

IDC MarketScape: Worldwide Managed Multicloud Services 2021 Vendor Assessment

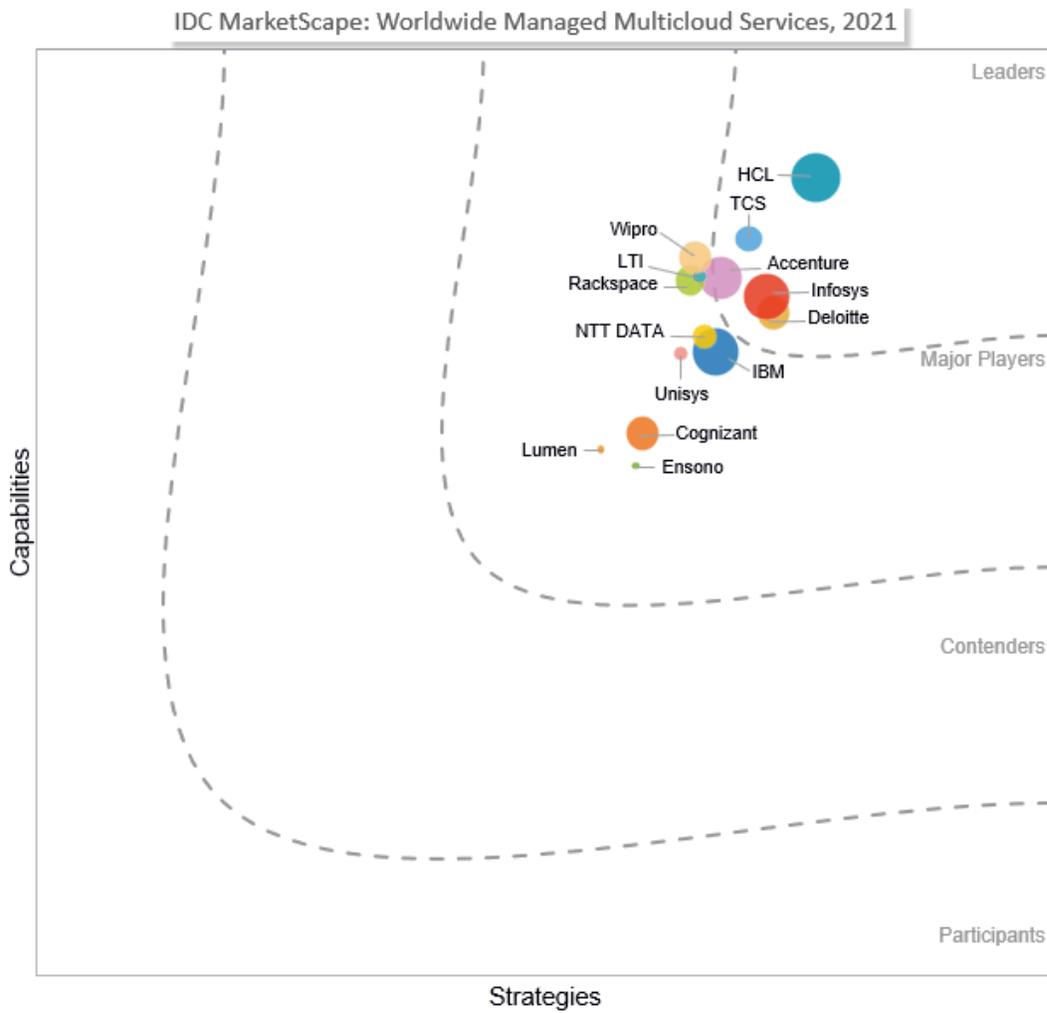
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IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Managed Multicloud Services Vendor Assessment



Source: IDC, 2021

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IDC OPINION

Using the IDC MarketScape model, IDC compared 14 service providers (SPs) that provide managed multicloud services (MMS). IDC research highlights that when it comes to utilizing managed multicloud services, enterprises are seeking to use these services to become more agile, drive revenue, and standardize the IT environment. However, as firms expand their use of cloud, they are confronting the complexity of managing across a vast set of IT resources spanning cloud operating models (private, public, hybrid), cloud platforms (infrastructure as a service [IaaS], platform as a service [PaaS], software as a service [SaaS]), and cloud service providers (e.g., AWS, Azure, Google, IBM, ServiceNow, Alibaba, Oracle, SAP, salesforce.com, Workday). Complicating the management of all these resources is knowing how to optimize where to place workloads and application types (e.g., ERP, SCM, CRM), critical software brands (SAP, Oracle, Microsoft), and competencies (e.g., analytics, blockchain, cognitive/artificial intelligence [AI], hybrid cloud, IoT), to name a few. This is where managed SPs can help enterprises orchestrate and manage across a constantly expanding and shifting landscape of assets, providers, processes, and people to support client multicloud needs.

IDC used more than 100 criteria and 27 in-depth customer interviews spanning 10 countries and 11 industries to compare managed SPs that provide managed multicloud services, for which there are an array of players competing in this market. IDC's findings revealed that while each of these managed SPs exhibited many similarities in their capabilities supporting a broad portfolio of managed multicloud services, players do differentiate and are differentiated by key factors involving applications and infrastructure; financial variables and measurements; platforms spanning IaaS, PaaS, and SaaS; innovative technologies and capabilities; operational management; and ecosystem of partners. IDC's findings also highlight client feedback that reflects client experience in utilizing managed SPs for managed multicloud services to execute these capabilities. If your organization is focused on using managed multicloud services, leverage this IDC MarketScape as a companion tool to compare and contrast providers your organization is considering or shortlisting to support your use of these services.

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

IDC collected and analyzed data on 14 service providers within its 2021 IDC MarketScape for managed multicloud services assessment. Vendor options for managed multicloud services are extensive and cover a broad set of different types of players. In determining the group of vendors for analysis in this IDC MarketScape, IDC utilized the following set of inclusion criteria:

- **Revenue.** Minimum of \$100 million worldwide generated by managed multicloud services
- **Delivery locations.** Geographic presence (i.e., feet on the ground, delivery capability across major regions) in a minimum of two regions (e.g., Americas, EMEA, APAC)
- **Managed multicloud services coverage.** Must support either or both of the following for clients: two or more public cloud providers and/or hybrid clouds used by a client (combining private and public)
- **Technology coverage.** Applications (e.g., ERP, productivity, SCM, CRM) for cloud and noncloud technologies and/or cloud infrastructure (e.g., compute, storage, network)
- **Number of public cloud partners (IaaS, PaaS, and SaaS providers).** Minimum of two public cloud providers spanning IaaS, PaaS, and SaaS

- **Life cycle of services (end-to-end services).** From modernizing (e.g., architecting, developing/migrating) to ongoing management

ADVICE FOR TECHNOLOGY BUYERS

The combination of COVID-19, climate change, shifting societal norms, and buyer behavior has dramatically elevated the business and IT requirements that firms need to meet in order to maintain competitiveness. These requirements involve factors such as faster time to market, meeting new compliance and regulations, personalizing goods and services, creating sustainable operations and products, as well as adapting much more quickly to rapid changes. The impact of these pressures is that firms need to make a fundamental shift in the underlying IT resources and assets by creating a cloud-centric set of capabilities. However, as firms expand the use of cloud resources, they are facing an increasingly daunting task of ensuring that they not just can maintain control but also can orchestrate the development, deployment, and management of these resources effectively. Consequently, many managed SPs are positioning themselves as having the right balance of resources and capabilities to help firms meet these challenges. Though enterprises expect managed SPs to have a broad set of capabilities, through detailed client interviews and extensive demand-side research, IDC has identified the following critical areas that buyer organizations should consider in their process of selecting the optimal vendor to meet their needs for managed multicloud services:

- **Ensure access to the right talent.** The breadth of talent and skill to support a multicloud environment is both constantly expanding and changing. The types of talent span from technical expertise involving a wide array of existing and new technologies (hardware and software) and delivery platforms (IaaS, PaaS, SaaS) to talent needed to support new processes (DevOps, continuous integration/continuous delivery [CI/CD], site reliability engineering [SRE]), use of new types of service providers (e.g., AWS, Azure, Google, Alibaba, ServiceNow, salesforce.com, Workday), and implement operational excellence that includes the use of advanced automation (cognitive/AI) in orchestrating across all these resources. When it comes to buyers of managed multicloud services, they expect that managed SPs be able to provide them with the right resource at the right time in the right location with highly skilled talent across any of the aforementioned areas. In addition, firms expect that a managed SP be able to find resources outside its organization, such as with partners or potentially crowdsourcing, to fill any gaps that the managed SP might have. Further, enterprises are increasingly expecting that the managed SP helps train the client's employees on how to utilize these new types of cloud capabilities. Essentially, enterprises are looking for a managed SP that creates a team environment in which the client is part of the team and can learn with the managed SP.
- **Understand approach to multicloud management (MCM).** Enterprises are learning through the implementation of cloud capabilities (private, public, hybrid) and the use of cloud service providers that becoming fluent in utilizing cloud resources requires a new approach to IT and new sets of tools and technologies. Four key areas in which managed SPs need to invest to create this new approach to managing IT using cloud capabilities first involves taking a long-term approach to making critical investments at the beginning of an engagement to avoid potentially costly mistakes down the road. While this may seem counterintuitive in a world that moves faster, better strategic planning will likely yield creating the standards, frameworks, and blueprints that will both minimize or eliminate defects in a process or technology solution and help streamline operations. The second area on which managed SPs should focus in supporting multicloud management involves embedding processes that can enable continuous and rapid change (e.g., DevOps, CI/CD, SRE), which ultimately requires both creation of

standards and integration of the life cycle of services from architecting and developing to deploying and managing cloud resources. The third key factor involves the need for managed SPs to support any cloud technology solution and resource that increasingly involves an expanding universe of cloud service providers across IaaS, PaaS, and SaaS. Finally, enterprises are looking for managed SPs to implement robust governance for meeting compliance, costs, quality of service, and utilization of resources with the aid of a managed multicloud set of tools and platforms (e.g., single pane of glass).

