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Magic Quadrant for Data Center Outsourcing and Infrastructure Utility Services, North America

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The 19 providers in North America deliver DCO/IUS worth more than $16 billion in annual revenue. Gartner assesses them and their offerings for execution and strategic vision. When choosing a strategic provider, sourcing executives should use this analysis to identify the most suitable.

Market Definition/Description

This Magic Quadrant focuses on management services for mainframe, centralized servers, public cloud brokering, SAP hosting and Oracle hosting environments. It evaluates the abilities of 19 top service providers to deliver data center managed services across North America — including data center outsourcing (DCO) and infrastructure utility services (IUS), which are often enabled by remote infrastructure management (RIM) services and increasingly based on managed virtual private cloud services.[1]

Future growth in data center services will come from new industrialized infrastructure offerings such as IUS and infrastructure as a service (IaaS), while growth and margins for traditional services will face further pressure (see "Top Global Megatrends Impacting Data Center Strategies"). We therefore include in this evaluation cloud IaaS and platform as a service (PaaS) virtual private offerings (see Note 1) that are part of IUS offerings and data center managed services.

This Magic Quadrant excludes simple, dedicated web hosting and colocation services and providers' workloads that are entirely subcontracted to other providers.

Definitions

Data Center

Gartner defines a data center as a centralized environment that provides support for computer equipment in a secure facility. This includes the underlying network infrastructure and the processes and organization that support the environment. These generally include the following:

- System operations

- Tape operations
- Print operations
- Second-level data center support
- Production control
- Backup and recovery processes
- Technical support (operating systems and subsystems)
- Performance analysis and capacity planning
- Storage management
- System security and contingency planning
- Asset procurement and third-party management
- Relevant data center facilities management

Data Center Outsourcing

Data center outsourcing deals are mostly a bundle of standardized managed services and customized transition and transformation services. They may include the management of client premises and colocation, hosting, infrastructure utility services, and managed cloud service components. Information management software and system management tools may be provided and used by the outsourcer or the enterprise client. Services may be provided at the client site or off-site. IT assets may be owned by either the client, the ESP or a third party. Contracts may include the transfer of client employees, IT assets and facilities to the ESP.

Infrastructure Utility Services

Gartner defines IUS as the provision of outsourced, industrialized, asset-based IT infrastructure managed services below the business application functional layer. IUS are defined by service outcomes, technical options and interfaces, and are paid for based on resource usage, allocation or number of users served. Increasingly IUS are based on managed virtual private and public cloud services, so require the management of a hybrid infrastructure.

Hybrid Infrastructure Managed Services

Gartner defines hybrid infrastructure managed services as the service provider managing the multiple infrastructures used by the organization (legacy and traditional environments, private cloud or public cloud). Hybrid managed services include the management of traditional data center environments, other infrastructure utility services and private cloud, as well as Amazon Web Services (AWS), Google, Microsoft Azure and other public cloud functionality, measured by the number of server instances, applications, users or environments on the multiple clouds. In hybrid environments, traditional and cloud functionality would be considered seamless to the organization, as the provider maintains the relationship with the multiple cloud vendors and offers end-to-end visibility and management of the hybrid platform.

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Remote-Infrastructure-Management-Based Service Delivery

RIM is a delivery model that providers often embed in DCO. This is an acceptable approach for DCO relationships that are based on a client- or third-party-owned data center, and when a single service provider delivers RIM. In that case, the client signs a single service contract with one service provider for the whole set of DCO/IUS. In this type of contract, the main provider is responsible for end-to-end service delivery, including management and control of the hosting subprovider.

Geographies

In this Magic Quadrant, Gartner defines North America as Canada and the U.S.

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Magic Quadrant

Figure 1. Magic Quadrant for Data Center Outsourcing and Infrastructure Utility Services, North America

Source: Gartner (July 2016)

Vendor Strengths and Cautions

General Information

For each provider, Gartner received up to 10 formal vendor-provided references. In addition, Gartner analysts took more than 1,159 inquiries during the past 12 months from North American clients who were looking to buy data center infrastructure outsourcing services. A "formal" reference is, therefore, one that was provided by the vendor as part of the Magic Quadrant process; an "informal" reference is one that was not provided by the vendor as part of the Magic Quadrant process.

The analysis below provides strengths and cautions for each provider in this Magic Quadrant. In each of the Strengths and Cautions sections, the last bullet provides insight into the client reference feedback received — either through formal client reference responses to our survey or client feedback received during our inquiries (informal references).

In addition, Gartner provides a "sweet-spot" range of average revenue per customer derived from the data provided by the vendors, as well as our estimates. This is intended to be a rough indication of where the vendor excels in its customer portfolio.

Accenture

Gartner estimates for fiscal year 2015, Accenture's total revenue of $31 billion includes outsourcing revenue of $14 billion (up 4%) from its application, business process and infrastructure services. We estimate that the DCO/IUS business comprises approximately 17% of Accenture's IT outsourcing business and roughly $2.6 billion globally and $1.2 billion in North America, with growth of 30% in 2015. Accenture pursues infrastructure outsourcing initiatives that focus on a cloud-first strategy for business and IT transformation and that, potentially, can underpin its own delivery of application and business process services. The company's infrastructure outsourcing business includes cloud-based solutions supported by the Accenture Hybrid Cloud Solution. Accenture continues to manage the shift to virtual machines (VMs) with a 200% increase to over 57,000 and 130% growth in physical to over 78,000. Accenture has clients with 21,000 servers that rely on cloud-based infrastructure with AWS and Azure partners. Accenture supports Oracle with over 233,000 users, growing at 140%, and SAP with over 118,000 users, growing at 20%. Accenture data center references had an average revenue of $18 million annually.

Strengths

- Accenture remains a highly skilled application-centric provider, focusing on migrating applications and workloads to software-defined platforms via its Cloud Application Transformation Solutions (CATS). Continuing its focus on hybrid IT, Accenture is managing complexity and providing highly automated infrastructure services aligned to its clients' business processes.
- This past year, Accenture rebuilt its tool solution with the Accenture Cloud Platform (ACP) at the core, providing for ease of use when procuring, provisioning, orchestrating, metering/monitoring, analyzing and billing of services from public cloud providers. The acquisition of Cloud Sherpas, Solium, Enkitec and the evolving role of Avanade to deliver Microsoft, sales force automation (SFA) and ServiceNow skills, plus the dedicated Amazon group to support migrations, are strengthening its capability in supporting clients' cloud-first strategies.

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- Many clients listed Accenture's hybrid infrastructure services solutions as one of its key strengths, citing migrations to the cloud and its ability to decommission applications and reduce legacy costs, the knowledge of its technical resources and its ability to provide ideas and innovative solutions that resulted in improved service delivery. Some clients commended Accenture for its management of the services provided.

Cautions

- Accenture remains tentative when competing for infrastructure outsourcing engagements that do not have transformational components or are purely focused on cost reduction. Despite this, Accenture describes two type of deals it pursues — business outcome deals and commodity-focused deals with transformational elements, in which it will handle the integration layers and architectural choices, which may expose customers to substantial lock-ins.
- While Accenture's operations evolved to meet growing demands of the multisourced hybrid infrastructure world, it continues to transition business to IUS-based deals comprising Cloud Platform, Private Cloud and IUS for ERP (for example, SAP or Oracle). Gartner estimates that 30% of its DCO/IUS revenue in this area is linked to industrialized-based capabilities, indicating that customized, legacy infrastructure services are still a big part of Accenture's deal types.
- Some clients stated that Accenture's globalized, remote delivery methods needed improvement. A few clients stated that Accenture's escalation procedures are less than optimal, causing some delays in problem resolution.

Atos

Gartner estimates Atos' DCO/IUS business surpassed $3.9 billion globally. The company's growth in North America from $229 million last year to $1.2 billion this year is largely the result of its acquisition of Xerox ITO. Atos continues to manage the shift to VMs with a 300% increase to over 65,500 VMs and a 130% increase in physical to over 33,800. Business changes include support for Oracle, with over 100,000 users, and SAP, with over 350,000 users. Atos is starting to offer host servers on AWS and Azure. Atos' initiatives are focused on creating a digital data center with a software-defined layer allowing separation from the underlying physical infrastructure, enabling automated provisioning and management of compute, networks and storage infrastructure. Atos data center references had an average revenue of $39 million annually.

Strengths

- Atos continues to grow with the acquisition of Xerox's ITO business in North America and improved coverage, with twice as many data centers, three times the number of servers under management and a presence in the mainframe service market.
- Atos is automating its delivery capabilities with IPsoft-based automation. The company expects this, along with the adoption of ServiceNow, to result in an automation resolution rate of over 50% of the Level 1 and Level 2 incidents by 2018, resulting in faster and cheaper services. As part of its Atos Technology Framework (ATF) 2.0, the company is leveraging the Apache

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Brooklyn project framework to create application blueprints that enable portability across various cloud infrastructure offerings.

