated infrastructure, or hyperconverged appliances that increase rack density?
- **Question 3**. Is your organization in an industry in which environmental factors, such as energy efficiency, are subject to governmental, media, or public scrutiny?
- **Question 4**. Does government industry regulation (e.g., defense, banking and finance, environment) require your datacenter to comply with or become accredited for certain engineering, environmental, or security standards/accreditations?
- **Question 5**. Does the third-party datacenter provider have the ability to support high-density workloads?

The fundamental value proposition of the third-party datacenter is the facility itself. Many enterprise datacenters are aging and are struggling to keep up with the demands of digital transformation (DX) and IoT. Next-generation applications based on machine learning, cognitive, AI, and augmented reality technologies are placing workload demands on legacy datacenters that aren't sufficiently engineered to handle the power and cooling requirements. The commonly used power

efficiency metric is power usage effectiveness (PUE) with a target to keep the number as close as possible to 1.

In IDC's *2020 APEJ Datacenter Operational Survey*, only 3.2% of enterprises reported a PUE of less than 1.6 in their primary datacenter. Such inefficiencies in enterprise datacenter operation come at a time when the power consumption demands of datacenters are bringing a much greater public and political interest in the environmental impact of datacenters and the need for green operations.

Enterprises require a modern, state-of-the art engineered facility that adheres to international and local standards for design, build, and operations as well as security. Virtual and physical breaches of datacenters defenses are real issues that are avidly monitored and reported closely by the media. The datacenter should contain sufficient available or future capacity to scale should there be growth. It should also have sufficient power and cooling to handle higher-density racks generated by IT infrastructure, such as hyperconverged appliances and integrated infrastructure. These are large capex transactions that are beyond the reach of many organizations.

Connectivity

It is important for enterprises to consider the following connectivity questions when assessing a datacenter services vendor:

- **Question 6**. Is it important for the third-party datacenter provider to be either perceived or actually carrier neutral?
- **Question 7**. Are you an over-the-top (OTT) or digital services company that requires diverse cloud connectivity?
- **Question 8**. How important is connectivity to your internal and external cloud?
- **Question 9**. Does your business require dense internet connectivity and is globally latency sensitive?

There is a perception in the market that telecommunications companies are biased toward their services, and network neutrality is important for some enterprises. Many third-party datacenter providers were first telecommunications companies or provide these services, which raises the issue of carrier neutrality. One of the key differentiators between an enterprise and a third-party datacenter is the density of the networks available in the facility. In an enterprise datacenter, typically, every network connection will need to be individually commissioned. From 2019 to 2020, 33% of enterprises and service providers reported experiencing latency and performance issues, and 25% experienced downtime because of site connectivity issues, according to IDC's 2020 *APEJ Datacenter Operational Survey.*

In a third-party datacenter, many NSPs will have an established presence, and connections can be quickly established with internal physical cross-connects within the facility. The "meet me room" (MMR) is where data communications media physical connections converge and are interconnected. The MMR not only connects enterprises with NSPs but also allows telecommunications companies to physically connect with each other and exchange data without incurring local loop fees.

Within the MMR, services-facilitated cross-connections include voice circuits, data circuits, and IP traffic. An internet exchange (IX) point can also be present in an MMR to allow many organizations to interchange traffic without having to make physical interconnections between every possible pair of organizations.

Some enterprises require dense internet connectivity or are globally sensitive for latency. This requirement can be met in a number of ways, including:

- Third-party datacenters may be located close to submarine cables and international landing stations for the internet.
- Third-party datacenters also offer virtual connectivity to other datacenters and cloud through software-defined WAN (SD-WAN) and cloud fabrics, such as Equinix Cloud Exchange Fabric, Epsilon, and Megaport.
- These can be in addition to physical cloud on-ramps to CSPs within the facility.

Value-Added Services and Industry Cloud

It is important for enterprises to consider the following value-added services questions when assessing a datacenter services vendor:

- **Question 10**. Do you require a dense ecosystem of content, cloud and network service providers?
- **Question 11**. Do you require access to a physical or virtual ecosystem of your business' supply chain in order to participate in an industry cloud?