- **Assure collaboration and communication are core to the relationship.** While COVID-19 has forced both enterprises and service providers to adapt to new ways of working with one another, clients indicate that key to a successful engagement with managed SPs in using managed multicloud services is having a robust means of collaborating and communicating. Key elements of an effective relationship require that the managed SP is proactive, provides details including quick feedback, is vigilant to ensure that all gaps are covered, enables continuous learning, and ensures that there is constant communication. Clients also highlight the need for workshops where ideas can be flushed out and for ensuring joint definition of objectives. Finally, ensuring that the collaborative process is streamlined, both stakeholders, customers and managed SPs, need to manage expectations.
- **Establish rules of partnership.** Ultimately, clients are looking for a managed SP to be a partner but not the "over the wall" partner. Firms expect that managed SPs treat the client as a partner, which requires having open and transparent relationships, difficult conversations, and the ability to keep and attract talent. Further, clients are looking for a partnership that is focused on being a "business" partner, not just a partner that can operate cloud environments. To this issue of being a business partner, it will require managed SPs to invest in talent that has the process knowledge and skills required to work in the world of line-of-business (LOB) executives. As more of cloud becomes automated, more emphasis will need to be placed on the business side of a firm's operations. Essentially, this will require much more "street talk" and much less tech talk.

VENDOR SUMMARY PROFILES

IDC evaluated 14 service providers against more than 100 criteria as part of its 2021 IDC MarketScape for worldwide managed multicloud services analysis. IDC also interviewed 27 buyer organizations to learn more about how the organizations were able to navigate cultural change and generate business results from using managed multicloud services. Companies that IDC interviewed came from a wide range of industries including computer, education, energy, financial services, government, healthcare, manufacturing, retail, telecommunications, and transportation. IDC interviewed managed cloud services buyers that are located in Australia, Bahrain, Brazil, Finland, India, Ireland, Japan, Netherlands, the United Kingdom, and the United States. This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

Accenture

Accenture is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Accenture's managed multicloud services is part of the company's overarching cloud strategy referred to as Accenture Cloud First, which is supported by a \$3 billion investment and provides clients with an

integrated set of capabilities to meet business challenges and create extraordinary value enabled by the cloud. Key differentiators of Accenture's hybrid multicloud services are centered on the company's cloud-first approach, industry competencies, ecosystem partnerships, scaled innovation, and aligned outcomes for its clients.

Accenture's approach to hybrid multicloud is made up of three key stages starting with navigating to the right cloud that first involves discovery, assessment, architecting, and simulation followed by transforming the IT infrastructure and application landscape via building and migration services. The third stage in helping with the cloud journey involves operating and optimizing hybrid cloud environments via management capabilities that incorporate AIOps and cloud management and reporting.

Critical investments that Accenture is pursuing in helping strengthen, expand, and differentiate its hybrid multicloud services are focused on ecosystem partners, talent, innovation, and platforms. When it comes to partnerships, Accenture has built a series of strategic business groups that include the major hyperscalers involving Amazon, Google, Alibaba, and Azure along with Oracle and VMware as well as a major partnership with IBM. In particular, Accenture has more than 60,000 certifications across just these public cloud partners and has developed unique relationships, with each one spanning different areas such as joint delivery teams and methodology, industry-tailored solutions, commercial models, data and applied intelligence, and next-generation application development, all of which are supported by bilateral leadership commitment. Separate from the Cloud First \$3 billion investment, Accenture spent \$866 million in 2020 to attract and retain specialized cloud talent, which includes certifications, Accenture's Automation Academies, and the creation of full-stack specializations.

To enhance its hybrid multicloud capabilities, Accenture has also created a holistic set of innovative capabilities that look to deliver disruptive ways of provisioning cloud services. Key building blocks of innovation involve research for ideation, ventures for emerging technologies, labs to prototype new solutions, more than 50 studios to accelerate speed to market for cloud solutions, 40 innovation centers to provide demonstrations and reuse of innovations, and delivery centers across more than 50 locations to scale innovations for its clients.

When it comes to investment in platforms for hybrid multicloud, Accenture has built an end-to-end set of capabilities into its myNav platform. These capabilities span the full life cycle of services from advising, designing, and migrating to ongoing management of cloud environments. myNav utilizes a cloud control plane (CCP) that provides a wide range of capabilities such as FinOps, governance, monitoring and observability, security and compliance, AIOps automation, provisioning, and intelligence.

Strengths

Accenture exceeded market averages when it comes to migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS) and supporting clients with enterprise applications involving Oracle, Microsoft, and SAP on cloud environments with managed multicloud services. Accenture's managed multicloud services also included a high percentage of using SRE processes. Further, Accenture exceeded industry standards in providing managed multicloud services to support containers for AWS, Docker, Kubernetes, and Red Hat/IBM; PaaS for Alibaba; SaaS for salesforce.com, SAP, Oracle, Workday, and ServiceNow; and analytics technologies on any public cloud (spanning IaaS, PaaS, and/or SaaS). Finally,

Accenture showcased a very high number of public cloud provider partners spanning IaaS, PaaS, and SaaS (including vertical/industry SaaS).

Challenges

To strengthen its position in the managed multicloud services market, Accenture should look to invest further into private cloud solutions and offerings. Accenture lagged market averages when it comes to upgrading legacy infrastructure to private cloud IaaS infrastructure and managing engagements involving hybrid clouds (private and public), which can also include more than one public cloud (IaaS, PaaS, SaaS). Accenture also has a smaller share of engagements when it comes to supporting edge computing solutions from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) and from OEMs with "as a service" offerings (e.g., HPE GreenLake) as was observed in the industry. Accenture was below the market average for the largest engagement by cores in supporting containers as well as in the rate of penetration of cloud across its technology outsourcing business. Finally, client feedback indicates that Accenture needed to improve on providing cost-effective solutions and effective client feedback process as compared with the market standard.

Cognizant

Cognizant is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Cognizant's strategy in driving growth in the company's managed multicloud services is centered on aligning solutions to client needs based on business outcomes and solving specific industry requirements, which span seven major industry sectors (BFS, insurance, healthcare, life sciences, manufacturing, media, and retail). Cognizant supports these solutions by providing seamless delivery of technology capabilities for multicloud and hybrid environments across all major public cloud providers (AWS, Azure, Google) and deployment models (private, public, hybrid), providing for future-ready solutions that are designed to meet future business and IT challenges, and preventing vendor lock by using a set of progressive cloud IP, tools, and frameworks based on an automation-first approach.

As part of providing a life cycle of services with its managed multicloud services to support its DBT (Digital Business Framework) of technology capabilities, Cognizant offers a holistic set of road map solutions to create modern business platforms. These solutions span legacy transformation (e.g., SDI, private cloud platforms); cloud foundation, migration, and modernization that include containerization and applications on the cloud; modern platform operations involving hybrid cloud and digital workplace; and modern platforms in areas such as IoT, edge, and industry hybrid cloud solutions.

Cognizant complements its portfolio of managed multicloud services with an extensive array of platforms and automation assets. These assets span the full life cycle of services that include Cognizant UpShift, which is a cloud-native development and container/Kubernetes deployment platform, along with Cognizant COSMOS, which helps accelerate modernization from legacy to modern microservices architectures. Cognizant also provides clients with its intelligent enterprise and workplace on Microsoft Cloud with Cognizant's GO Platform.

On the operational side, Cognizant supports clients with its Cloud360 iCMP. This cloud management platform (CMP) provides a full suite of capabilities that ensure governance of technologies, services, finances, and compliance while supporting all cloud service providers and cloud operating models (private, public, hybrid). This platform incorporates capabilities such as blueprints, DevSecOps, a

configuration management database (CMDB), ITSM, FinOps, reporting, and dashboards. Cognizant's Cloud360 iCMP is complemented by automation to support infrastructure with capabilities such as Cognizant's SmartOps, a platform used to support IT operations across applications, infrastructure, and security, and Cognizant's Automation Center, which is an AIOps platform that enables humans and machines to learn from one another while integrating with existing IT systems and operations.

Strengths

Cognizant exceeded market averages for engagements involving use of multiple clouds (e.g., public, hybrid cloud) to support applications and/or infrastructure, incorporating CI/CD processes as part of managed multicloud services, and helping clients move an application/software and/or use of cloud infrastructure from a private cloud to a public cloud provider. Cognizant was above industry averages in using managed multicloud services involving Salesforce.com for SaaS and PaaS along with custom built or standardized solutions (e.g., HPE GreenLake) for edge computing. From a financial perspective, Cognizant showcased strength with incorporating payment for just capacity used (e.g., gigabytes of compute, storage), driving managed multicloud services business generated from own sales resources, and providing managed multicloud services business for SaaS needs. Finally, Cognizant's client retention rate exceeded the market standard.

Challenges

To enhance its market position with managed multicloud services when it comes to applications and infrastructure, Cognizant should focus on a number of key areas where Cognizant lagged industry averages. These areas included rehosting or re-platforming legacy (e.g., custom coded – COBOL) or older packaged applications (e.g., SAP, Oracle, Microsoft) into new software architectures (e.g., new code, newer versions of packaged applications) onto private and/or public cloud infrastructures (IaaS), using managed multicloud services to support legacy custom-coded applications (e.g., COBOL) managed on public clouds, and supporting clients with managed multicloud services for containers with Red Hat/IBM, Google, Hewlett Packard Enterprise (HPE), and Microsoft.

On the operational side, Cognizant has smaller shares of engagements utilizing SRE, multicloud management platform capabilities as part of managed multicloud services and managed security services relative to industry averages. Cognizant lagged market averages in having a lower number of public cloud provider partners it uses spanning IaaS, PaaS, and SaaS (including vertical/industry SaaS) and percentage of engagements involving the use of managed multicloud services to support PaaS for Alibaba, Google, IBM, and Microsoft.

From a financial perspective, Cognizant had lower penetration rates than what IDC observed in the market for the share of managed multicloud services across its technology outsourcing business and use of fixed fee payment (fixed amount of money). In addition, Cognizant's average "premium/uplift" for clients using managed multicloud services for systems software technologies (e.g., virtual machines [VMs], containers) hosted on public IaaS clouds and business generated for multicloud managed services in working with partners (e.g., public cloud providers, technology vendors) was lower than the industry average.

Deloitte

Deloitte is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Deloitte's cloud strategy is centered on a set of end-to-end cloud offerings focused on delivering transformational outcomes; disrupting industries through cloud utilizing industry/domain expertise; leveraging powerful ecosystems with technology vendors, data providers, government, academia, and clients; utilizing cloud innovation to challenge the status quo; and incorporating modern delivery and talent.

Deloitte provides a comprehensive set of managed multicloud services that incorporates transformation to the cloud, which is supported by cyber and risk capabilities, with the goal of helping accelerate clients' digital journey and maximize value. Captured as part of Deloitte's Intelligent Cloud Operate services portfolio, these services support a broad array of managed multicloud capabilities that include migration and modernization to the cloud; enterprise applications; analytics, AI/ML, and intelligent automation; and industry PaaS, BPaaS, and IaaS.