- Some client references spoke positively about Atos' flexibility and agile response to user demands. Some clients emphasized the ability to reduce cost and provide value to their operations.

Cautions

- With the Xerox ITO acquisitions, 80% of the revenue came from 25% of the clients. This indicates a smaller customer set that could be a challenge to manage while maintaining a desirable margin.
- Atos' efforts to manage SAP and Oracle ERP users are significant in the North American market, but the current volume of AWS for public cloud offerings, along with limited Azure public cloud clients in 2015, suggests a market challenge.
- Some clients indicated Atos was slow in responding to pricing changes, deployment of new products and managing costs downward.

Capgemini

Gartner estimates Capgemini's DCO/IUS revenue reached $2.5 billion globally in 2015, with North America accounting for $479 million — an increase of 23%. Capgemini has eight North American-based data centers, and has been increasing its focus on RIM, automation, cloud migration, orchestration and brokerage services. The company continues to manage VMs with a 60% increase to over 30,000 and a 244% gain in physical to over 24,000. It has clients with 660 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Capgemini supports Oracle with over 13,000 users — a reduction of 1% from last year — and SAP, with over 516,000 users and 23% growth. Capgemini data center references had an average revenue of $4 million annually.

Strengths

- During 2015, investments in support of Capgemini's strategic direction included a $4 billion acquisition of Igate to expand its reach into North America. Capgemini's DCO/IUS revenue grew by 19% in North America, where the company is consolidating data centers from 41 to 14 to reduce client costs. A balance of cost savings and customer satisfaction will be key to Capgemini's near-term success.
- Capgemini's portfolio for automation, autonomics and cognitive and digital assistants with its "Autonomic Computing Platform" is on an aggressive timetable and should allow qualified clients to experience savings immediately as tasks are automated and costs are reduced.
- Many client references cited strong overall satisfaction with Capgemini. Many stated that Capgemini is flexible with its contract structure and pricing and that they find its account managers to be open to negotiation for change requirements and treat the customer more like a

partner. Capgemini also received high scores for the depth and breadth of service offerings and for having well-defined procedures for escalation.

Cautions

- While Capgemini is accelerating its commitment to data center consolidation, it must make sure clients are satisfied with its fledgling public cloud offerings (with most of the cloud developments taking place in 2016 and early 2017), the lack of growth of Oracle's offerings and minor mainframe volume.
- Capgemini was challenged by a lack of price reductions and price variability. This approach will change as it works to implement competitive pricing based on its total cost of operation (TCO) reduction. This needed change will help as clients get used to paying for what they use, with on-demand rates and variations expected with cloud-based infrastructure offerings.
- Some clients reported that Capgemini has room for improvement in the area of automation and needs to improve its hybrid management offering (AWS/Azure).

CGI

Gartner estimates CGI's global infrastructure services revenue was 18% of CGI global revenue or $1.48 billion in 2015, of which global DCO/IUS was $1.24 billion, with North America totaling $519 million. CGI experienced a 12% decline in North America DCO/IUS revenue from 2014 to 2015, and also had a reduction in DCO/IUS staff. CGI's data center outsourcing and utility services strategy reflects the shift to hybrid IT, and it is working with three strategic partners to drive global solutions — Dell, Hitachi Data Systems and Microsoft. In 2015, it launched the Hybrid IT Management offering suite. Gartner estimates CGI has experienced a 10% reduction in managed VMs and a 40% reduction in physical servers. CGI has clients with over 100 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. CGI support for Oracle grew by 2%, and SAP support declined by 1%. CGI data center references had an average revenue of $15 million annually.

Strengths

- CGI is advancing into a number of higher-level services, adding multicloud management capabilities and a service integration and management (SIAM) solution for its customers. In addition, its new "hybrid IT autonomics platform," Unify360, CGI's focus on cloud migration, and vertical integration of software as a service (SaaS) and application modernization (which includes migration from the mainframe) provide a sound strategy for avoiding overexposure to commoditized services.
- CGI is increasingly relying on partners in its service delivery and go-to-market strategy. Partnerships with Dell (for secure cloud-based solutions for managed virtual desktop integration), Hitachi (for storage as a service, disaster recovery and archiving for private and hybrid cloud services) and Microsoft (for email, Lync, SharePoint and Azure) help CGI stretch its investment. It is also implementing automation and orchestration through IPsoft's services and solutions.

- Some clients are satisfied with the pricing proposition of CGI, and they report a high level of overall satisfaction with its pricing, services and SLA definitions. Some clients reported CGI has strong depth and breadth of services capabilities.

Cautions

- CGI is not resonating in the market, as it has lost revenue in this space and has contracted in key areas of servers supported. It has just introduced a public cloud offering, and the Oracle and SAP offerings did not expand in 2015.
- Although partnering can help with investment challenges, it can also result in generic offerings and a dependency on a key provider that could change direction, as is the case with CGI's partnership with Dell.
- A few clients report a lack of flexibility in changing or adjusting service levels. Some clients indicated CGI lacks continued improvement and thought leadership.

Cognizant

Gartner estimates Cognizant's DCO/IUS worldwide business is around $827 million, and Cognizant's 2015 North American DCO/IUS revenue exceeded $650 million, a 24% year-over-year increase. Founded on its "constantly ready infrastructure" (CRI) framework, Cognizant's key strengths continue to be a business-aligned infrastructure strategy that focuses on a vertical market alignment approach. Cognizant continues to manage the shift to VMs with a 75% increase to over 225,000 and a 30% contraction in physical to over 47,000. Cognizant has a small client base that uses cloud-based infrastructure from AWS and Azure partners. Cognizant supports Oracle with over 130,000 users, growing at 5%, and SAP with over 190,000 users, growing at 30%. Cognizant data center references had an average revenue of $7 million annually.

Strengths

- Cognizant achieved a growth rate of 24% by leveraging industry-specific platforms and industry-specific digital processes and technology expertise. Its CRI framework indicates an understanding and response to the market dynamics of a digital world. This has helped Cognizant to commit to year-over-year efficiency gains in the majority of its recent contracts. These initiatives support IT efficiency, process industrialization and business innovation activities.
- Cognizant has made sound evolution toward a software-defined data center to support the new customer demand patterns. Cognizant's automation approach is based on OnTarget (ITIL-based) and Cloud360 (automation-based, orchestration and governance), and the use of third-party tools and services like IPsoft, Ayehu and Arago.
- Some clients commended Cognizant on its flexibility, continuous improvement processes and activities, as well as its attention to cost management. A few clients stated that Cognizant provided excellent value for the money, while providing timely, proactive, high-quality operations.

Cautions

- Cognizant has a heavy reliance on partner-owned data centers, with only two Cognizant-owned data centers in North America. This is an asset-light model that will work well for clients as long as data center costs remain competitive.
- Cognizant faces a challenge as it works to deliver effective services to clients looking for public cloud offerings. The ability to offer a compelling broker solution for all cloud services in the present and near future will be a requirement, as clients with a cloud-first strategy can't wait.
- Some clients stated that Cognizant's responsiveness to new requirements is subpar, and it needs to improve its approach to continuous improvement activities. Additionally, some clients stated that Cognizant was less than creative, and did not look for a better way to perform the day-to-day relationship management activities. Some clients reported that Cognizant's inflexibility was a problem, as it used the contract to avoid having to perform some related tasks.

CompuCom

Gartner estimates CompuCom revenue was $2 billion in 2015, a year-over-year drop of approximately 5%, with $1.2 billion from services. CompuCom continues both organic and inorganic growth in the DCO/IUS market. CompuCom reported data center revenue of $114 million in 2015, a year-over-year reduction of approximately 9%. Its managed services and remote infrastructure monitoring capabilities can be integrated to provide end-to-end data center support. CompuCom continues to manage the shift to VMs with a 35% increase to over 24,000 and a 30% contraction in physical to over 6,000. CompuCom is expanding service capabilities with a launch of its managed AWS and as a Cloud Solution Provider with Azure for clients in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. CompuCom does not currently offer Oracle or SAP cloud hosting offerings. CompuCom data center references had an average revenue of $7 million annually.

Strengths

- Using a tiered market approach with global enterprise delivery, CompuCom focuses on regional models and tech zones for the SMB market. CompuCom is a good choice for midsize North American-based companies, in particular the financial services, healthcare and retail verticals. CompuCom continues growing in Canada with good customer satisfaction.
- With reorganization behind it, CompuCom will now focus on its strategy to solidify its core business and cloud partner ecosystem to deliver high-quality cloud solutions to its customer base through its integrated delivery model and solution portfolio.
- Many clients stated that CompuCom has excellent account management performance, with an overall focus on service delivery and responsiveness. Many clients spoke highly of CompuCom's willingness and ability to learn its clients' business and add resources in a timely manner, as well as the best practices in its ITIL-based change management approach.