In addition to connectivity services, many third-party datacenter providers offer a range of value-added services. These services range from basic services within the facility, such as remote hands for operational support and staging areas for infrastructure builds, to colocation and hosting services. Datacenter operators may also offer a range of sophisticated professional and cloud services, such as cloud migration/integration and security services, from their own resources or more commonly through alliances with professional services specialists within their ecosystem. This has been a comparatively recent evolution of datacenters in which they have been building communities or ecosystems to provide broader services within facility walls.

Often, a datacenter will be anchored by key anchor tenants, such as a stock exchange, IX, government cloud, or public cloud provider. These anchor tenants then attract smaller businesses, including service providers that make up the supply chain for a particular industry. This concept has now been extended to create virtual ecosystems across datacenters using SD-WAN technologies and cloud platforms with solutions such as Equinix Cloud Exchange Fabric, Megaport, and Epsilon. These virtual global ecosystems or communities form what IDC has termed industry cloud across global industry supply chains.

Prediction 3. In 2022, 30% of APEJ Consumer-Facing Businesses Will Deploy and Securely Operate Infrastructure to Deliver an Optimal Digital Experience for Customers, Employees, and Smart Things in Many Locations

Geographic Focus

It is important for enterprises to consider the following geographic focus issues when assessing a datacenter services vendor:

- **Question 12**. What constitutes the edge for you (regional hub, capital city, state city, regional town) and how far do you need to push out into it?
- **Question 13**. Which countries that you intend to expand to have data sovereignty laws that require in-country compute and storage?
- **Question 14**. Is the current regional footprint and expansion plans of the datacenter provider consistent with your expansion plans?

Data sovereignty laws are increasingly driving in-country presence and the need for comprehensiveness in footprint. National data privacy and protection regulations are necessary to consider when expanding across APEJ. From 2019 to 2020, 23% of enterprises and service providers reported experiencing regulatory or compliance issues, according to (IDC's 2020 *APEJ*

Datacenter Operational Survey). This problem in the datacenter has resulted in fines for regulatory/compliance issues (17%) according to the same survey.

Third-party datacenter providers have a varied geographic focus across APEJ. Their datacenter footprints may be only a single city — national, regional, or international. No single datacenter provider has strength in every country throughout the region. However, many of the datacenter providers in this IDC MarketScape have intentions to continue their expansion of services across the region. The focus of expansion for global and regional dedicated datacenter providers has been into developed countries, and these more mature markets have developed into a reasonably balanced mix of dedicated and telecommunications-oriented datacenter providers.

In less mature country markets, the dominant telecommunications-oriented datacenter providers have tended to be stronger as there has been a reduced level of competition from overseas competitors, allowing them more time to develop their datacenter business unit. They have also benefited from their existing presence and relationships with governments and enterprises.

For many national telecommunications companies, their datacenter footprints have been largely determined by their legacy NSP business. As mobile devices and IoT drive workloads to the enterprise edge in which datacenter capability is sparse or insufficient, the telecommunications-oriented datacenter providers will increasingly partner with global and regional datacenter providers to build out a presence across APEJ to the edge.

Plan Your Digital Enterprise Cloud

The foundation of digital transformation, cloud services, and technology have already changed how IT is architected and operated. However, the early choices that were made on platforms, resource management, and operational workflows can create long-term obligations that potentially limit agility and growth opportunity. Thus, an enterprise's cloud strategy or road map and the operational tolls and resources to support the digital enterprise must be aligned with the strategies for datacenter use. IDC recommends that the cloud strategy includes the following steps:

1. **Develop a cloud vision**. In order to move throughout the stages of cloud strategy in a quick and efficient manner, a long-term vision is needed as is an understanding of the benefits that accrue to the business as it progresses from an ad hoc cloud strategy to a strategy that is optimized for cloud value. Use those to justify the appropriate investment in cloud.