To enable clients' ability to manage and monitor all their IT and cloud resources, Deloitte provides a wide range of tools that include DevOps Cloud platform, Deloitte Cloud Accelerator, Cortex AI, and Deloitte OpenCloud, which is Deloitte's multicloud management platform. Key capabilities of OpenCloud include client transparency, financial management, cybersecurity, compliance/governance, secure landing zones, and infrastructure-as-code-based management. OpenCloud also utilizes best-of-breed tools, a modular and flexible loosely coupled architecture, common policies, and best practices, along with multifactor and role-based access controls.

To meet the broad set of managed multicloud services needs of its clients, Deloitte has built an extensive portfolio of partnerships with cloud service providers (e.g., AWS, Google, Azure, IBM, Alibaba, salesforce.com, Workday, ServiceNow, Oracle) that support multicloud stack competencies (e.g., private, edge, hybrid, containers, IaaS, PaaS, SaaS). Deloitte also supports these services with more than 50,000 cloud practitioners, 10 cloud studios, 26 global delivery centers, and 10 migration factories.

Deloitte is investing more than \$2 billion in its business to support cloud initiatives and client requirements. Deloitte's investment priorities are focused on future of assets/solutions including CMS Multicloud portal, Oracle OpenCloud, VMware OpenCloud, native cloud, Deloitte Cloud Institute, NextGen Tech (5G/edge computing, quantum), and ecosystems and acquisitions. Investments in talent and delivery are centered on training and developing the cloud workforce of the future, innovating modern delivery models, and delivering talent experience that incorporate diversity and inclusion.

Strengths

Deloitte showcased strength in using managed multicloud services to support packaged applications (e.g., Oracle, SAP, Microsoft) managed on public clouds. Deloitte has a large number of public cloud provider partners spanning IaaS, PaaS, and SaaS (including vertical/industry SaaS) and exceeded market averages in managing engagements involving just multiple public clouds spanning IaaS/PaaS/SaaS (e.g., salesforce.com, Workday, Oracle, SAP, Amazon, Google, Microsoft, IBM, Alibaba), use of public SaaS, and incorporating PaaS for Alibaba, AWS, and Microsoft as part of managed multicloud services. Deloitte's share of staff supporting managed multicloud services business for public cloud partners (e.g., AWS, Google, Azure) across IaaS, PaaS, and SaaS is greater than the average for the overall market.

Operationally, Deloitte exceeded market standards in its use of DevOps, CI/CD, and SRE as part of managed multicloud services. In addition, Deloitte showcased a higher number of completed cloud

engagements that are used to automate capabilities (e.g., architecting, developing, provisioning) in multicloud management platforms and a higher percentage of engagements using recovery services (e.g., disaster recovery, backup) and managed security services than what IDC observed in the industry.

On the financial side, Deloitte had a higher ratio of managed multicloud services business generated from working with partners (e.g., public cloud providers, technology vendors) as well as from applications (e.g., ERP, SCM, CRM) and applications development/deployment using multicloud environments as observed in the market. Finally, clients rated Deloitte highly for SLA fulfillment, getting access to cloud providers, and client feedback effectiveness.

Challenges

Deloitte should look to invest in key applications and infrastructure segments to enhance its competitive positioning. Segments where Deloitte could improve across applications and infrastructure included use of managed multicloud services to support any type of Microsoft applications (e.g., legacy, cloud native, SaaS), dockers for containers, upgrading legacy infrastructure to private cloud IaaS infrastructure, and VMs managed as part of managed multicloud services where it was below industry averages. Further, Deloitte has smaller percentages of engagements involving use of serverless computing/function as a service on public clouds (spanning IaaS, PaaS, and/or SaaS) and edge computing from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) as compared with averages in the market. Finally, at an operational level, Deloitte's largest engagement involving containers for managed multicloud services based on number of CPU cores lagged the market standard as did the lowest recovery point objective (RPO) for managed multicloud services.

On the financial side, Deloitte's rate of incorporating payment for just capacity used (e.g., gigabytes of compute, storage) and business generated from its own sales resources lagged market standards. In addition, Deloitte could increase its share of business for managed multicloud services generated from infrastructure (e.g., compute, storage, network) including middleware (e.g., OS, VM, containers) and systems management software infrastructure involving multicloud environments.

Ensono

Ensono is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Ensono positions itself as a *relentless ally, disrupting the status quo and unleashing (its) clients to do great things*. Ensono targets its managed multicloud services business toward midsize and large-sized firms with revenue of \$500 million to \$15 billion that is supported by more than 2,500 associates globally. Its value proposition is centered on accelerating the client's journey to the cloud by helping perfect the client's IT strategy, propel their journey, perform, and optimize cloud resources and provide power insights.

When it comes to cloud, Ensono provides clients with migration and modernization services to the cloud, which include recoding and re-platforming mainframes to public clouds as well as supporting private (dedicated) clouds at both client and hosted sites. Ensono also offers its Flex services, which allows clients the freedom to modernize across platforms including mainframes, x86 environments, and private clouds with maximum flexibility and no penalty. Further, Ensono utilizes its private cloud capabilities to support seamless integration to public clouds and with a range of physical devices (e.g., mainframes, SAP HANA appliances, Oracle DB servers).

As part of enhancing Ensono's transformational services to the cloud, Ensono has been making strategic investments in expanding its advisory and consulting services, which includes its acquisition of Amido. These new cloud capabilities include areas such as cloud-native development and refactoring, application and infrastructure mapping, datacenter consolidation, data engineering, and enhanced security assessments. This has enhanced Ensono's ability to support a broad portfolio of containerization capabilities (e.g., Docker, Kubernetes, Terraform) as well as build innovative applications and services with complex transitions from legacy technologies to hybrid or cloud-based systems. Further, Ensono has created a broad portfolio of PaaS capabilities spanning data platforms, DevOps and AI/ML containers, databases, and automation along with IaaS capabilities with compute, storage, database, and middleware.

Ensono utilizes Envision, its IT insights platform, to help clients manage all their IT and cloud resources. This platform is designed to provide visibility insights into a client's IT estate from mainframe to cloud with the goal of delivering high performance, cost optimization, and innovation. Capabilities of Envision span operations management, service management, cloud management, security governance, and financial management.

Ensono also has an extensive partnership ecosystem with public cloud providers involving AWS, Azure, and Google. Ensono also has a wide range of technology vendors to support cloud capabilities (e.g., NetApp, Citrix, VMware, Veeam, CloudCheckr, Datadog, Device42) and technology vendors for infrastructure (e.g., HPE, IBM, CommVault, Ansible, Terraform, Dell EMC, Check Point Software Technologies).

Strengths

With applications and infrastructure, Ensono exceeded industry averages for using managed multicloud services to support packaged applications (e.g., Oracle, SAP, Microsoft) managed on public clouds and replacing existing client infrastructure with public cloud infrastructure (IaaS). Operationally, Ensono had higher percentages of engagements using multicloud management platform capabilities (e.g., management platform, tools, technologies) and incorporating the use of recovery services (e.g., disaster recovery, backup) as compared with the averages in the market.

On the financial side, Ensono incorporated pay for use of public cloud platforms (spanning IaaS, PaaS, and SaaS) on behalf of its clients as well as generating business from its own sales resources more frequently than industry averages. Finally, Ensono's share of managed multicloud services business generated from infrastructure (e.g., compute, storage, network) including middleware (e.g., OS, VM, containers) and systems management software infrastructure involving multicloud environments exceeded the averages of the overall market.

Challenges

Enhancing market opportunities for Ensono will require investing in a broad array of areas. On the application and infrastructure side, Ensono trailed with smaller percentages of engagements than the industry averages for managed multicloud services supporting any type (e.g., legacy, cloud native, SaaS) of SAP, Oracle, and Microsoft applications; rehosting or re-platforming legacy (e.g., custom coded – COBOL) or older packaged applications (e.g., SAP, Oracle, Microsoft) into new software architectures (e.g., new code, newer versions of packaged applications) onto private and/or public cloud infrastructures (IaaS); and developing new application code (cloud-native code) for use on private and/or public cloud environments (IaaS). On the platform side, Ensono lagged the averages of the market with incorporating both PaaS (salesforce.com, Alibaba, Google, IBM, Oracle, SAP) and

SaaS platforms (SAP, Microsoft, Oracle, Workday, Google, ServiceNow – industry specific) as part of managed multicloud services. When it comes to containers, Ensono had lower shares of managed multicloud services environments utilizing dockers, Red Hat/IBM, Google, HPE, and VMware as observed in the industry.

From an innovation perspective, Ensono lagged industry standards in using managed multicloud services for edge computing involving custom-built or standardized solutions (e.g., HPE GreenLake) and solutions from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos). This also included lower than market averages for key technologies on public clouds (spanning IaaS, PaaS, and/or SaaS) involving blockchain, cognitive/AI, and serverless computing/function as a service.

Ensono's penetration rate of key operational service delivery requirements was below what IDC observed in the market for managed multicloud services involving the use of SRE processes. Ensono's SLAs involving lowest recovery time objective (RTO) and RPO lagged industry standards. For financial operations, Ensono's share of managed multicloud services business generated from working with partners (e.g., public cloud providers, technology vendors) lagged the market standard, and the company had a lower than market average "premium/uplift" in supporting clients for enterprise applications (e.g., ERP, SCM, CRM) hosted on public IaaS clouds as was observed in the industry.

HCL

HCL is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide managed multicloud services.

HCL's cloud vision is based on the company's Cloud Smart program that is designed to help enterprises move to a new operating model with the goal of enabling a firm to achieve the agility needed to compete in a hyperdynamic world. "*Cloud Smart is about accelerating transformation and maximizing business value from cloud in alignment with industry needs, organizational goals, and unique customer conditions.*" Ultimately, the value proposition of HCL's Cloud Smart program is to maximize business value, reinvent the customer experience, modernize the digital core, drive continuous innovation, develop a comprehensive cloud culture, and create a sustainable future. HCL does this by combining its three strategic business segments – IT and Business Services (ITBS), Engineering and R&D Services (ERS), and Products and Platforms (P&P) – into what the company calls a Cloud Smart ecosystem.

Through its portfolio of cloud services, HCL can assist enterprises in migrating and modernizing enterprise organizational structures, processes, and IT environments to operate in a cloud model. Key building blocks involve HCL's end-to-end portfolio of managed multicloud services from transformation to operations, ecosystem operating model, industry-based solutions, and automation, frameworks, and accelerators. In particular, enabling this transformation involves HCL's cloud-native labs where HCL can help firms rethink organizational agility as well as reimagine how to thrive by using the full range of cloud capabilities while also driving operational excellence, which includes optimizing cloud spend via HCL FinOps.