Cautions

- CompuCom's cloud strategy is focused on selling and managing private and hybrid cloud services while continuing to limit its investments in public cloud IaaS solutions. CompuCom's cloud strategy to manage customers' cloud consumption and integration of cloud portals should be assessed as it was introduced to the market in 2015.
- CompuCom's lack of ability to deliver SAP and Oracle and its ability to deliver mainframe through SMS (a sister company) should be a consideration for clients interested in expanding in those areas.
- Some clients reported that CompuCom lacks an initial understanding of the business requirements and risks, as well as the requisite relationship management skills and effective cost reduction and containment processes.

CSC

During 2015, CSC's focus on restructuring included the separation of the U.S. federal workload into the CSRA entity in November. Cost optimization and product development improved its service margins, while Gartner estimates its global DCO/IUS revenue decreased by 17% to $2.5 billion, and North America decreased by 9% to $1.1 billion. This decline is partially because the company is driving more "as-a-service" models, replacing traditional managed services, and partially because of intense pricing competition. CSC managed servers have VMs declining 4% to over 46,000 and a 39% growth in physical to over 42,000. This is partially due to expansion in new business with the acquisition of Fixnetix, Axon and Fruition Partners. CSC has over 20 North American clients and 1,000 servers in its next-generation DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. CSC supports Oracle with over 650,000 users and SAP with over 500,000 users, with both areas growing at 7%. CSC's IaaS strategy takes a bimodal approach — both legacy and cloud — with integrated and automated delivery to support digital business transformation. CSC's data center references had an average revenue of $12 million annually. On 24 May 2016, HPE announced that it will spin off its $18 billion enterprise services business and combine it with CSC's $8 billion business. While the merger will not materially affect the two organizations until early 2017, organizations should be early and diligent in addressing changes as the two vendors figure out redundancies and organizational requirements to fill critical skills gaps in a timely manner.[2]

Strengths

- CSC's strategy is moving to an asset-light infrastructure delivery, consolidating assets and increasing its reliance on cloud and hosting partners. Most of its engagements are now "as a service," with exponential growth of deals lower than $1 million in total contract value.
- CSC has launched its next-generation delivery centers and managed cloud offerings with the CSC Agility Platform to provide seamless integrated and automated delivery across CSC-offered private clouds and market-available public clouds for key verticals, including banking, manufacturing, insurance and healthcare.

- Some clients report that CSC's service delivery activities meet or exceed expectations. A few clients report hosting services are a strength, along with flexibility and quality of service.

Cautions

- Despite strong growth in its as-a-service pipeline and deals, CSC lost business in DCO/IUS revenue during 2015. CSC must be able to sell quickly to existing customers and new prospects to compete against emerging offerings in a market where small or midsize clients are increasing while megadeals are decreasing.
- CSC has continued to make changes to its offering portfolio with the divestiture of the U.S. public sector, while acquiring expertise in ServiceNow with Fruition Partners and the brokerage market with CSC Fixnetix's low-latency data center capabilities. This continued change in the offerings will challenge CSC, as it will require new marketing, management and expandable delivery capabilities to grow the offerings and maintain high service satisfaction.
- Some clients expressed dissatisfaction when it comes to CSC's asset procurement and management. Some clients reported that access to skill sets and the number of FTEs on the account were a weakness.

Dell

Dell's data center and cloud strategies revolve around four customer imperatives — transform, connect, inform and protect. Its data center services are delivered through nine Dell-owned multiclient data centers, plus 39 managed customer and colocation sites. While Dell does not report DCO/IUS revenue, Gartner estimates that its North American DCO/IUS revenue was $800 million this past year. Currently, the company is focused on the data center infrastructure, compute, network, storage and server markets. Dell consolidated workloads globally, resulting in VMs declining 1% to over 72,000 and an 18% decline in physical to over 37,000. Dell has clients with 7,078 servers in its DCO/IUS offering that rely on cloud-based infrastructure between its hosted private cloud and its public cloud partners AWS and Azure. Dell supports Oracle with over 60,000 users, growing at 20%, and SAP with over 32,000 users, growing at 19%. Dell data center references had an average revenue of $19 million annually. On 28 March 2016, NTT Data announced the acquisition of the Dell Services division, valued at $3.5 billion business. The acquisition is estimated to be completed during the fall of 2016, and organizations should be early and diligent in addressing changes as NTT Data brings the service offerings of both entities together.

Strengths

- Dell is focused on continuous portfolio enhancement, with innovative offerings in the DCO/IUS and cloud areas. Dell has focused on client satisfaction, resulting in very positive feedback in the market on Dell's ability to be an effective technology partner for hardware, software, services and security.
- Dell has worked to drive new security functionality and deliver industry-based solutions as it leverages industry insight from its large hardware installed base.

- Some client references stated that Dell meets or exceeds its delivery of contracted-for SLAs. Dell had strong overall customer satisfaction results among client references, with an emphasis on its partnering approach.

Cautions

- Dell has not had effective growth in virtual servers, and its public cloud offering is minimal. Dell has also agreed to sell its services portfolio to NTT Data, which could result in a loss of momentum due to the distraction of an ownership change.
- While Dell works to secure funding to acquire EMC, the services group has been challenged with the ability to invest in its products and capabilities.
- Some Dell clients stated that Dell needs more initiatives around automation, citing that they are not able to see the results of Dell's efforts in this space.

Fujitsu

Gartner estimates Fujitsu's global DCO/IUS business had revenue of $1.7 billion in 2015, an increase of 1% compared with 2014. Its North American DCO/IUS business had revenue of $168 million in 2015, which is a $1 million increase from 2014 levels. Fujitsu currently has more than 200 customers in North America. The company's DCO/IUS include a portfolio of data center services that ranges from RIM to cloud IaaS and cloud integration. Fujitsu continues to manage the shift to VMs with a 70% increase to over 6,000 and a 50% gain in physical to over 4,600. Fujitsu launched MetaArc in November 2015 for digital enablement and hybrid management. Fujitsu did not have clients on offerings that rely on cloud-based infrastructure with AWS and Azure partners. Fujitsu does support Oracle and SAP in traditional and hosted cloud services in North America. Fujitsu data center references had an average revenue of $19 million annually.

Strengths

- Fujitsu's NA DCO/IUS business is not large; however, the company's global presence in Europe, Asia and North America with global investments in data center services allows it to offer effective global solutions at competitive rates for global clients.
- Forty percent of Fujitsu's DCO/IUS deals have a private cloud service component, with SAP having strong representation. The Fujitsu Cloud Integration Platform (FCIP) addresses the problem of SaaS governance with single sign-on. Fujitsu claims that by combining existing tools and capabilities, it has created a reduced-effort, fast-start approach to end-user sign-on and security.
- Some clients praised Fujitsu for its breadth and depth of services capabilities. Fujitsu also received a high score for having effective and well-designed escalation procedures, operational capabilities and tool expertise.

Cautions

- Fujitsu's focus on cloud service brokerage/integration and hybrid infrastructure integration spanning hyperscale cloud appears to be late. Despite its globalization effort, Fujitsu's operations remain heavily skewed toward Asia/Pacific and Europe; however, Fujitsu is currently aligning its global operations. Time will tell if it sparks growth in North America.
- The Fujitsu offering is evolving to fill a gap. It brought over MetaArc Digital Business Portfolio to North America from Japan in support of digital business services for seamless access to public cloud. The launch of cloud automation services, K5, is expected to positively impact the customer base in 2016.
- Some clients reported that Fujitsu needs to improve automation initiatives; half of Fujitsu's references reported seeing no automation initiatives that resulted in visible benefits to their organization. Some clients reported that Fujitsu is not flexible with regard to changes or adjustments to SLAs during the contract.

HCL Technologies

Gartner estimates HCL Technologies' (HCL's) worldwide DCO/IUS revenue of $1.8 billion increased 16% in the last year, driven by $870 million in North American revenue, which grew 14% during 2015. HCL's focus on automation and its investment in third parties' next-generation data centers are creating a positive perception of the company's DCO/IUS strategies. Gartner's estimate of HCL infrastructure size includes VMs with a 72% increase to over 390,000 and a 3% contraction in physical to over 140,000. HCL has clients with 14,000 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. HCL supports Oracle with over 360,000 users, growing at 15%, and SAP with over 350,000 users, growing at 9%. HCL data center reference revenue averaged $16 million annually.