2. **Work through the cloud economics**. Conduct cloud adoption analysis, and calculate current application run and migration costs:

   - **Step 1**. Establish the current application run baseline.
   - **Step 2**. Establish the one-time migration costs. Calculate future baseline costs and full assessment.
   - **Step 3**. Assess the cloud adoption future baseline of ongoing costs.
   - **Step 4**. Compare head-to-head "go to cloud" adoption scenarios.

3. **Establish metrics to measure your cloud program**. Although infrastructure modernization key performance indicator (KPI) success can vary by organization, IDC has identified key success areas that are the most critical to application modernization efforts. Definitions are workload categorization, cloud adoption appetite, service-based costing, integrated ecosystem, incremental business advantage, and IT capabilities for support/delivery. IDC recommends that reference can be made to research in the IT executive program. Relevant reports are listed in the Related Research section.

4. **Plan for hybrid multicloud**. Enterprises are not just placing workloads in the cloud and forgetting them. Increasingly, some public cloud functions are being "repatriated" to private cloud as costs allow, even as more applications move to the cloud overall. Hybrid cloud

approaches will be the future of cloud, with enterprises placing workloads in multiple environments (multiple public cloud, multiple private cloud, public to private, cloud to noncloud) as needed.

5. **Add cloud management services to IT services portfolio**. Most companies will land on a cloud adoption strategy architected around a hybrid combination of public and private cloud platforms that are integrated with the legacy datacenter using standard application programming interfaces. In addition, more advanced IoT applications and customer immersion solutions will require additional solutions and digital platforms on the local cloud or service delivery edge, which will need to be integrated on a more regional and decentralized architecture. To support this cloud migration strategy, IT DX shared services need to be added to the IT service portfolio as cloud management services that augment the traditional IT services that remain.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. The description here provides a summary of the vendor's strengths and opportunities.

NTT Ltd.

After a thorough evaluation of NTT's strategies and capabilities, IDC has positioned NTT in the Leader category in IDC's 2020 APEJ Datacenter Operations and Management MarketScape.

NTT is a global provider of information and communications technology (ICT) solutions within the NTT Group which ranks in the top 100 of Fortune Global 500 companies. NTT has locations in over 57 countries, trading in 73 countries and delivering services in over 200 countries and regions. It also connects networks in more than 190 countries and regions and powers datacenters in over 20 countries and regions.

NTT was launched in 2019. It brings together 31 companies and is part of the global holding company under NTT called NTT Inc. Of these, NTT–Netmagic (India) and Digital Port Asia (DPA) (Thailand) are datacenter-specific brands in the APEJ region. Central to this new entity are the NTT Communications and Dimension Data brands. They brought capabilities essential to datacenters into the new organization, especially the cloud professional services capabilities of Dimension Data.

Although NTT is the largest ICT services company in Japan with a massive Japanese presence, it also has an extensive APEJ presence, with datacenters across all major APEJ countries that provide a strong regional identity and capability to its portfolio. In particular, NTT has a strong India presence via Netmagic, which spans the major metros of Delhi, Mumbai, Bangalore, and Chennai. Additionally, NTT provides datacenters in Shanghai, China, as well as a strong Southeast Asia presence, with datacenters in Hong Kong, Singapore, Thailand, Indonesia, Vietnam, Philippines, and Malaysia. With datacenters in Sydney and Melbourne, NTT also ensures a strong Australian presence.

Strengths

NTT's strengths are:

▪ **Geographic presence**. Across APEJ, NTT can offer local-to-global datacenter expertise, a connected datacenter platform, and a portfolio of global technology solutions and professional services from its own component companies. Until Equinix's acquisition of

GPX, NTT was one of the few datacenter providers with a strong India presence, allowing it to capture revenues in an important developing market.

- **Broad portfolio**. In addition to hyperscale provision of services, NTT provides enhanced IT capabilities, including managed hosting, colocation, security and hybrid cloud and network services.

- **Connectivity**. As a telecommunications company, NTT offers global network services in over 190 countries, providing worldwide connectivity options for MNCs. Services include datacenter infrastructure management and consulting services, datacenter technology, managed hybrid infrastructure services, cloud migration, and technical support.