To support this life cycle of cloud services, HCL has also invested heavily in automation, frameworks, and accelerators to drive accelerated journeys and operational excellence for managed multicloud services. Using more than 60 offerings and frameworks, HCL looks to enable a seamless journey to the cloud with the focus on driving business outcomes, improving developer productivity, and optimizing CloudOps automation. When it comes to CloudOps automation, HCL utilizes a broad

repository of IP to deliver SmartOps, which is focused on providing ML-driven ops intelligence, multicloud monitoring, FinOps based on outcomes, speed of provisioning, and extreme automation.

HCL enhances its managed multicloud services with access to any type of cloud and/or technology resource via HCL's set of extensive partnerships that incorporates three ecosystems. This begins with HCL's strategic alliance partner ecosystem involving Microsoft, Google, AWS, SAP, and IBM-Red Hat, for which HCL has created dedicated business units and its technology partnerships with Cisco, Dell, and Intel. HCL also utilizes an extensive range of partnerships with more than 1,000 start-ups, eight venture capitalists (VCs), and eight trade embassies. Finally, HCL has built an industry ecosystem that includes industry forums and foundations, such as the World Economic Forum, The Open Group, Cloud Native Computing Foundation, and the Cloud Foundry Foundation.

HCL's managed multicloud services are also designed to support industry requirements. HCL has built a wide array of standardized, vertical-specific solutions that can be run on different public cloud provider platforms that span the gamut from BFSI, manufacturing, healthcare, retail consumer product goods (CPG), telecom, media to entertainment, transport, travel, and logistics.

Strengths

HCL's strengths across applications and infrastructure with managed multicloud services include a high percentage of engagements that involve bundling of migration and modernization of applications to the cloud with management of these applications, replacing existing client infrastructure with public cloud infrastructure (IaaS), and rehosting or re-platforming legacy (e.g., custom coded – COBOL) or older packaged applications (e.g., SAP, Oracle, Microsoft) into new software architectures (e.g., new code, newer versions of packaged applications) onto private and/or public cloud infrastructures (IaaS). HCL also exceeded market standards in using managed multicloud services to support packaged applications (e.g., Oracle, SAP, Microsoft) that are managed on public clouds as well as using managed multicloud services to support container-based/microservices and container platforms including Red Hat-IBM, HPE, Microsoft, and VMware. Further, HCL had higher than market averages for using managed multicloud services to support PaaS platforms including Alibaba and SaaS platforms involving IBM, Microsoft, and Workday.

Operationally, HCL exceeded market standards in using multicloud management platform capabilities (e.g., management platform, tools, technologies), providing lower RTO and RPO. And from a financial perspective, HCL's share of managed multicloud services business generated from working with partners (e.g., public cloud providers, technology vendors) exceeded the market average as did HCL's average "premium/uplift" involving clients using managed multicloud services for enterprise applications (e.g., ERP, SCM, CRM) hosted on public IaaS clouds.

When it comes to innovation, HCL had higher utilization rates in supporting new technologies on public clouds (spanning IaaS, PaaS, and/or SaaS) for blockchain, cognitive/AI, containers, analytics, microservices, and IoT as observed in the industry. In addition, HCL exceeded market standards in using managed multicloud services to support custom-built or standardized solutions (e.g., HPE GreenLake) for edge computing as well as OEM technology solutions designed for "as a service" offerings (e.g., HPE GreenLake Flex Capacity, EMC Flex on Demand, Cisco Open Pay).

Challenges

HCL could enhance its market position by focusing on the use of SRE processes as part of managed multicloud services where it lagged the market standard. At a financial level, HCL has a smaller

percentage of engagements that involved its own sales force as compared with the industry average. And when it comes to customer feedback, HCL lagged in its business expertise for managed multicloud services as compared with the market standard and, according to a 2020 IDC worldwide demand-side survey of enterprises regarding managed cloud services across six countries, HCL did not rate highly in the list of client preferences when looking to switch to a new managed service provider for managed cloud services.

IBM

IBM is positioned in the Major Players category in the 2021 IDC MarketScope for worldwide managed multicloud services.

IBM's strategy for managed multicloud services is centered on supporting hybrid multicloud requirements that will help accelerate client journey to the cloud while supporting clients across hybrid multicloud environments. IBM views managed multicloud services as covering the entire estate of technology including both legacy IT and all variations of cloud operating models (private, public, hybrid) across the full stack of technology from infrastructure through applications. This is supported by more than 90,000 trained cloud professionals. IBM is spinning off its managed infrastructure services (GTS) to an independent company named Kyndryl by the end of 2021. IBM and Kyndryl expect to have a close partnership with mutual access to technology and capabilities to best serve and provide continuity to their clients.

IBM's value proposition and differentiators of the company's hybrid multicloud services are centered on providing standardized services; pre-integrated, workload-specific heterogeneous tools; partnerships and alliances; ability to attach managed services to different IBM, client and vendor services, teams, and processes; and market readiness for deployment of new services. In addition, through these services, IBM helps enterprises with modern service management (e.g., SRE, DevOps), a digital experience that incorporates flexible and modular digital consumption models with single pane of visibility across its ecosystem, both pay-per-consumption managed services pricing and fixed-cost/price-fixed cost offerings, and expertise at scale with accredited skills using modern service management principles.

As part of supporting client journey to the cloud, IBM provides a full life cycle of managed hybrid multicloud services from strategy and migration to development and management with the goal of improving speed, managing risk across security and compliance, and optimizing outcomes with industry-based solutions. When it comes to the transformational process, IBM utilizes its IBM Garage Method for Cloud, which incorporates enterprise design thinking at scale, enables agility for colocated and distributed teams, utilizes DevOps for continued delivery and operations, emphasizes digital talent and culture change, and incorporates SRE.

IBM has partnered with cloud platform providers to offer clients integrated end-to-end hybrid multicloud solutions as part of its managed multicloud services. These partnerships span AWS, Azure, and Google for which, during the course of 2021, IBM has expanded capacity and certifications organically and via a series of acquisitions involving Nordcloud and Taos, which has added 1,000+ deep cloud experts worldwide, in addition to industry-recognized tools and assets for cloud modernization and management. IBM is also investing heavily with each of these hyperscaler partners to deliver client value through increased cloud consumption, scale up capacity for growth, differentiate through partner relationships, accelerate customer journey and adoption, and expand tools and technology capabilities.

Key to IBM's providing managed multicloud services is offering a holistic set of application management on cloud offerings. These services are centered on five key capabilities that combine assets and best practices relative to agile ways of working through IBM Garage, cloud-native development with Garage Accelerators and hybrid multicloud journeys, shift-left quality and resiliency engineering using IBM Ignite and SREs, automated release management and deployments with IBM DevSecOps Platform, and integrated telemetry and insights, self-healing and continuous resource optimization capabilities delivered through AIOps and IBM Turbonomic.

To provide operational excellence for hybrid multicloud environments, IBM utilizes its multicloud management platform (MCMP), which is a comprehensive service management platform for managing a client's heterogeneous IT estate. IBM's MCMP provides governance for near-real-time visibility into cost across multi-provider services; choice of tools, either individually or from a predefined template, on any cloud; DevOps with the ability to view development, build, and test metrics from DevOps tools running on RHEL or OpenShift; operations management to understand the inventory of resources across multiple clouds that make up an application or an environment; and integrations with existing out-of-the-box third-party and IBM solutions as needed. IBM also infuses automation as part of MCMP that includes AIOps, which spans all phases of services and increasingly incorporates zero-touch operations capabilities. IBM will also leverage cloud-native multicloud management capabilities acquired with its purchase of Taos, Nordcloud, Turbonomic, and Instana. These IBM multicloud management capabilities will provide automated provisioning and optimized management of platform services with a high degree of automation self-healing and continuous optimization, regardless of hyperscaler platform.

Strengths

IBM exceeded industry standards in using managed multicloud services to support containers for Docker technologies and Kubernetes. IBM also had a higher percentage of engagements utilizing public IaaS as part of managed multicloud services as well as supporting PaaS with platforms involving Alibaba and SaaS platforms involving ServiceNow as compared with averages in the industry.

Operationally, IBM exceeded market averages in using recovery services (e.g., disaster recovery, backup) and managed security services as part of managed multicloud services along with higher rates of staff supporting managed multicloud services business for both private and public clouds across both applications and infrastructure. In addition, IBM was above industry averages in providing a lower RTO and RPO for managed multicloud services. At a financial level, IBM has a large share of managed multicloud services business generated from the use of IaaS.

As for client feedback, IBM was rated highly by customers in enabling access to cloud providers as compared with the market standard. In addition, in a 2020 IDC worldwide demand-side survey of enterprises regarding managed cloud services across six countries, buyers indicated that IBM was rated highly by customers when it comes to respondents indicating their preference to switch to a new managed SP (see *Managed CloudView 2020: Executive Summary*, IDC #US46875120, September 2020).

Challenges

Expanding its opportunities will require IBM to address key areas including using managed multicloud services to support any type of applications (e.g., legacy/noncloud, cloud native, SaaS) involving Oracle, SAP, and Microsoft along with legacy custom-coded applications (e.g., COBOL) managed on

public clouds, where it trailed industry standards. IBM also had lower utilization rates than the market average in using managed multicloud services to support AWS technologies for containers, Microsoft and Google for SaaS, and serverless computing/function as a service on public clouds. Further, IBM showcased a lower number of public cloud provider partners spanning IaaS, PaaS, and SaaS (including vertical/industry SaaS) than what was observed in the market. Finally, IBM had a lower than market average in customer satisfaction.

Infosys

Infosys is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Through Infosys Cobalt, which involves a set of services, solutions, and platforms that *acts as a force multiplier for cloud-powered enterprise transformation*, Infosys provides its managed multicloud services. With Infosys Cobalt, Infosys helps firms accelerate to the cloud through a combination of the Cobalt Community, which includes Infosys, customers, cloud partners, and start-ups; Infosys Cobalt labs and playgrounds, which enable co-creation and incubation; and Infosys Cobalt Store, which provides a repository of assets. This is all backed by Infosys' industry experience. In positioning its managed multicloud services business, Infosys differentiates these services based on providing preconfigured solutions including Infosys IP, enabling faster time to market, building next-generation solutions, and incorporating Infosys tools and accelerators.