Strengths

- HCL demonstrated one of the highest growth rates in 2015. HCL's creation of megadeal pursuit teams is paying off as it pursues large renewal business with its strategy of increasing localization. HCL has become more selective on RFPs and is promoting more profitable offerings.
- HCL has a wide range of products and services around hybrid infrastructure management capabilities such as MyCloud, Cart, HCL Gold Blue Print and MTaaS, as well as other intellectual property rights (IPR) around PaaS, data analytics, enterprise applications and disaster recovery. HCL continues to develop Watson technology capabilities, along with its next-generation data center that is based on a twin data center reference architecture, and a hybrid cloud built on specific workloads. HCL has already delivered MyCloud Control, mostly for use in private cloud, but also in IUS/SaaS to control the SoftLayer, AWS and Azure platforms.
- Many clients cited high satisfaction overall with HCL, giving high scores for being very flexible with regard to changes or adjustments with SLAs, having robust standardized methodologies, and for workload transitions being well-planned and executed. Many clients also said HCL

provides good value for the money, has a strong breadth and depth of service capabilities, and has the staffing and resources needed to meet widespread geographical coverage.

Cautions

- HCL's client base has a large share of the data center capacities in-house. This is an opportunity for HCL, but could also be seen as an offering mismatch, with clients deciding to retain data center workloads rather than outsourcing them to HCL.
- HCL is following an asset-light approach to data center and will continue to effectively manage all risks through third-party supplier contracts. As clients move to the cloud and require hosted private cloud capabilities, the use of third-party data centers will be critical to HCL.
- Clients are concerned with HCL's ability to be a thought leader and challenges with HCL experience specific to their industry. Some clients were concerned about HCL having effective partnerships that will deliver value.

HPE

Based on Gartner's estimate and Hewlett Packard Enterprise's (HPE's) financial reports, 2015 results included over $1.8 billion in total DCO/IUS revenue in North America, down 6% from 2014. HPE continues to evolve its offerings with the announcement to offer public cloud services from partners AWS and Azure. HPE continues to manage the shift to VMs with a 46% increase to over 240,000 and a 30% decrease in physical to over 170,000. HPE supports Oracle with over 3.2 million users and SAP with over 2.3 million users, with both areas growing at 3.5%. HPE announced that it is starting to offer public cloud brokerage services. On 24 May 2016, HPE announced that it will spin off its $18 billion enterprise services business and combine it with CSC's $8 billion business. While the merge will not materially affect the two organizations until early 2017, organizations should be early and diligent in addressing changes as the two vendors figure out redundancies and organizational requirements to fill critical skills gaps in a timely manner.[2]

Strengths

- HPE offers an array of services in the North American market addressing all industries, including managed servers, MIPS and storage in more than 30 data centers. HPE has the global footprint to compete for large-scale global DCO/IUS deals.
- HPE's focus on infrastructure, utility and cloud-based services includes 1,500 clients globally, of which approximately 33% are located in North America. HPE offerings are based on its investment in the Helion cloud brand and its acquisition of Eucalyptus to enable AWS-compliant private clouds.
- Some clients stated that HPE has many ITIL-certified personnel and processes, which help it to consistently deliver services and consistently overachieve on SLAs. Clients stated that the HPE account team is very effective and can be a strong advocate for their needs within HPE. Clients also reported that HPE is effective at acquiring onshore or offshore resources with competent skills.

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Cautions

- HPE's new strategic plan to not offer its own public cloud and instead embrace existing public cloud offerings is behind many competitors for this specific area. This delay in offering support for public cloud may have helped contribute to the Gartner-estimated DCO/IUS revenue erosion of 6%.
- HPE has a small number of customers trialing its Helion Openstack hybrid cloud platform, but it has yet to deliver any significant use of its AWS-compatible private cloud offering, Eucalyptus. HPE's ability to lead with a cloud brokerage service with seamless operations will be proven with its new offering over the next 12 months.
- Some clients reported challenges with change requests taking too long to get pricing. HPE is challenged with delivery timelines. Some clients are challenged with HPE's lack of technical depth in some areas of the operations.

IBM

Gartner estimates IBM's 2015 revenue to be roughly $9.5 billion worldwide in the DCO/IUS space, with the North America DCO/IUS revenue remaining flat for 2015 at a Gartner-estimated $4.5 billion. IBM remains the largest competitor in this market across cloud and traditional environments. IBM's plans to increase revenue from its current strategic imperative (data, cloud and systems of engagement) from $25 billion in 2014 to more than $40 billion in 2018 appear to be on target, with $28.9 billion achieved in 2015. IBM offers two cloud platforms — the IBM Cloud Managed Services (previously known as SmartCloud Enterprise) and SoftLayer and brokerage access to all cloud models including Google, VMware, AWS and Azure. IBM is the largest mainframe management service business, with over 1 million MIPS under management. IBM supports 570,000 servers, attaining a 13% growth rate. IBM delivers in midsize and large infrastructure service deals and can scale to megadeals, with its key focus around verticals like manufacturing, financial, communication services, retail and distribution. IBM's data center references had an average revenue of $62 million annually.

Strengths

- IBM continues to make multibillion dollar investments in cognitive computing, automation and analytics tools to enable clients' digital transformation agendas and support IBM's evolution from a system integrator to a "services integrator," based around hybrid cloud. IBM seeks to bring together the full breadth of its integrated offerings and industry expertise in all industries. IBM offers a hybrid mix of services split between traditional, public and private cloud, and provides expertise on managing hybrid complexity, cloud brokerage and orchestration.
- IBM continues to grow its cloud revenue. For 2015, IBM committed to investing $1.2 billion to expand its global cloud operations, addressing all major geographies to increase the reach and capability of its business's IT operations.
- Many clients lauded IBM for its global presence, breadth of services offered, availability of expertise, scalability, reliability and security. Many clients praised IBM for its standardized services that can be augmented with broad offerings in public and private cloud.

Cautions

- IBM's internal restructuring is starting to impact its revenue, which remained flat for DCO/IUS in 2015. This will continue to be a challenge as more client deliverables move to cloud-based services with a primary focus on cost optimization that may not play to IBM's strengths. In response, IBM has reduced its services portfolio from 255 to 95 distinct services during 2015. Customers who work with IBM should determine whether they may be impacted by these rationalization and standardization efforts.
- As IBM manages its strategy of brokerage services between its own SoftLayer cloud and enabling client use of alternative cloud services such as AWS or Azure, it must also address the market issue of scaling the operations to allow effective service for small cloud clients, which have continued concerns that IBM will not be responsive to their needs.
- Some clients report that IBM lacks agility and is slow to respond to client requests. Some clients also rate IBM low in cost competitiveness, cost of upfront capital expenditure (capex) and cost of specific service elements like storage.

Infosys

Gartner estimates Infosys had more than $9.5 billion annual revenue for the year ending March 2016. In 2015, Infosys' DCO/IUS revenue in North America grew by 13% to $600 million, making North America Infosys' largest DCO/IUS revenue producer. Infosys has adopted design-led thinking and changed its approach to optimizing customer experience by redesigning customer engagement processes around run, modernize, migrate and secure. Infosys continues to manage the shift to VMs with a 9% increase to over 124,000 and a 1% gain in physical to over 70,000. Infosys has clients with 300 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Infosys supports Oracle with over 860,000 users, growing at 3%, and SAP with over 380,000 users, growing at 6%. Infosys data center references had an average revenue of $8 million annually.

Strengths

- Infosys' growth in the North American market has slowed, but continues at a good pace of 13% with a client count increase of 19%. This underpins its integrated approach toward traditional infrastructure management and next-generation, cloud-based services, as well as its focus on hybrid IT management with the Infosys Infrastructure Management Suite (IIMS), which includes the Infosys Cloud Ecosystem Hub (CEH). Infosys hopes to drive a 50% reduction in data center operations cost using IIMS
- Infosys continues to focus on human capital and reskilling its workforce with an investment in Infosys Mana, its knowledge-based AI platform and reuse (ongoing project productivity performances reported quarterly), zero distance (innovation and ideas generation) and partner orchestration.
- Many clients provided positive feedback on Infosys' skills and depth of knowledge. Some stated that Infosys can scale quickly with effective resources.

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Cautions

- The staff count in North America is up 50%; by contrast, revenue increased by only 13%. This may solve some strains due to attrition, but could also result in margin erosion.
- Most of Infosys' investments are aimed at long-term growth. Its investments in innovation and commitment to operating cost reduction through innovation are at odds in the short term with the current hiring increase and low double-digit growth performance.
- Some clients report that Infosys experiences challenges with consistency, and its ability to scale on-site resources for certain older technology is limited. Some clients also note that Infosys has language barriers, and some cultural barriers are a challenge.

Sungard AS

Gartner estimates Sungard Availability Services (Sungard AS) had close to $1.6 billion in annual revenue in 2015 and operates in 11 countries, serving over 6,600 customers. Gartner estimates DCO/IUS revenue in North America to be $960 million in 2015, a growth of almost 10%. Sungard AS provides cloud and managed IT services, disaster recovery services, business continuity management software and consulting services for its major businesses in North America, Europe and India. It has 19 data centers in the U.S. and three in Canada. Sungard AS continues to manage VMs with a 120% increase to over 3,000 and a 600% gain in physical to over 14,800. Sungard AS has a new brokerage service that uses cloud-based infrastructure with AWS and Azure partners. Sungard AS supports Oracle with over 5,000 users, growing at 40%, and SAP with over 6,200 users, growing at 27%. Sungard AS data center references had an average revenue of $20 million annually.