- **Innovation**. NTT also has a differentiation strategy rooted in innovation, with an annual R&D budget of US$3.6 billion. It focuses on co-innovation with its clients to better fit their needs, with clients citing that NTT exceeds expectations in providing services and building partnerships.

- **Local compliance knowledge**. NTT has a strong background in navigating compliance and regulatory issues in numerous Asia countries.

Challenges

NTT's challenges are:

- **Brand awareness**. Although NTT has an extensive global presence, it still needs to strengthen its country-specific presence in Southeast Asia through effective sales and marketing strategies. Challenging locations in Southeast Asia include Cambodia and Laos. NTT's presence in Thailand may serve as a gateway to these locations. Many of NTT's partnerships outside Japan are with Japanese MNCs in the APEJ region, and NTT would benefit from attracting more local business by highlighting its highly diverse Datacenter and colocation offerings.

- **Pricing models**. NTT offers a restricted set of pricing models for customers. It tends to reflect the telecommunications' legacy, and customers would do well to urge more flexible and adaptable models for IT use.

Consider NTT When

Consider NTT if it has a strong geographic presence in your country and you prefer to locate workloads and datacenters close to users. NTT would be especially suitable for U.S. or Europe enterprises looking to expand into Asia. With NTT's strong APEJ presence, NTT would be a reliable datacenter partner to expand business into Asia, with a know-how of the local markets.

NTT is a natural fit for large organizations. For MNCs expanding their presence in APEJ, NTT can provide the trusted infrastructure in key countries and can connect them with all hyperscale CSPs and NSPs. ISVs and local SPs can benefit from use of NTT's local datacenter facilities for delivery of services into their local markets. SMBs can engage indirectly through NTT's local ecosystem partners and benefit from local skills and services.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at

how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis or strategies axis indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represent the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape's criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores and, ultimately, vendor positions on the IDC MarketScape on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

This IDC MarketScape covers datacenter operations and management services, including datacenter outsourcing, colocation, managed hosting, and private cloud infrastructure as a service. Datacenter services can be found in three segments of IDC's taxonomy: hosted infrastructure services, managed (support) services, and IT outsourcing and cloud services (for additional details, see *IDC's Worldwide Services Taxonomy, 2019*, IDC #US44916019, March 2019).

Hosting Infrastructure Services and Private Cloud Services

Hosting infrastructure services (HIS) include the management of servers, networking, and other infrastructure solutions in a third-party service provider datacenter. HIS encompasses activities related to the provisioning, management, and maintenance of the infrastructure that supports businesses' applications, which include activities around application development and deployment. The specific capabilities delivered under this umbrella typically include support for associated application infrastructure platforms (e.g., middleware, databases, and application servers), comprehensive infrastructure management, and systems-level (as opposed to server-level) administration in support of these application environments. Software-centric activities (i.e., middleware, OS, and database) are often performed by service providers as part of HIS engagements. HIS also includes any hosting services delivered on a virtualized infrastructure (commonly referred to as private cloud) in addition to services supported on a traditional dedicated physical infrastructure.

HIS engagements involve discrete, standalone offerings that are often function- or application-specific in nature. Thus, HIS can be distinguished from IT outsourcing by the scope of the service, the nature of the SLAs, the customers' responsibilities and involvement in service delivery, and the degree of service risk and operational control transferred to the service provider.

Given the ongoing transition to cloud models and the emergence of service providers' cloud-based hosting offerings, IDC has simplified the current segmentation of this HIS market into "traditional" or "noncloud" HIS and cloud-based HIS.

The revised HIS market segmentation is defined as:

- **Traditional HIS**. These services are delivered in a noncloud fashion and therefore do not conform to the cloud services attributes specified by IDC. Traditional HIS includes legacy shared hosting/virtual private server, dedicated hosting, and complex managed hosting. Traditional HIS typically shares attributes commonly associated with cloud hosting infrastructure (i.e., the ability to rent rather than buy IT infrastructure, standardized packaged solutions) but not others (e.g., self-service, pay-per-use pricing, and elastic scaling).