Infosys provides the full life cycle of services for managed multicloud services from strategy to build and adopt to operate, optimize, and evolve that includes provisioning of cloud from the core to edge. To support all stages of the life cycle of services, Infosys deploys a wide ranging set of assets and automation capabilities that include more than 250 industry cloud-first solution blueprints; more than 200 business assets involving platforms, solutions, services, industry blueprints, horizontal business capabilities, and cross-industry assets; more than 300 engineering assets such as reference architectures, frameworks, and management platforms; and more than 100 end-to-end horizontal and vertical business assets based on SaaS (e.g., salesforce.com) and COTS products (e.g., Oracle SAP Microsoft).

When it comes to supporting enterprises in managing the life cycle of managed multicloud services, Infosys has developed its Polycloud Platform for multicloud orchestration and cloud-native and AI-powered operations for SRE, which also provides data-driven actionable insights through cognitive techniques. The platform incorporates an end-to-end set of capabilities that includes a smart catalogue and hubs for observability, automation, telemetry, and integration. In addition, Polycloud offers a backplane for software development life cycle (SDLC) and resource management as well as support for a full array of infrastructure needs (e.g., edge, cloud).

Infosys is making investments in strategic areas to support its managed multicloud services business. Infosys is expanding its technology and innovation hubs, which currently include more than 15 of these across the globe, with a focus on ensuring proximity to businesses and talent. Examples of these hubs include 5G, retail, banking, IoT, cybersecurity, and smart factories.

Finally, Infosys utilizes an extensive ecosystem of cloud service providers and software vendor partners to support its managed multicloud services business. This includes partners involving SaaS providers (e.g., salesforce.com, Oracle Cloud, ServiceNow, Microsoft, SAP) and hyperscalers (e.g., Azure, AWS, Google, IBM, Oracle) with which it has joint go-to-market solutions. Infosys also works with partners for private cloud involving tools (e.g., ServiceNow, PlateSpin), platforms (e.g., Red Hat

OpenShift, Kubernetes), SDDC (VMware, OpenStack), hardware (Dell, HPE, Cisco), and colocation (NTT, Equinix, AT&T).

Strengths

Infosys showcased strength in bundling of migration and modernization of applications to the cloud with management of these applications and using managed multicloud services to support Alibaba for PaaS and managing engagements involving hybrid clouds (private and public), which can also include more than one public cloud (IaaS, PaaS, SaaS). Infosys also exceeded market averages in using managed multicloud services for blockchain on public clouds (spanning IaaS, PaaS, and/or SaaS) as well as for its total number of centers of excellence (COEs)/labs (physical locations) to support these services,

Operationally, Infosys exceeded industry averages for the number of standardized templates/blueprints (e.g., reference architectures, accelerators) used with multicloud management platform/capabilities, for having one of the largest engagements involving containers for managed multicloud services based on number of CPU cores, and for the share of staff supporting managed multicloud services business for public cloud partners across IaaS, PaaS, and SaaS. Further, Infosys exceeded market standards for providing a lower RTO and RPO for managed multicloud services.

From a business perspective, Infosys exceeded market standards in the share of worldwide managed multicloud services business generated from applications (e.g., ERP, SCM, CRM) and applications development/deployment using multicloud environments along with the share of managed multicloud services business generated from its own sales resources. Finally, Infosys exceeded the industry standard for its client retention rate and was rated highly by customers for cost savings' effectiveness.

Challenges

Elevating its competitive positioning will require Infosys to expand its support for industry-specific SaaS platforms and custom-built or standardized solutions (e.g., HPE GreenLake) for edge computing and edge computing solutions from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) where it had smaller percentages of engagements as observed in the industry. Operationally, Infosys was below the industry average in using multicloud management platform capabilities (e.g., management platform, tools, technologies) as part of managed multicloud services. And from a financial perspective, Infosys had a lower share of its business for managed multicloud services business generated from working with partners (e.g., public cloud providers, technology vendors) than what was observed in the market. Finally, customer rating of security and recovery capabilities trailed market averages.

LTI

LTI is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

LTI provides the full life cycle of cloud services from designing, developing, deploying, and managing cloud applications and infrastructure across private, public, and hybrid environments supported by nearly 10,000 cloud professionals and dedicated business units for the major public cloud providers (AWS, Azure, Google). LTI utilizes a holistic framework to support client needs for managed multicloud services that LTI refers to as Cloud Business Transformation Squared or C=BT². This framework is composed of four key pillars starting with C4X. C4X is a platform by which LTI can help enterprises define their cloud journey and requirements via the lens of a business-based approach spanning six

industries: utilities, pharmaceutical manufacturing, consumer product goods, manufacturing, financial services, and oil and gas. In addition, LTI has developed a highly detailed structure assessing each industry at multiple levels of a firm's business operations, which includes more than 50 targeted offerings.

The second major pillar of LTI's cloud strategy involves its Infinity Cloud platform. Infinity is a complete suite of engineering tools and processes. These tools and processes include a unified platform for cloud life-cycle assessment and management, business process assessment to devise the right cloud migration strategy, discover and assessment (e.g., infrastructure, applications, data, security), DevOps for automated enablement and persona-based governance, and multicloud management and governance. This platform incorporates a centralized knowledge database, an intelligence and simulation engine, plug-and-play capabilities, and visibility across the cloud life cycle. This platform also integrates existing tools and partner capabilities.

Coupled with this is LTI's Rainmakers, which is an elite team of more than 1,500 consultants that provide clients with a holistic approach for the cloud journey. This team includes professionals with deep engineering talent across its cloud ecosystem spanning AWS, Google, Azure, ServiceNow, Oracle, IBM, SAP, and salesforce.com. Team skills span the breadth of cloud requirements including cloud engineering and DevOps, cloud native, and cloud operations and governance.

The final pillar of this cloud framework focuses on creating a cloud operating model that supports Cloud Ways of Working (CWOW) and is based on agile methodologies. LTI's CWOW is made up of a holistic structure that incorporates a cloud advisory board, cloud council of excellence (e.g., enterprise cloud architecture, migration/modernization assessment framework, cloud sourcing broker), cloud platform services (e.g., service orchestration, service integration, security), application and cloud management (e.g., container management, CI/CD pipeline, multicloud monitoring), and cloud operations (e.g., DevOps, FinOps, and Security Ops).

Strengths

LTI exceeded industry standards in supporting any type of Microsoft applications (e.g., legacy/noncloud, cloud native, SaaS) as well as Microsoft technologies for containers with managed multicloud services. LTI also had higher percentages of engagements using PaaS, incorporating custom-built or standardized solutions (e.g., HPE GreenLake) for edge computing and integrating the use of microservices capabilities than what was observed in the market.

Operationally, LTI exhibited higher percentages of engagements that utilize CI/CD and SRE processes along with managed security services as part of managed multicloud services than what was observed in the industry. LTI also exceeded market standards in providing a lower RTO and shorter response time. From a financial perspective, LTI exceeded market standards for its share of managed multicloud services business generated from working with partners (e.g., public cloud providers, technology vendors) and incorporation of payment for just capacity used (e.g., gigabytes of compute, storage). Customers rated LTI highly in being effective for cost savings along with security and recovery services capabilities.

Challenges

Building opportunities will require LTI to focus on key areas that include both the number of standardized templates/blueprints (e.g., reference architectures, accelerators) and the number of completed cloud engagements it uses to automate capabilities (e.g., architecting, developing,

provisioning) where LTI trailed market averages. LTI lagged the industry standard of engagements that involve upgrading legacy infrastructure to private cloud IaaS infrastructure. Further, LTI was below market averages in supporting SaaS for ServiceNow, SAP, and Google as well as for PaaS involving salesforce.com, Google, and AWS along with incorporating management (MCM) platform capabilities (e.g., management platforms, tools, technologies) as part of its managed multicloud services. On the financial side, LTI's average "premium/uplift" for clients using managed multicloud services for systems software technologies (e.g., VMs, containers) hosted on public IaaS clouds was lower than the market average.

Lumen

Lumen is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Lumen differentiates its managed multicloud services by leveraging its extensive global infrastructure to provide a platform for delivering these services. This infrastructure is made up of 450,000 global fiber route miles, more than 6,400 internet autonomous systems (ASs) connected, and more than 2,200 global on-net public and private datacenters. This also includes more than 100 edge compute nodes under development for which Lumen incorporates its Edge Orchestrator to help maximize performance, enhance security and connectivity, and improve control. This is supported by the Lumen Platform, which provides for cloud orchestration and management to support hybrid multicloud environments for provisioning of applications and workloads.

Lumen further differentiates its managed multicloud services by helping customers manage a range of edge, physical servers, private cloud, and public clouds via one platform that utilizes ITIL-certified processes and robust automation; providing a full range of support from basic alerting to fully managed solutions including cloud resale; and enabling bring your own cloud (BYOC) to support client choice to maintain existing vendor relationships or leverage resale from Lumen. Lumen can also provide comprehensive optimization of IT consumption across multiple environments and offer a designated and certified technical account manager across cloud platforms. Further, Lumen does not require large, long-term financial commitments.

Lumen's managed multicloud services strategy is based on three key building blocks starting with managing orchestration, which focuses on optimizing connectivity; providing flexible automation by equipping IT teams with exceptional tools and modernizing applications; and delivering intelligent solutions. The second building block is providing clients with multicloud diversity that involves incorporating expertise in design planning, providing ultra-fast execution venues, delivering on highly distributed architectures, and optimizing IT. Finally, completing this trio of building blocks is Lumen's ability to deliver dynamic cloud networking, which includes do-it-yourself (DIY) management, real-time workload optimization, accelerated data engagement, and usage-based billings.

To support client journey to the cloud, Lumen offers a full life cycle of offerings across its managed multicloud services spanning consulting, integration, and management. With its Managed Services Anywhere offerings, Lumen helps clients define their environments, discover and model their workloads, and baseline solutions. Lumen extends these capabilities with its Advanced Managed Services, which allows clients to select the technical disciplines needed with just one agreement, access burst hours without increasing commitment, utilize prepay options with allowance hours, and focus on projects or multifaceted strategic initiatives for both Lumen-managed environments and BYOC.

When it comes to strategic partners, Lumen provides clients with access to cloud service providers including AWS, Azure, and Google along with a diverse set of technology vendors such as SAP, Oracle, Cisco, Dell, HPE, and VMware. Lumen supports use of these partners with a globally dispersed group of professionals that are focused on cloud, IT, network, and security disciplines.

Strengths

Lumen's share of technology outsourcing and managed services involving legacy (noncloud) versus cloud (private, public, hybrid) exceeded the market average. Lumen also exceeded the industry standard in migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS). Further, Lumen had a higher percentages of managed multicloud services engagements that incorporated public SaaS, hybrid clouds (private and public) that can also include more than one public cloud (IaaS, PaaS, SaaS), and support for PaaS across AWS, Oracle, and SAP than what was observed in the market.