Strengths

- Sungard AS taps its history in disaster recovery to deliver resilient solutions to ensure that critical applications are available. Sungard AS has a full range of services, including hybrid infrastructure platforms, enterprise cloud, managed hosting and colocation for a fully managed, end-to-end infrastructure solution.
- Sungard AS's foundational mission-critical, recovery-based solution that is integrated with consulting services provides support to fully recover production operations to help ensure the right solutions to meet business needs.
- Many clients stated that Sungard AS's strengths include uptime reliability, solid and high-performing platform administration solutions, with a dedicated team of highly qualified technical and account management, all supported by its foundational high-availability infrastructure services capabilities. A few clients report that Sungard AS is cost-competitive, provides a broad base of services and is very flexible in delivering its services.

Cautions

- Sungard AS's move into the managed data center services business with an emerging cloud brokerage solution is a large load to take on and could stretch Sungard AS's cloud

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management and solution architect resources. Therefore, clients considering Sungard AS should make sure these issues will not interfere with the delivery of their required services.

- With a large percentage of its customer count remaining in the business recovery and disaster recovery arenas, Sungard AS will continue to need to balance the transition of those clients to IUS and cloud-based solutions.
- A few clients indicated that Sungard AS must shorten the time to make changes and respond to new requests to add clarity and flexibility.

Tata Consultancy Services

Gartner estimates Tata Consultancy Services' (TCS's) DCO/IUS revenue globally totaled $1.5 billion, with North American revenue reaching $805 million in 2015, an increase of nearly 38% over 2014. During 2015, Gartner observed that TCS is embracing the ability to drive transformation and cloud migration. TCS managed the shift to VMs with a 30% increase to over 540,000 and a 25% gain in physical to over 185,000. TCS has clients with 18,000 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. TCS supports Oracle with over 500,000 users and SAP with over 1.1 million users. TCS data center references had an average revenue of $20 million annually.

Strengths

- TCS is actively implementing ignio as a cloud-based SaaS model. This neural automation system is in production with clients, and is currently achieving 40% productivity improvement in labor requirements, as well as exponential improvement in business process efficiency.
- TCS is investing in Canada with the addition of data center space to serve the market locally. It has effective offerings in hybrid cloud, and has embraced the use of public cloud for customers with 90% of the cloud workload in Azure and AWS and 10% in the TCS cloud.
- Many clients commented that TCS provided a cost-effective solution, and was flexible in meeting the client's needs. Clients also commented that TCS's standardized approach led to consistent deliverables and a high quality of service.

Cautions

- Growth and success in the North American market are still predicated on an asset-light model that leverages client-owned data centers and colocation. With the expected growth of the TCS cloud and ignio offered in a cloud, the need for TCS data center space will prompt the need for additional public cloud resources.
- TCS is depending on automation and the abilities of ignio to maintain an effective labor pool, while meeting the 38% growth goal for services. While currently on track, this may lead to labor challenges if the planned effort to add 40 new clients to ignio in 2016 does not happen.
- Some clients report that TCS must improve its on-site resource skills for technical strength, and that TCS lacks innovation and thought leadership in existing client relationships.

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Tech Mahindra

Gartner estimates the Tech Mahindra's DCO/IUS revenue grew 18% globally. The North American revenue increased nearly 10% over 2014. Tech Mahindra managed server environments in 2015, which included a 6% increase in VMs and a 10% gain in physical servers. Tech Mahindra has clients in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Tech Mahindra does have SAP and Oracle support for design, migration, build and support services. Tech Mahindra data center references had an average revenue of $1 million annually.

Strengths

- Tech Mahindra's strategy includes investment in offerings such as its Managed Platform for Adaptive Computing (mPAC) hybrid cloud management platform, to support its growth in the private and hybrid cloud market. The mPAC solution provides a single point to manage all cloud and legacy data center infrastructure for the customer. This capability works with HP CSA, Azure, VMware and other infrastructure technology.
- Tech Mahindra has invested in FixStream Meridian (in which it has taken a 75% stake), an analytics platform to manage data center operations. It has also invested in an automation framework called AQT, to enable smart data center operations.
- Some clients gave Tech Mahindra high marks for responsiveness. Many clients praised Tech Mahindra for having a desire to make the service better. A few clients identified Tech Mahindra's willingness to adopt the client's standards and procedures.

Cautions

- Compared with more mature DCO/IUS providers, Tech Mahindra is relatively new, and its growth — Gartner estimated at 10% — is good, but on a small base of business. Tech Mahindra still needs to work on messaging and market recognition.
- Tech Mahindra has a solid hybrid cloud transition solution for clients, but clients may be challenged with Tech Mahindra, since the company just launched AQT in January 2016 as an automation framework to be a basis for innovation to drive new cost optimization.
- Some clients observe a need for innovation and new initiatives. Some clients report that Tech Mahindra's resources lack skills depth related to cross-functional domains. A few clients also suggested that Tech Mahindra should improve speed of communication, availability of resources and cost reduction.

Unisys

Gartner estimates Unisys had a 2015 global DCO/IUS revenue decline of 12% to $486 million, of which $300 million (with an 8% decline) is in North America. Unisys offers complete managed services solutions to align IT infrastructure to its customers. Technology development around software-defined enterprise, bimodal IT, cloud and security helps Unisys deliver a strong message to its customers on its readiness for future challenges. The company operates 36 data centers globally, with 14 residing in North America. Unisys continued to grow virtual and physical servers by

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20% to over 14,000. Unisys has clients with 115 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Unisys supports Oracle with over 3,500 users in a new offering and SAP with over 160,000 users, growing by a factor of 10. Unisys data center references had an average revenue of $6 million annually.

Strengths

- Unisys continues to modify its vision with an approach that includes establishing new digital business models, providing new products and services, and better engaging its customers, employees and partners. Unisys has an effective capability with AWS through its Unisys Stealth services. Cloud and infrastructure services integrate well for digital business via the Unisys secure digital enterprise. This allows a secure digital enterprise that includes speed, scale and big data analytics, all in a secure environment.
- Unisys has a foundation for renewed growth with services designed to take clients to a "Business as a Service" and hybrid IT environment, along with its digital infrastructure services solution, underpinned by value-based offerings and transformational program services.
- Many clients stated that Unisys provided excellent day-to-day delivery performance. Some clients reported that Unisys was flexible in meeting their business requirements and was responsive with customer service during problem times.

Cautions

- While easing slightly, as Unisys grows its commercial practice, the company continues to have a strong dependence on federal and other government contracts. This means that it must double its effort to reduce government deals as a part of its total infrastructure service portfolio. Relying on a single sector is risky.
- While Unisys increased its cloud-based revenue, it has yet to generate the increased revenue that it needs to join some of its competitors as leaders in the cloud-based solution space. Continued investment in communicating its cloud-based resources and competencies in North America (indeed across the globe) is needed, as is a new approach for the Unisys sales force to sell cloud solutions more similar to the market than traditional services. Doing so will go a long way toward reversing the declining revenue stream.
- A few clients stated that Unisys needs more staff with knowledge and experience in web application support, and that it needs to continue to minimize resource turnover as much as possible. Some clients also stated that Unisys needs to provide better costs for changes and make commitments quicker than it does today. Finally, some clients stated that Unisys must transition more quickly to a cloud broker/integrator service provider.

Wipro

Gartner estimates Wipro's global DCO/IUS revenue reached $1.4 billion in 2015, an 18% increase from 2014, with $650 million of that revenue coming from North America, which is 15% growth during the same time frame. It achieved this growth through significant cloud hybrid transformation deals and associated managed services with automation capabilities. During the past year, Wipro launched new services such as its Cloud Command Center, cloud brokerage services, a mainframe-as-a-service offering, connected intelligence IoT program, DevOps and a number of open-source-based data center solutions. Wipro continues to manage the shift to VMs with a 70% increase to over 390,000 and a 3% reduction in physical to over 140,000. Wipro has clients with 3,000 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Wipro supports Oracle with over 2.4 million users, growing at 7%, and SAP with over 830,000 users, growing at 136%. Wipro data center references had an average revenue of $28 million annually.