- **Cloud HIS**. These services combine the use of multitenant (shared) resources, radically simplified packaging, self-service provisioning, highly elastic and granular scaling, flexible pricing (often pay per use/pay as you go), and broad leverage of internet standard technologies to make offerings dramatically easier, cheaper, and better to consume. The cloud segmentation of the HIS market covers services offered by third-party providers, such as hosted private/dedicated cloud and managed public cloud. The cloud portion of HIS does not include private clouds in captive datacenters or unmanaged public cloud/infrastructure as a service or virtual private cloud, which IDC has forecast in *Worldwide Whole Cloud Forecast, 2017–2021* (IDC #US43215817, December 2017).

- **Colocation**. This subsegment covers commercial/retail colocation services in which the service provider offers colocation services and related datacenter management systems. Colocation services are defined as a customer's use of a third party's datacenter facilities (i.e., physical floor/cage/rack space, network capacity and heating, ventilating, and air-conditioning [HVAC]/power infrastructure) in which the customer operates its own servers/storage systems, network equipment, and other types of infrastructure.

HIS also include services above and beyond basic hosting functionality, such as equipment rental and maintenance as well as integrated managed services for functions such as storage, backup/recovery, security, and broader management functions, such as monitoring and help desk, which may be included as part of the HIS offering.

In concordance with IDC's demand-side methodology, HIS only includes services consumed by end users (including service providers in which the services provider is an end user) and explicitly do not include HIS that is simply resold by service providers, value-added resellers, or other entities.

Exceptions and Exclusions

Colocation services provided by nondedicated datacenters (e.g., office rental companies providing access to the internet as part of the charge for office space) are not included.

HIS provides infrastructure-driven management functionality that is not specific to a particular type of application. The definition excludes connectivity fees associated with remote access to the datacenter, professional services billed on a time-and-materials basis, and the resale of hardware or software. It also excludes enterprise application management, business process outsourcing, and application/business productivity functionality delivered via the software-as-a-service or software-on-demand model. As such, HIS does not include the hosted management of enterprise application software but does encompass management of middleware and other types of enabling, infrastructure-oriented software. For example, if the starting point of a client engagement is a request to "manage my SAP application instances," then IDC would define it as hosted application management.

Worldwide Whole Cloud Forecast, 2017–2021 (IDC #US43215817, December 2017) includes HIS that feature multitenant platforms, pay-per-use pricing, self-service capabilities, and all the other attributes commonly associated with cloud services. However, IDC's public cloud forecast is a

separate effort from the foundation markets defined in this taxonomy and, as such, the precise level of overlap has yet to be determined.

IT Outsourcing

IT outsourcing services involve a long-term, contractual arrangement in which a service provider takes ownership of and responsibility for managing all or part of a client's information systems (IS) infrastructure and operations based on an SLA. Typically, IT outsourcing engagements involve contracts for which a large portion of the IS environment is outsourced, usually over a 5- to 10-year period, although the length of these engagements can be much shorter.

At the core of an IS/datacenter outsourcing contract is taking over the management of day-to-day operations of a datacenter and its systems infrastructure (either mainframe-based or through a "server farm") that supports an enterprises business application environment (e.g., enterprise resource planning [ERP], supply chain management [SCM], customer relationship management [CRM], and messaging). At the minimum, these engagements involve the ongoing management of the systems infrastructure, which could include providing just remote infrastructure management but usually also includes providing the ongoing management (24 x 7) of one or more of the following services:

- Endpoint management (e.g., PCs, laptops, and smart devices)
- Local and WAN operations management
- Help desk support
- Datacenter/facilities operations (e.g., ongoing management of datacenter facilities) (datacenter facilities can range from a small closet-like room to full-scale hosting centers, e.g., tiers 1–4)
- Application management (e.g., ERP, SCM, CRM, and messaging)
- Hosted application management
- HIS
- Cloud services (e.g., software as a service [SaaS], platform as a service [PaaS], and IaaS)

The key attributes of engagements for IT outsourcing are as follows:

- **People**. Engagements may involve transferring (rebadging) client personnel or may not involve any transfer of client personnel to the provider.
- **Location of assets**. Assets (e.g., hardware) can either be located at the client site or hosted at the provider's own datacenters (hosted).
- **Ownership of assets**. Assets (e.g., datacenter facility, hardware, are software license) are either owned by the client or the provider.
- **Type of service**. Services involve either just dedicated (to one client) or a combination of dedicated and some shared types of services (e.g., cloud services such as PaaS, IaaS, and SaaS), which are embedded as part of the engagement. These cloud services are provided by either the primary service provider that holds the direct relationship with the client or can be sourced from another third-party provider but for which the primary provider is responsible for ensuring the SLA.
- **Structure of service**. Services can be either customized or standardized.
- **Payment**. Payment can be made as either a fixed or variable fee (e.g., pay as you go).

IT outsourcing contracts can also include related consulting, development, testing, and systems integration activities. This can also include the design and build of a dedicated datacenter facility for the client, whether located at the client site or at the provider's hosting facility. Along with

activities performed by the outsourcer's employees, an IT outsourcing contract can include (though does not always include) ongoing capital spending for new equipment and facility needs.

Exceptions and Exclusions

To maintain consistent IDC definitions, IS/datacenter outsourcing does not capture/include outsourcing/managed services engagements that involve just discrete elements of the IT/application environment. These discrete markets include:

- Network and endpoint outsourcing services (NEOS)
- HIS
- Hosted application management
- Application management
- Business process outsourcing (BPO) (e.g., human resources [HR], finance and accounting [F&A], procurement, and customer care)
- Cloud services (e.g., PaaS, IaaS, SaaS, and business process as a service [BPaaS])
- BCDR

LEARN MORE

Related Research

- *Modernizing Infrastructure for the Digital Enterprise – Future Enterprise Planning Guide* (IDC #US46297920, June 2020)
- *Managing and Leveraging Cloud for the Digital Enterprise – Future Enterprise Planning Guide* (IDC #US46298120, June 2020)
- *Rationalize and Modernize Applications for the Digital Enterprise – Future Enterprise Planning Guide* (IDC #US46298220, June 2020)
- *Digital Enterprise Cloud Planning – Future Enterprise Planning Guide* (IDC #US46298020, June 2020)
- *Modernizing Infrastructure for the Digital Enterprise – Future Enterprise Planning Guide* (IDC #US46297920, June 2020)
- *IDC FutureScape: Worldwide Datacenter 2020 Predictions – APEJ Implications* (IDC #AP44535019, January 2020)
- *IDC MarketScape: Worldwide Colocation and Interconnection Services 2019-2020 Vendor Assessment* (IDC #US45717419, December 2019)
- *IDC MarketScape: Canadian Datacenter Operations and Management Services 2019 Vendor Assessment* (IDC #CA44463419, April 2019)

Synopsis

This IDC study uses the IDC MarketScape model to review, analyze, and assess vendors in the Asia/Pacific (excluding Japan) (APEJ) datacenter services market. The research employed quantitative and qualitative methods to evaluate the strategies and capabilities of vendors to address the needs of technology buyers as they consider sourcing datacenter operations and management services. This evaluation is based on a comprehensive set of parameters important to meet the technology buyer's current and future needs. This IDC MarketScape covers vendors in the APEJ datacenter market with significant footprint and presence across four or more countries in the region.

"The APEJ region has become an attractive market and investment opportunity for both local businesses and businesses from outside the region. A large part of this opportunity is being driven by the new digital economy of mobile phone and edge Internet of Things (IoT) sensor applications. The third-party colocation datacenter is becoming the backbone for digital services. Enterprises and MNCs with a regional focus must think carefully about a range of considerations for their datacenter deployment, including the type of datacenter (captive, third-party colocation, hosting, cloud). When assessing datacenter vendors, technology buyers should consider factors such as the facility, connectivity, value-added services as well as the providers' geographic footprint in order to minimize latency and provide the best customer experience," says Dr. Glen Duncan, associate research director, datacenter, IDC Asia/Pacific.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

IDC Asia/Pacific Headquarters (Singapore)

80 Anson Road, #38-00
Singapore 079907
65.6226.0330
Twitter: @IDC
idc-community.com
www.idc.com