Operationally, Lumen's utilization rate for incorporating multicloud management platform capabilities (e.g., management platforms, tools, technologies) as part of managed multicloud services engagements was above the market average. Lumen also exceeded the industry average for incorporating a lower RTO for managed multicloud services. From a financial perspective, the rate of usage for fixed fee payment (for a given period of time [e.g., one month, one year, three years]) and share of managed multicloud services business generated from the use of IaaS exceeded market standards.

Challenges

Lumen can bolster its opportunities by investing in critical areas beginning with supporting containers as Lumen has smaller shares of managed multicloud services engagements involving Docker technologies, Red Hat/IBM, Google, Microsoft, HPE Kubernetes, AWS, and VMware than what was observed in the market. Lumen also lagged industry standards in the number of VMs it supports and in the number of containers its supports for a single engagement as measured by number of CPU cores. Further, Lumen's rate of penetration in supporting legacy custom-coded applications (e.g., COBOL) managed on public clouds was below the market average.

When it comes to platforms, Lumen was below industry averages of engagements supporting PaaS for Alibaba, salesforce.com, and IBM as well as supporting SaaS for salesforce.com, ServiceNow, and Workday along with industry-specific SaaS. In addition, Lumen's use of innovative technologies across public cloud platforms spanning IaaS, PaaS, and/or SaaS involving blockchain, cognitive/AI, serverless computing/function as a service, and microservices also lagged market standards. Finally, in supporting innovative capabilities, Lumen trailed in the number of centers of excellence/labs (physical locations) to support managed multicloud services as compared with what was observed in the market.

Operationally, Lumen's utilization rate across managed multicloud services engagements that incorporated DevOps, CI/CD, and SRE processes was below industry standards. Its number of completed cloud engagements that is used to automate capabilities (e.g., architecting, developing, provisioning) also trailed the market standard.

NTT DATA

NTT DATA is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

NTT DATA provides a full life cycle of services as part of its managed multicloud services capabilities that span journey to the cloud, digital operations, and data intelligence and automation. When it comes to transformational services, NTT DATA provides clients with a range of customizable offerings involving cloud advisory, cloud implementation, cloud security, and cloud management.

NTT DATA differentiates its managed multicloud services by providing robust local capabilities both geographically and by industry, with its ability to acquire and ingest new acquisitions quickly, which allows NTT DATA to gain access to new capabilities rapidly, and with its extensive talent base of cloud professionals numbering more than 25,000 globally. NTT DATA also drives value by reducing risks and improving outcomes through its ability to provide experienced agile DevOps professional teams, accelerate consumption of cloud capabilities via automation; optimize financial costs via value-based pricing and agile contracts; and offer integrated life cycle of services from migration and modernization across applications and cloud infrastructure environments. Finally, NTT DATA looks to be a trusted enterprise partner.

When it comes to managed multicloud services, NTT DATA offers a full breadth of capabilities. These capabilities include multicloud brokerage that provides the flexibility to easily provision workloads based on policy-based requirements, optimization to help effectively balance use of infrastructure resources, and service and security management that helps enforce ITIL and security best practices. NTT DATA's managed multicloud services also support DevOps enablement to ensure governance and automation throughout the application life cycle, container management that utilizes automation in supporting microservices applications, and intelligent placement to provide real-time data-driven provisioning with policy adherence.

NTT DATA utilizes its Nucleus cloud management (multicloud management) platform that combines orchestration and cost optimization capabilities to support effective use of its managed multicloud services. Key capabilities of the Nucleus platform include governance across private and public cloud environments, life-cycle management, brokerage, and automation that includes policy-based automation that allows teams the freedom to consume private and public cloud resources as needed while ensuring overall control of all IT and cloud resources. Nucleus supports all public cloud providers, enterprise private clouds, and hybrid clouds as well as leverages cloud-native APIs of choice to support enterprise need for agility in gaining access to any technology or cloud provider resource.

Strengths

NTT DATA showcased a higher utilization of engagements in which migration and modernization of applications to the cloud was bundled with management of these applications and engagements, migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS) and replacing existing client infrastructure with public cloud infrastructure (IaaS) as was observed in the market. NTT DATA also exceeded market standards in using managed multicloud services to support Alibaba and Microsoft for PaaS and public IaaS.

At an operational level, NTT DATA was above industry averages for providing a shorter response time and lower RPO as well as the use of managed security services with managed multicloud services. From a financial perspective, NTT DATA's share of managed multicloud services business generated from its own sales resources exceeded market standards as did its share of total technology outsourcing business across applications and infrastructure involving managed multicloud services.

Challenges

To enhance its market opportunities, NTT DATA should look to elevate its position in key areas starting with support for any type of Oracle applications (e.g., legacy/noncloud, cloud native, SaaS) with managed multicloud services as NTT DATA trailed the market average. NTT DATA also had lower percentages of engagements using key technologies including HPE for containers and serverless computing/function as a service on public clouds (spanning IaaS, PaaS, and/or SaaS) as compared with market standards. NTT DATA also had lower than market averages in utilizing edge computing solutions involving custom-built or standardized solutions (e.g., HPE GreenLake) and edge computing solutions from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos).

Operationally, NTT DATA's scale of its staff supporting managed multicloud services business for public cloud partners across IaaS, PaaS, and SaaS trailed the market standard. Also NTT DATA's use of multicloud management platform capabilities (e.g., management platforms, tools, technologies), the number of standardized templates/blueprints (e.g., reference architectures, accelerators), and the number of completed cloud engagements it uses to automate capabilities (e.g., architecting, developing, provisioning) in multicloud management platforms were lower than market standards. Further, NTT DATA's largest engagement of containers for managed multicloud services based on the number of CPU cores was below the industry average. Finally, client assessment in working with NTT DATA for managed multicloud services indicates a need to bolster its SLA fulfillment, business, and technology expertise.

Rackspace

Rackspace is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Rackspace is positioning itself as the UN-GSI that can deliver managed multicloud services that provide clients with breadth and depth, size and scale, disruptive technology, a flexible delivery model, and the agility and speed needed to deliver transformative outcomes. Supporting this positioning is Rackspace's experience and capabilities involving automation and standardization, multicloud management platform called Fabric, customer experience with Fanatical Experience, end-to-end multicloud continuous improvement, and extensive partnership ecosystem.

Rackspace provides its managed multicloud services across four key segments. These segments involve the full life cycle of services from strategy and adoption to migration and managed services; applications that include cloud-optimized COTS applications, SaaS products, cloud-native applications, and end-to-end IoT solutions; data that utilizes data engineering and strategy for relational and next-gen DBs that are supported by analytics and business insights; and the full life cycle of security services and data governance.

To provide clients with flexibility in consuming managed multicloud services, Rackspace provides Rackspace Elastic Engineering. Rackspace's Elastic Engineering offerings provide enterprises with on-demand access to a POD of cloud engineers to allow for flexibility in consuming cloud services. These PODs are made up of nine multidisciplinary cloud specialists and act as an extension of the client's internal IT organization for ongoing operations, infrastructure, and DevOps Engineering needs.

Rackspace has also built extensive capabilities in areas involving VMware and private clouds. With VMware, Rackspace has created a dedicated set of offerings called Rackspace Services for VMware Cloud (RSVC) and Rackspace Elastic Engineering for VMware (REE-V) that can be utilized across any

cloud environment from private to public cloud. In the area of private clouds, Rackspace can offer a full array of options that include supporting private clouds from public cloud providers (AWS Outposts, Azure Stack and Arc, Google Anthos) and technology vendors (Dell).

Finally, to help clients manage their entire cloud estates across all private and public clouds, Rackspace offers its Rackspace Fabric multicloud management platform. This platform provides governance, ticketing, billing, and resource tagging.

Strengths

Rackspace's capabilities in supporting client journey to the cloud via migration and modernization was above market averages in areas that included bundling of migration and modernization of applications to the cloud with management of these applications, migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS); rehosting or re-platforming legacy (e.g., custom coded – COBOL) or older packaged applications (e.g., SAP, Oracle, Microsoft) into new software architectures (e.g., new code, newer versions of packaged applications) onto private and/or public cloud infrastructures (IaaS); and upgrading legacy infrastructure to private cloud IaaS infrastructure. In supporting applications managed on public clouds, Rackspace also exceeded market averages for packaged applications (e.g., Oracle, SAP, Microsoft) and legacy custom-coded applications (e.g., COBOL). Further, Rackspace had higher percentage penetration of engagements in using serverless computing/function as a service on public clouds (spanning IaaS, PaaS, and/or SaaS) along with a higher volume of VMs supported than what was observed in the industry.

On the operational side, Rackspace's share of cloud staff supporting managed multicloud services business for public cloud partners across IaaS, PaaS, and SaaS exceeded the industry standard. The use of DevOps and CI/CD as part of managed multicloud services exceeded market averages as did the use of recovery services (e.g., disaster recovery, backup), managed security services, and multicloud management platform capabilities (e.g., management platforms, tools, technologies). Rackspace also provided a lower RPO and RTO for managed multicloud services than what was observed in the industry.

From a financial perspective, Rackspace's share of total technology outsourcing business across applications and infrastructure involving managed multicloud services exceeded the industry standard. Its share of managed multicloud services business generated from infrastructure (e.g., compute, storage, network) including middleware (e.g., OS, VM, containers) and systems management software infrastructure along with its share of business generated from working with partners (e.g., public cloud providers, technology vendors) also exceeded market standards.

Challenges

Expanding opportunities will require Rackspace to pursue critical investments starting with using managed multicloud services to support any type of SAP applications (e.g., legacy/noncloud, cloud native, SaaS) where Rackspace had a lower penetration rate as compared with the market standard. Rackspace also had a lower percentage of managed multicloud services engagements involving PaaS for IBM, SaaS for ServiceNow and Workday, and HPE technologies for containers as what was observed in the industry.

When it came to edge computing, Rackspace was below industry standards for share of engagements using custom-built or standardized solutions (e.g., HPE GreenLake), solutions from public cloud

providers (e.g., AWS Outpost, Azure Stack, Google Anthos), and solutions to support telecommunications (e.g., for 5G, mobile, hosted applications). Further, the largest engagement involving containers for managed multicloud services based on number of CPU cores trailed the market average.

TCS

TCS is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide managed multicloud services.