Strengths

- Wipro's digital innovation approach is to drive hybrid IT and a boundaryless data center, as well as focus on competitive automation as a market. A cloud-first approach with outcome-based and utility pricing is at the core of the new value proposition, with extension to mainframe services.
- Increasing its hybrid infrastructure deals across the globe has Wipro positioned across top integrators and management for AWS and Microsoft. Wipro demonstrated significant client and revenue growth. Wipro is delivering on the promise of hyperscale efficiencies and automation, further demonstrated by its Holmes tool, which is adding notable value to key clients.
- Many clients stated that Wipro is effective at delivering continuous improvement, is flexible in its approach to deal changes, and responds quickly and succinctly to new requests and changes to existing solutions. Some clients were delighted by Wipro's ability to deliver vertically integrated solutions in a simple, seamless manner.

Cautions

- Wipro has offices in Broomfield, Tempe, Omaha, Atlanta, Leonia and Canada, as well as Mexico; however, nearshore capabilities remain limited at this time, and offshore resources, while plentiful, remain less than optimal at delivering solutions that a bimodal world requires.
- Due to continued rapid growth, Wipro is experiencing challenges with customer satisfaction. Early signs of improvement are evident as Wipro implements the largest transformation in its history, the "Drive" delivery and customer satisfaction program, which is focused on restructuring, sales, delivery and customer satisfaction.
- Some clients highlighted that Wipro has yet to fully develop and deliver on its hybrid cloud solution. A few clients stated that contract changes can take a little longer than expected. Some clients stated that Wipro needs to strengthen on-site delivery leadership to grow its accounts being addressed by "Drive."

Zensar

Gartner estimates Zensar North American DCO/IUS revenue of $224 million, equating to 2% growth from the prior year. Zensar's Infrastructure Management Services portfolio comprises RIM, data center services, end-user computing, and security and compliance, among other services. Zensar continues to manage the shift to VMs with a 90% increase to over 6,700 and a 5% gain in physical

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to over 107,000. Zensar has clients with 900 servers in its DCO/IUS offering that rely on cloud-based infrastructure with AWS and Azure partners. Zensar supports Oracle with over 12,500 users growing at 25%, and supports a minor SAP workload. Zensar data center references had an average revenue of $1 million annually.

Strengths

- Zensar has been gradually enhancing its portfolio to become a one-stop shop for all infrastructure services. Zensar has several partners in this space, including Nutanix, SimpliVity and Cisco, as well as others, to offer consolidation and simplification of the compute and storage tiers through the latter's next-generation converged data center infrastructure solution platform.
- Zensar can provide a full array of offerings and scale with delivery to global enterprises, as well as smaller clients, as indicated by the size of the references. This allows for small and midsize clients to obtain effective services in the DCO/IUS space.
- Many client references praised Zensar's flexibility in creating SLAs. Clients also indicated that senior leadership is actively engaged and treats them more like a partner than a client.

Cautions

- IUS and cloud are a small percentage of Zensar's business; Zensar currently lags behind the market leaders in developing and delivering cloud-based solutions. Zensar has been challenged and will be challenged to grow unless it can grow its cloud-based solutions.
- Zensar has several partners that help deliver its solutions, and while it has a solid ecosystem of partners, having more of its own solutions will help drive market differentiation in the future.
- Zensar clients indicated they had some issues with depth of skills, the staff's ability to stay current and the proactiveness of the team. Some clients expressed concern for the time required to implement infrastructure changes and Zensar's ability to move quickly to service additional sites.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor's appearance in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

No new vendors were added this year. However, HPE was split off from HP Inc. This split into two providers in November of 2015 allows Hewlett Packard Enterprise (HPE) to focus on services, enterprise hardware and enterprise software. CSC also spun off its U.S. federal business, which totaled approximately 33% of its revenue.

Dropped

The following vendors are not included in this year's Magic Quadrant because they do not meet one or more inclusion criteria; however, they are appropriate for certain situations and sometimes compete against vendors covered in this Magic Quadrant:

- FIS
- CenturyLink

Inclusion and Exclusion Criteria

This Magic Quadrant focuses on management services for mainframe, centralized server, public cloud brokering, SAP hosting and Oracle hosting environments. It evaluates each service provider's capability to deliver data center managed services and IUS across North America. Cloud IaaS and PaaS offerings that are part of IUS offerings and data center managed services are included in this evaluation. As in previous years, this Magic Quadrant excludes simple, dedicated web-hosting and colocation services.

Included are service providers that:

- Demonstrate that, while data center direct ownership is not a requisite, they provide DCO/IUS as a direct end-to-end service
- Show they manage disparate data center delivery capabilities (data centers owned by providers, clients or third parties) in North America — either in Canada, the U.S. or both
- Generate at least $100 million in annual DCO/IUS revenue in North America

Excluded are service providers that:

- Offer data center services under contract with partners.
- Focus exclusively on pure hosting services, such as colocation or simple/dedicated hosting. Also excluded are providers that take a purely rental approach to data center capabilities.
- Engage in DCO/IUS service relationships that only manage clients' data center resources remotely or that are not bundled; for example, when a client has one contract with a hosting provider and a second contract with a RIM provider.

We required each service provider to disclose its vision of the market and ability to execute DCO/IUS. We also asked each to provide details of the following:

- DCO/IUS strategy, service line financials, investments and other main indexes
- Global delivery, including RIM and low-cost locations

- IUS offerings, clients, servers, examples of SLAs and pricing models (inclusive of cloud IaaS and PaaS offerings that are part of DCO/IUS)
- New-generation data centers, "green" IT and physical consolidation plans
- Deal pipeline, deal structure, and sales organizational structure and performance
- Value proposition, key differentiators and win/loss elements

Evaluation Criteria

Ability to Execute

Gartner evaluates the providers based on the quality and efficacy of the processes, systems, methods and procedures that enable each provider's performance to be competitive and effective, while positively affecting revenue, retention and reputation. We judge providers on their ability to capitalize on their vision, their success in doing so, and their North America resources, coverage, seamless delivery and ability to meet clients' requirements.

Ability to Execute is judged by seven main criteria. Each criterion is described below, and their respective weightings are shown in Table 1.

Product/Service

For this category, we evaluate each provider's service delivery capabilities and the services offered. We give special consideration to practice area profile and service capabilities in North America, service definition, effective "resourcing" and transition management. The categories of service for our study are as follows:

- Practice area profile and service capabilities, with a focus on:
  - North American DCO revenue, client numbers and staff allocated
  - Data center location, ownership (provider, client or third party) and size; control center location and size
  - Management team and position in the corporate structure
  - Amount of MIPS and servers supported
  - Percentage of revenue earned from public cloud services against AWS, Azure and others
- Core services and SLAs, with a focus on:
  - The management of SLAs, which includes the provision of core and ancillary data center services, such as full facilities management, remote management, customer on-site support, capacity/configuration planning and consulting on consolidation

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- SLA provided on public cloud environments:
  - Typical SLAs offered to market for services and procedures for defining, reviewing, measuring and reporting SLAs
  - Penalties or incentives that are tied to SLAs, including measurement of customer satisfaction
- Resourcing and transition management, which measure:
  - Effective provision of relevant resources to customers
  - Effective tools and procedures to assist with resource allocation
  - Specific transition tools and methodologies for IUS and cloud transitions
  - Practices in place to recruit, train and retain qualified staff, and the key skill sets and competencies of those resources; methodologies specific to public cloud transition and workload migration across hybrid clouds
- Also, in relation to transition management and staff, with a view to the next two years, we inquire into service providers':
  - Ability to integrate staff coming from client organizations through competitive job offers achieved by addressing — in different countries — areas such as salary and benefits packages, retraining, career progression opportunities and minimized disruption to employees due to job relocation
  - Typical process and project plan for transition, as well as procedures for shifting workload to the service provider's facility
  - Feedback from clients on their experiences with transition projects and day-to-day service

Overall Viability

This category includes an assessment of the overall financial health of the organization, the financial success of the provider's data center operations, and the likelihood that the individual data center business unit will continue investing to support state-of-the-art delivery of the organization's portfolio of services.

In particular, we consider:

- Growth in the volume per unit (MIPS and/or servers) and revenue in the outsourcing data center segment during the past three years
- Outlook for this outsourcing segment of the business, including expectations for growth, decline or stability of revenue, margins, units and unit prices
- Replacement of own resources with public cloud resources, additional revenue from migration and hybrid infrastructure management services

Sales Execution/Pricing

For this category, we assess each provider's capabilities in all presales activities and the structure that supports them. We consider teams in charge of deal management, pricing and clarity of scope.

We also interview clients to gather feedback about their experiences with the provider in the areas of negotiation and pricing.

Market Responsiveness/Record

For this category, we assess each provider's ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customers' needs evolve and market dynamics change, with particular focus on cloud-first strategy implementation, rapid migration capabilities/methodologies, hybrid infrastructure management service architecture, tools, processes and resources.

We also ask clients for feedback on their service provider's flexibility, continuous improvement and innovation.