TCS' strategy for cloud is anchored to TCS Business 4.0, which is focused on helping clients transform their businesses to a borderless enterprise. To support enterprises along the journey to the cloud, TCS provides an end-to-end set of cloud capabilities with its consulting-led approach. This starts with its Cloud Strategy & Transformation strategic offering that includes providing a strategy and vision, multicloud advisory, data and analytics advisory, and a cloud transformation office for which TCS can support migration and modernization across all technology environments (e.g., mainframe, ERP, containers). TCS also supports next-generation technologies (e.g., IoT, blockchain, AR/VR) as well as business solutions including industry clouds. Finally, TCS offers clients a full suite of operational capabilities supported by TCS Cloud Exponence, which is TCS' multicloud management platform.

TCS utilizes an extensive ecosystem of alliances and partners to support its managed multicloud services business for which it has created dedicated business units for AWS, Google, and Microsoft Azure. Across these three business units, TCS now has more than 30,000 certified and trained professionals. TCS also has built an extensive set of partnerships with cloud vendors (e.g., ServiceNow, Nutanix, Cloudscape) and technology vendors (e.g., VMware, NetApp), which, along with TCS' COIN (Co-Innovation Network) partnerships, it utilizes to support cloud requirements.

In addition, TCS has built its own proprietary TCS Enterprise Cloud, which provides full-stack services from cloud strategy, implementation, migration, and modernization to cloud operations for workloads. As a key differentiator of TCS' cloud capabilities, the TCS Enterprise Cloud has 21 TCS Cloud Availability Zones located in the United States, the United Kingdom, Germany, Sweden Finland, Japan, Australia, Singapore, and India; is supported by more than 3,500 experienced practitioners; utilizes a broad array of partnership (e.g., IBM, SAP, Google, AWS, Azure); and incorporates extensive automation via ignio, which is TCS' autonomous AIOps software platform that combines context, insights, and intelligent automation to resolve and prevent issues in IT and business operations. The TCS Enterprise Cloud looks to provide clients with the ability to innovate and achieve operational excellence for the cloud resources required to support their businesses.

Strengths

TCS exceeded industry standards for upgrading legacy infrastructure to private cloud IaaS infrastructure as part of managed multicloud services as well as for supporting legacy custom-coded applications (e.g., COBOL) and any type of Microsoft, SAP, and Oracle applications (e.g., legacy/noncloud application architectures, applications architected for the cloud including SaaS). TCS also exceeded industry standards in the usage of Docker technologies for containers, Alibaba for PaaS, Microsoft for SaaS, and innovative capabilities including analytics technologies, IoT, and serverless computing/function as a service on public clouds (spanning IaaS, PaaS, and/or SaaS) as part of managed multicloud services. Further, TCS had a higher percentage of engagements using managed multicloud services for edge computing from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) than what was observed in the industry. Finally, TCS' total centers of

excellence/labs (physical locations) to support managed multicloud services exceeded the market average.

Operationally, TCS provided clients with lower RTO for managed multicloud services than the market standard while incorporating multicloud management platform capabilities (e.g., management platforms, tools, technologies) at a higher utilization rate of client engagements than what was observed in the industry. TCS' footprint of physical security operations centers (SOCs) also exceeded the market standard. Finally, clients rated TCS highly for client feedback effectiveness.

On the financial side, the rate of usage of payment for just capacity used (e.g., gigabytes of compute, storage), fixed fee payment (fixed amount of money) for a given period of time (e.g., one month, one year, three years), and payments based on business outcomes (e.g., number of transaction processes, achieving a target cost savings) all exceed market standards. TCS also showcased a higher rate of business generated from working with partners (e.g., public cloud providers, technology vendors) and a higher average "premium/uplift" involving clients using managed multicloud services for systems software technologies (e.g., VMs, containers) hosted on public IaaS clouds as compared with market averages.

Challenges

To grow its opportunities in the market for managed multicloud services, TCS should look to invest in strategic areas including migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS) and incorporating the use of both public IaaS and public PaaS as part of managed multicloud services, where it trailed industry averages.

On the operational side, TCS was below the market average for the number of completed cloud engagements it uses to automate capabilities (e.g., architecting, developing, provisioning) in multicloud management platforms. In addition, TCS' largest engagement involving containers for managed multicloud services based on number of CPU cores lagged the market standard.

When it came to client feedback, customers found issues in getting access to cloud providers. In addition, in a 2020 IDC worldwide demand-side survey of enterprises regarding managed cloud services across six countries, buyers indicated TCS trailing the market group average when it comes to respondents indicating their preference to switch to a different managed service provider when procuring managed services for cloud (see *Managed CloudView 2020: Executive Summary*, IDC #US46875120, September 2020).

Unisys

Unisys is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

Unisys differentiates its managed multicloud services through its multicloud and hybrid cloud expertise, strategic partnerships, advisory capabilities, and extensive IP (e.g., reference architectures, accelerators with CloudForte), along with its automated and governed cloud management platform that includes AIOps-led hybrid management operations. When it comes to positioning its managed multicloud services, Unisys focuses on supporting enterprise in highly regulated industries including public sector, manufacturing, banking and finance, healthcare and pharma, and higher education and looks to meet clients at the point of their journey to the cloud. Unisys also emphasizes key focus areas that include infrastructure and application transformation; migration and management of multicloud environments; a full portfolio of cloud services from which to assemble the right solution, performance,

and security objectives; and continued investments in automation, migration, security, and compliance tools.

To support its clients in utilizing managed multicloud services, Unisys provides an end-to-end set of services spanning the full life cycle from cloud advisory (assessment and strategy) and cloud implementation (digital transformation and migration) to cloud management (security, compliance, cost, operations management) and cloud optimization (cost, analytics, automation). As part of helping clients transform to the cloud, Unisys offers a set of critical capabilities that includes providing a hybrid delivery team, cloud squads involving architects and DevSecOps engineers that are certified via Unisys University, and cloud centers of excellence that include virtual experience center and cloud transformation workshops.

Unisys also helps clients utilize multicloud capabilities by partnering with AWS, Azure Oracle, and Google. Unisys complements the delivery of multicloud services with its datacenter infrastructure and colocation partners as well as extensive security operations and command centers. To manage across all these resources, Unisys incorporates CloudForte, its multicloud platform environment. CloudForte is designed to accelerate moving to the cloud with its cloud architecture platform called Cloud Architecture Navigator (UNav); manage risks by using its continuous cloud security compliance posture management with its CloudForte Assure service and ecosystem partners that can ensure secure operations for highly regulated clients and workloads; and provision business outcomes across the life cycle of services through its cloud management platform while leveraging AI and machine learning. Ultimately, CloudForte is designed to ensure secure and intelligent, AIOps-based digital transformation through a single pane of glass.

Strengths

Unisys exceeded industry standards in replacing existing client infrastructure with public cloud infrastructure (IaaS) and developing new application code (cloud-native code) for use on private and/or public cloud environments (IaaS) and use of public IaaS, PaaS, and SaaS as part of managed multicloud services. Unisys also exceeded market averages in supporting SaaS platforms for Microsoft, ServiceNow, and industry-specific SaaS applications and incorporating AWS technologies for containers as part of managed multicloud services. Further, Unisys showed higher penetration rates of engagements involving managed multicloud services that supported custom-built or standardized solutions (e.g., HPE GreenLake) for edge computing as well as for edge computing solutions provisioning via telecommunications providers (e.g., for 5G, mobile, hosted applications) than what was observed in the market.

Operationally, Unisys had a higher percentage of managed multicloud services engagements that incorporated use of SRE processes, managed security services, and recovery services (e.g., disaster recovery, backup) than what was observed in the industry. From a financial perspective, the share of engagements in which Unisys paid for the use of public cloud platforms (spanning IaaS, PaaS, and SaaS) on behalf of its clients and engagements where pricing involved payment for just capacity used (e.g., gigabytes of compute, storage) exceeded market standards.

Unisys' clients rated Unisys highly for overall satisfaction as compared with the market standard. Clients also rated Unisys highly across a wide range of areas including SLA fulfillment, cost savings effectiveness, business and technology expertise, security and recovery capabilities, and client feedback effectiveness.

Challenges

To bolster its opportunities, Unisys needs to elevate key aspects of its managed multicloud services business that includes bundling of migration and modernization of applications to the cloud with management of these applications where Unisys trailed the market standard. Unisys' incorporation of containers involving Docker technologies and Kubernetes, the use of serverless computing/function as a service on public clouds (spanning IaaS, PaaS, and/or SaaS), and engagements involving Oracle and SAP along with PaaS for AWS, SAP Cloud, Alibaba, and IBM lagged industry standards. Unisys also had a lower share of engagements that utilized edge computing from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) as compared with the industry average.

Unisys' portfolio of total centers of excellence/labs (physical locations) to support managed multicloud services was below the industry average. Operationally, Unisys' share of cloud staff supporting its managed multicloud services business for public cloud partners across IaaS, PaaS, and SaaS was below what IDC observed in the market. Unisys also utilized a lower number of standardized templates/blueprints (e.g., reference architectures, accelerators) than what was observed in the industry.

Wipro

Wipro is positioned in the Major Players category in the 2021 IDC MarketScape for worldwide managed multicloud services.

With its launch of FullStride Cloud Services, Wipro provides enterprises with a portfolio of full life cycle of services and a full-stack play that enables digital transformation and continuous innovation. As part of FullStride Cloud Services, Wipro positions its managed multicloud services as providing a full-stack cloud approach that addresses hybrid cloud and the edge economy, incorporates crowdsourcing capabilities via its Topcoder platform that leverages the power of the Gig economy, and helps enterprises reimagine process and business models using the power of the API economy. Wipro's approach in utilizing these capabilities is to provide a business-first strategy with service-centric business operations that ensure security and trust and help improve sustainability.

The foundation of Wipro's managed multicloud services is the company's BoundaryLess Enterprise (BLE) platform. This multicloud management platform is designed to help enterprises automate and accelerate their transformation to cloud and gain access to capabilities that can help continuously align their business objectives and requirements with the consumption of any type of IT resources. BLE uses industrialized solutions involving reusable blueprints that support ready-to-use, plug-and-play multicloud services.

Contained within the BLE platform, Wipro has developed a modular, end-to-end platform called FluidIT, which provides clients with a unified, hybrid, and software-defined application deployment platform to accelerate the pace of application development, deployment, and operations for any digital capability. To optimize the value of multicloud environments, FluidIT incorporates a set of modular accelerators that include ASPIRE (a build automation framework), Service Theatre (an operations automation framework), AppAnywhere (a Kubernetes management engine), and ComposeIT (a fully programmable pool of resources of physical hardware). In utilizing FluidIT, enterprises can select just those accelerators they need to support their business and IT requirements.