Marketing Execution

For this category, we assess the clarity, quality, creativity and efficacy of programs designed to deliver an organization's message to influence the market, promote its brand and business, increase awareness of its services, and establish a positive association in the minds of buyers between it and its services and brands.

Customer Experience

For this category, we evaluate reference customers' overall satisfaction with the service and the relationship, taking into account other Gartner-client interactions. We obtain access to reference customers by asking each provider for five to 10 North American references for DCO services. We require that these references observe the geographic distribution needed to participate in the study and the different industries addressed. We also ask for samples of global reports on SLAs, customer satisfaction and other relevant measures during the past 12 months.

In particular, we consider important elements of a successful DCO customer experience. These include client satisfaction, incentive plans for account teams, and continuous improvement processes in place both centrally and within the account management team.

Operations

For this category, we assess each provider's ability to meet its goals and commitments, including contractual service delivery obligations to clients. Factors include the quality of the organizational structure, skills, experiences, programs, systems and other vehicles that enable the service provider to operate effectively and efficiently on an ongoing basis.

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In particular, we consider communication processes, quality control and assurance processes, relationships, contract and service delivery management, continuous improvement plans, methodologies — especially relating to ITIL processes — and other certifications available for all sites and specific data centers or clients.

We will also access at a high level processes, procedures and resources for hybrid infrastructure management services — how integration of ITIL and self-service is managed from a roles and responsibility matrix perspective, such as SLA, exclusion clauses and tooling.

We speak to providers about their main procedures (operational, transitional, and relating to program management, relationship management and change management) and ask reference customers for feedback about those procedures.

We ask the providers to supply information about the facilities and services they provide, the principal system platforms they manage, locations, capabilities and resources, disaster recovery plans, physical and IT security, and backup procedures.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Low
Customer Experience	High
Operations	Medium

Source: Gartner (July 2016)

Completeness of Vision

Gartner evaluates service providers on their ability to articulate logical statements convincingly about current and future market directions, innovations, customer needs and competitive forces, and on how well these map to Gartner's position. Ultimately, we rate providers on their understanding of how they can exploit market forces to create opportunities for their organizations.

Completeness of Vision is judged using eight main criteria. Each criterion is described below and their respective weightings are shown in Table 2.

Market Understanding

For this category, we assess each provider's corporate view of the data center services and outsourcing market in North America. We evaluate how each provider is trying to address the main requirements of North American clients. We also look at the main effect that new technologies, delivery models and services are likely to have on each provider's business and delivery models in the short term and the medium term.

In particular, we consider each provider's:

- Vision for DCO and utility services, including IaaS- and PaaS-enabled offerings
- Plans to differentiate itself from its major competitors
- System for segmenting and analyzing the target market to drive marketing and sales
- Plans to position these services within a broader offering

Marketing Strategy

For this criterion, we assess each provider's main marketing messages relating to DCO services in North America.

In particular, we consider:

- Current and future value propositions for DCO, IUS and cloud infrastructure services in North America
- The importance of DCO services within the broader portfolio of IT services
- Channels for internal and external communications
- The differentiation of a provider's message from those of its competitors

Sales Strategy

For this category, we require each provider to illustrate its overall sales strategy for DCO (for example, direct selling versus indirect selling via partners, allies and channels), its reactive answers to RFPs as compared with its proactive activities, its stand-alone offerings as compared with offerings bundled with other services, and its dedicated sales force as compared with its general sales force.

In particular, we consider:

- A high-level sales organization chart to illustrate the provider's go-to-market strategy
- The number of dedicated personnel in North America
- The number of offers issued during the past 12 months, as well as the number in the pipeline

- Countries covered by direct, local teams, as opposed to centralized teams
- Direct sales versus partners' sales versus self-service (public cloud) commercial approaches
- Client retention rate (driven by the ease of doing business with the provider and its focus on relationship management)

Offering (Product) Strategy

For this criterion, we require each provider to specify the most important aspects of the service offering that differentiate it in the market and deliver value to its clients.

In particular, we consider each provider's:

- Ability to integrate client assets, including data centers in North America
- Ability to transfer data center staff from client to provider
- Approach to combine standard service elements into customized service delivery to provide flexible, low-cost and cloud-enabled service offerings
- Ability to provide end-to-end business process management of hybrid infrastructure and application

Business Model

For this criterion, we asked each provider for a high-level description of its business model for DCO services, and how this fits within its overall business model. In particular, we consider each provider's ability to address and satisfy two competing requirements: client-specific requirements (which drive client satisfaction) and industrialized, centralized delivery of DCO services (which drives low costs and protects margins).

To evaluate how well each provider's business model addresses account management, we asked for information about:

- The structure of the management teams used to support and manage customers
- The structure of the teams managing the relationship with public cloud providers
- The average experience, knowledge and skills level of executive managers and key customer-facing managers
- Processes to address customer issues locally, as compared with centrally, including customer access to the appropriate level of management within the service provider and to escalation procedures both internally and toward public cloud providers

To evaluate how well the providers' business models address delivery, we asked each to describe its strategy for centralized delivery of standardized data center services. We focused on how much of the service is based on virtualized and automated platforms and how much uses cloud IaaS and

PaaS platforms. We also asked for information about the provider's approach to global delivery of DCO services, as well as established and planned RIM premises.

We asked each provider's reference customers for their judgment about their provider's business model, including account management and service delivery, and we factored their answers into our evaluation.

Vertical/Industry Strategy

For this criterion, we assess each provider's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

In particular, we consider each service provider's:

- Penetration of different industries for DCO services
- Penetration of public cloud (especially IaaS) that may drive different public cloud platforms in different regions/verticals
- Ability to demonstrate expertise in the vertical markets and business processes underpinned by DCO services

Innovation

For this criterion, we evaluate each provider's position in the market as a thought leader and an innovator. We also evaluate each provider's leadership and investment activities to achieve its vision and develop innovative strategies in the DCO market.

In particular, we asked providers to answer the following questions:

- What investments is your company making to sustain and enhance its vision for innovative DCO services?
- How do you offer innovation to your established and new customers?
- What innovative solutions have you provided to customers during the past 12 months?
- What global alliances do you have with other leading suppliers, and what investments support these alliances?

We also asked for details about each service provider's utility-based offerings, including:

- Highly standardized services, processes and SLAs
- Virtualized and automated computing platforms
- Hybrid infrastructure management services
- Utility pricing units

- Reduced baselines, increased flexibility, and cloud enablement and application/workload/data portability

We asked reference customers for their judgment of their provider's ability to innovate (including the technical aspects of innovation); ability to lower costs and improve service by delivering innovative utility-based services; and degree of proactiveness, adaptability and service flexibility.

Geographic Strategy

For this criterion, we examine each vendor's regional capabilities, global consolidation processes, local alliances and partnerships, including:

- Highly standardized services, processes and SLAs
- Virtualized and automated computing platforms
- Hybrid infrastructure management services
- Utility pricing units
- Reduced baselines, increased flexibility, and cloud enablement and application/workload/data portability

We also asked reference customers for their feedback about local capabilities and the current or potential effects of consolidation and global delivery processes.

Additionally, we asked each service provider to reveal its vision of the market. We asked each to provide details of the following:

- DCO strategy, service-line financials, investments and other main indexes
- Global delivery, RIM and low-cost locations
- IUS offerings, clients, servers, examples of SLAs and pricing (including those for cloud IaaS and PaaS offerings that are part of DCO/IUS)
- New-generation data centers, "green" IT and physical consolidation plans
- Deal pipeline, deal structure and sales performance
- Value proposition, key differentiators and win/loss elements

Providers also had to identify at least five reference clients for North America and specific services under analysis.

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	Medium
Marketing Strategy	Low
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	High
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Medium

Source: Gartner (July 2016)

Quadrant Descriptions

Leaders

Leaders perform skillfully. They have a clear vision of the market's direction and develop competencies to maintain their leadership. They shape the market, rather than follow it. This year, the Leaders quadrant includes (in alphabetical order) CSC, HCL Technologies, HPE, IBM and Tata Consultancy Services.

Challengers

Challengers execute well today, but they have a less well-defined view of the market's direction. They need to be more aggressive in outlining and communicating their strategy for the future. This year, the Challengers quadrant includes (in alphabetical order) Atos, Capgemini, Cognizant, Dell, Infosys, Sungard AS, Unisys and Wipro.

Visionaries

Visionaries have a clear vision of the market's direction and focus on providing services to meet future market needs. They need to improve their ability to deliver and to penetrate the North American market. This year, the Visionaries quadrant includes Accenture.

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Niche Players

Niche Players focus successfully on a particular service, a limited number of North American markets or both. This narrow focus may affect their ability to outperform or innovate. This year, the Niche Players quadrant includes (in alphabetical order) CGI, CompuCom, Fujitsu, Tech Mahindra and Zensar.

Context

The continued pressure on IT budgets and the increase in IT spending outside of IT budgets have led many organizations to forgo building or upgrading data centers in favor of exploring alternatives, such as colocation and/or hosting, DCO/IUS, cloud computing, and hybrid service approaches. The data center services market, when cloud-enabled, can offer price points as much as 50% lower than clients' internal or traditionally outsourced costs.[3] Since infrastructure costs make up about 57% of the average IT budget,[4] and most of this comes from data center services, Gartner's Magic Quadrant ratings offer must-have support for informed decisions on how to spend a large portion of the IT budget.

This Magic Quadrant assesses the Ability to Execute and Completeness of Vision of 19 DCO and IUS and managed virtual private cloud providers in North America. This information and analysis can help CIOs, infrastructure and operations managers, and sourcing managers select a provider for midrange to long-term DCO and IUS contracts that support critical functions and business objectives with a North American geographic set of capabilities.

Sourcing executives and CIOs looking for truly worldwide service provision can leverage Gartner's three regional Magic Quadrants, which together cover almost the entire globe. Those documents are produced with a single methodology by joined-up research teams. Thus for a true global view, refer also to the most recent version of our "Magic Quadrant for Data Center Outsourcing and Infrastructure Utility Services, Europe" and "Magic Quadrant for Data Center Outsourcing and Infrastructure Utility Services, Asia/Pacific."

Apply Gartner's Ratings to Your Specific Requirements

Gartner's ratings do not imply that clients should simply select service providers in the Leaders quadrant. Selection requirements are enterprise-specific, and vendors in the Challengers, Visionaries or Niche Players quadrants may prove more appropriate for a particular engagement. Each provider will have a different sweet spot that reflects the types of deal in which it excels, its culture and industry coverage, as well as the maturity of its service provision.[5] In addition, the online features of this Magic Quadrant enable users to tailor evaluation weights for further analysis, based on the aspects that are most important to their organization.

Clients should not disqualify a provider simply because it is not in this Magic Quadrant. Gartner's inclusion criteria result in our analyzing the most established providers in the infrastructure services market, but other IT services providers may present better alternatives for your business

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requirements. A Gartner analyst can help shortlist the most suitable candidates for specific client requirements and assist with a deal sweet-spot analysis of candidates.

Market Overview

In alignment with Gartner predictions about industrialized low-cost services (ILCS) and cannibalization of service revenue, five of the largest service providers collectively gained in 2015 $1.0 billion on $22 billion in DCO/IUS revenue globally — a 4.3% increase. All participants gained a total of $2 billion on $40 billion in revenue or 5% growth.[6] However, the number of data center clients grew almost 7% globally — an indication that the price per unit measure of service delivery, particularly in cloud-based solutions, continues to drop year over year.

Nevertheless, the worldwide market for data center services — including DCO, IUS and cloud IaaS — remains the largest segment of the ITO market.[6] The North American market has DCO at 27%, with hosting services at 38%, and as the flat economy continues, more businesses are migrating to IUS and cloud services to increase their international competitiveness and lower their IT costs. Many CIOs are reconsidering data center build-out and expansion projects in favor of cloud computing, and some are looking to become "data center free" — or as close as is reasonably possible — by the end of the decade.[7]

The global data center services market (including DCO, hosting, colocation and IUS) is worth $147 billion in 2016, including $38 billion from cloud services. Of that total, North America contributed around $61 billion, of which $23 billion was hosting services. (It is important to note that the rapid fluctuations in the exchange rate between the U.S. dollar and the euro altered our 2015 to 2016 market forecast.)

Collectively, the providers represented in this Magic Quadrant for North America generated revenue estimated at over $16 billion, which is approximately 66% of the DCO/IUS market. For more detail about the geographical distribution of the data center managed services market and a detailed country-by-country and service category analysis, see "Forecast: IT Services, Worldwide, 2014-2020, 1Q16 Update."

Gartner predicts that the key business indicators of data center service providers will further improve during the next five years, making them a more competitive outsourcing choice. Growth in data center services has shifted from traditional to new models, reflecting a shift in competitive delivery models and the rapid increase in automation to replace labor for the more repetitive tasks, which in some cases is managing more than 60% of issues in a totally automated fashion. Providers are taking advantage of this by creating and delivering low-cost, industrialized IUS and by producing higher numbers of new offerings such as cloud IaaS and PaaS.

The North American Market Update

Hosting continues to gain ground in North America, now representing about 37% of the market. However, challenges are surfacing with public cloud solutions (IaaS). With non-negotiable contract terms, many clients are refusing to put business impact solutions in the public cloud because of the many risks — such as intellectual property, vendors not accepting liability and many data risks, including integrity and intrusion.

The rise of Indian providers in this market signals another delivery model for data center managed services. This model is more asset-light and based on remote managed services. To factor in this model, we have clarified our inclusion criteria (see the Market Definition/Description section that discusses RIM-based services) to include providers that engage in bundled DCO relationships while managing third-party-owned and client-owned data centers, and have therefore removed the requirement for data center estate ownership.

As entities look for mainframe service support, the market in North America has many options. IBM has more than 1 million installed MIPS under management. The vendors with over 100,000 installed MIPS under management include Atos, Cognizant and Wipro. The vendors with over 50,000 installed MIPS under management include CSC, HCL Technologies, HPE, Tata Consultancy Services and Unisys. The vendors with less than 50,000 installed MIPS under management include Accenture, Capgemini, CGI, Dell, Fujitsu, Infosys and Tech Mahindra. The vendors with no installed MIPS under management include CompuCom, Zensar and Sungard AS. Other vendors outside the MQ that have installed MIPS under management include Blue Hill, Ensono (formally part of Acxiom) and First National Technology Solutions.

In a very large, complex and fast-moving data center services marketplace, best practice is actually to evaluate more scenarios than providers, avoid "big bang" deals and adopt a test-and-pilot approach on a shortlist of providers. Contact Gartner analysts to get additional information and identify the shortlist of providers that can provide the required fit to your data center requirements.

Acronym Key and Glossary Terms

DCO	Data center outsourcing
ESP	External service provider
IaaS	Infrastructure as a service
IoT	Internet of Things
IUS	Infrastructure utility services
PaaS	Platform as a service
RIM	Remote infrastructure management

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Hybrid IT: Delivering IT as a Provider and a Trusted Broker"

"Top Global Megatrends Impacting Data Center Strategies"

"Toolkit: Decision-Making Model for Data Center Service Sourcing Strategy"

"Riding the Wave of Industrialized Low-Cost IT Services"

"How Markets and Vendors Are Evaluated in Gartner Magic Quadrants"

"Proper PreSignature Risk Management Avoids Trouble With Cloud IaaS and Infrastructure Outsourcing Contracts"

Evidence

[1] Providers are asked factual information about managed data centers, assets, revenue, and other business and technical measures. When a provider will not disclose information or references, Gartner analysts rely on public, customer and its own research information to make appropriate estimates.

[2] See "HPE Spinoff/CSC Merger Needs More Than the Sum of Its Parts to Succeed," "Gartner Invest Analyst Insight: HPE Spins Off Services Business, Merges With CSC" and "Avoid Disruption Caused by Your Service Provider's Merger, Acquisition or Divestiture."

[3] "Toolkit: Price Dynamics on the Data Center Services Market Map; The 3D View."

[4] "IT Key Metrics Data 2013: Key Industry Measures: Cross-Industry Analysis: Current Year."

[5] "Deal 'Sweet Spot' Analysis Accelerates Service Provider Evaluation and Selection."

[6] "Forecast Analysis: IT Services, Worldwide, 1Q16 Update."

[7] A multicloud strategy will become the common strategy for 70% of enterprises by 2019, up from less than 10% today (see "The Future of the Data Center in the Cloud Era").

Note 1 Definitions of IaaS and PaaS

Infrastructure as a Service (IaaS)

The capability, provided to the consumer, to provision processing, storage, networks and other fundamental computing resources where the consumer is able to deploy and run arbitrary software that can include OSs and applications. The consumer does not manage or control the underlying cloud infrastructure, but has control over OSs, storage, deployed applications and, possibly, limited control of select networking components (such as host firewalls).

Platform as a Service (PaaS)

The capability, provided to the consumer, to deploy onto the cloud infrastructure consumer-created or acquired applications developed using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure, including network, servers, OSs or storage, but has control over the deployed applications and possibly application hosting environment configurations.

Hybrid IT

The term "hybrid IT" describes the new function and operational model for IT in a cloud computing, dynamically multisourced, heterogeneous world. A hybrid IT organization is a trusted broker, interface and provider for all IT services, whether private or public, which will be a combination of services provided by the IT organization and external providers, using both cloud computing styles and traditional styles of computing that are integrated, aggregated, customized, managed and governed to meet enterprise IT requirements.

Note 2 Percentages

Please note that all percentages without a decimal place are approximate — as provided by the vendors.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

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Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

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Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

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