Critical enablers that Wipro utilizes to support its multicloud services clients include its cloud studios and innovation centers, which allow for cocreation/co-innovation. Wipro also utilizes its Enterprise

Digital Operations Center (EDOC) that offers clients with a fully integrated, modular platform that provides a 360-degree view of enterprise operations.

Finally, Wipro has built strategic partnerships with all the major cloud service providers including AWS, Azure, and Google. Wipro also has an extensive set of partners that support the end-to-end technology and service requirements of multicloud needs including partners for hardware and software technologies (e.g., SDI, compute, storage, network), cloud capabilities (e.g., container management and orchestration, infrastructure as code [IaC], IaaS, PaaS), and critical processes (e.g., discovery, migration, DevOps).

Strengths

Wipro exceeded industry averages for upgrading legacy infrastructure to private cloud IaaS infrastructure, incorporating innovative technologies and capabilities with managed multicloud services involving containers and blockchain on public clouds (spanning IaaS, PaaS, and/or SaaS), and utilizing PaaS for AWS, Oracle, SAP Cloud, Alibaba, Google, and Microsoft. Wipro also had a higher rate of utilization across managed multicloud services engagements involving edge computing from public cloud providers (e.g., AWS Outpost, Azure Stack, Google Anthos) and for telecommunications providers (e.g., for 5G, mobile, hosted applications) as compared with market standards.

Operationally, Wipro had a higher rate of engagements that incorporated recovery services (e.g., disaster recovery, backup) for managed multicloud services than the market standard. Wipro also utilized infrastructure as code at a higher frequency than what was observed in the industry. Further, Wipro helped clients move application/software and use of cloud infrastructure from a private cloud to a public cloud provider in the past 12 months at a higher rate than what was observed in the market. Financially, Wipro's managed multicloud services engagements included a higher share of pricing involving payment for just capacity used (e.g., gigabytes of compute, storage) and payments based on business outcomes (e.g., number of transaction processes, achieving a target cost savings) than market standards.

Challenges

Expanding market opportunities requires Wipro to focus on areas involving rehosting or re-platforming legacy (e.g., custom coded – COBOL) or older packaged applications (e.g., SAP, Oracle, Microsoft) into new software architectures (e.g., new code, newer versions of packaged applications) onto private and/or public cloud infrastructures (IaaS) and migrating existing applications (e.g., custom coded, packaged applications) for use on private and/or public cloud infrastructures (IaaS) where it trailed industry standards. In addition, Wipro needs to elevate areas involving PaaS with salesforce.com along with SaaS with Oracle and industry-specific SaaS where the rate of engagements including these capabilities were lower than market averages. Finally, Wipro should consider incorporating more custom-built or standardized solutions (e.g., HPE GreenLake) for edge computing as part of managed multicloud services where a smaller share of engagements involved these capabilities as compared with industry standards.

At an operational level, Wipro showcased a lower number of completed cloud engagements that are used to automate capabilities (e.g., architecting, developing, provisioning) in multicloud management platforms as observed in the market. Finally, client assessment in working with Wipro for managed multicloud services indicates the need for Wipro to enhance its security and recovery capabilities.

APPENDIX

Reading an IDC MarketScape Graph

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

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and its services today, here and now. Under this category, IDC analysts look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

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

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

IDC MarketScape Methodology

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

Completing this IDC MarketScape involved participants completing seven distinct steps. During the final step, Cognizant was not able to provide feedback for its final results.

Scoring Process

IDC follows a rigorous process in developing vendor ratings and weightings that involved utilizing IDC's full range of scoring options (1-5). To determine scores, IDC utilized the empirical information that vendors provided via a comprehensive RFI from which IDC rated more than 100 scoring elements across the scope of a vendor's business for managed multcloud services as well as feedback from client interviews. The types of information provided for these scoring elements involved the degree of maturity in adoption of a vendor's capabilities by their clients along with degree of vendor investments and financial results as well as client feedback. IDC rated scoring elements with quantitative information across both strategies and capabilities categories using a one-step approach. Scoring elements from the strategies segment involving qualitative insights utilized a multistep approach that involved identifying a common set of variables across participants to ensure an objective assessment and then aligning these with the appropriate quantified scoring elements by which to create an overall rating. In assessing client feedback via interviews with vendor customers, IDC utilized a series of client rankings of vendors to determine IDC ratings.

Scoring Criteria and Definitions

While IDC's *Worldwide Managed Cloud Services Survey*, conducted in both 3Q20 and 3Q21 and involving 1,500 respondents across six countries and three regions, helped shape many of the scoring criteria and definitions in the 2021 IDC MarketScape for worldwide managed multicloud services, IDC utilized an array of other IDC buyer studies on managed cloud services. These buyer studies probed buyers on maturity levels, interests, and preferences for managed cloud services, which included use of multiclouds. IDC utilized all this data in addition to buyer interviews to establish the right scoring elements reviewed in the evaluation.

Weightings

Criteria weightings used in this IDC MarketScape were sourced and derived using IDC survey data, IDC forecasts, vendor market shares, and customer interviews. Customer interviews helped reveal multiple criteria that buyer organizations cited as critical in their service provider selection and retention processes. IDC distilled and consolidated the criteria customers shared into several major categories and weighted criteria based on volume of responses within the categories across the IDC MarketScape model. IDC also utilized survey data based on 1,500 respondents across six countries to assign weightings across the criteria used in assessing vendors.

Service Provider Customer Interviews

As part of this IDC MarketScape, IDC conducted interviews with vendor-provided client references. IDC utilized these customer interviews to learn about six areas: the customers' project backgrounds, how customers approached the service provider selection process and what critical criteria they used to select their vendor, what sort of results customers were able to generate from managed multicloud services, next steps for their managed cloud services evolution, key lessons learned, and what customers felt were the differentiating and key strengths that their chosen managed SP possessed. The results of these interviews contributed to the ratings and weighting scales used in assessing the vendors participating in this analysis.

The IDC MarketScape for managed multicloud services assessment is designed to evaluate the characteristics of each vendor and each vendor's global presence, measured by vendor revenue and scope of capabilities. Many managed SPs compete in various aspects of managed multicloud services. As such, this evaluation is not an exhaustive list of all the players to consider for managed multicloud services. Instead, this evaluation reviews the primary players that offer capabilities spanning the life cycle of services across designing, building, and managing cloud environments for the full stack of IT from infrastructure to applications and across the full array of cloud types (e.g., public, private, hybrid) and across different cloud platforms (e.g., IaaS, PaaS, SaaS, containers). Client factors like business and information technology (IT) objectives and requirements along with culture of both vendor and client organizations play integral roles in determining which vendors should be considered as potential candidates for a managed multicloud services engagement.

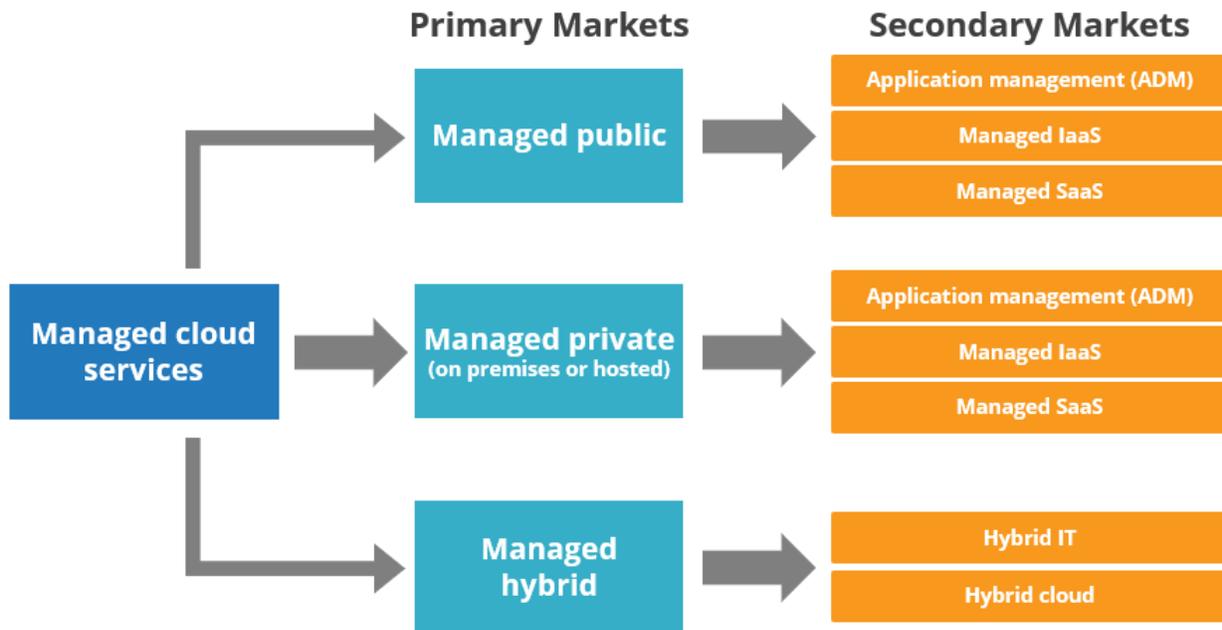
Market Definition

Managed Multicloud Services

Managed multicloud services (MMS) is a subset of managed cloud services (MCS). Essentially, managed cloud services provide a holistic view of managing all types of cloud environments as highlighted in Figure 2. This IDC MarketScape *excludes supporting customers in which managed SPs are managing just a "single" cloud* (just private or just public) for a client (see *IDC's Worldwide Managed Cloud Services Taxonomy, 2020*, IDC #US46987120, November 2020).

FIGURE 2

Managed Cloud Services Family of Primary and Secondary Markets



Source: IDC, 2021

The focus of this 2021 IDC MarketScape for worldwide managed multicloud services is on managed SPs that support managing multiple clouds that can include the following:

- **Hybrid cloud:** This involves the managed SP managing (on behalf of a client) a combination of an enterprise's private cloud needs (which could include one or more private clouds) along with one or more public clouds across IaaS, PaaS, and/or SaaS, which could involve one or more public cloud providers.
- **Multiple public clouds:** This involves the managed SP managing (on behalf of a client) multiple public cloud environments across IaaS, PaaS, and/or SaaS involving the use of two or more (multiple) and "different" public cloud providers.

The following are some additional factors that IDC included as part of its definition on managed multicloud services:

- **Perspective from a customer view, not a contract view:** IDC views managed multicloud services from a customer/client perspective. Meaning that while a client might sign individual contracts for each cloud that the managed SP manages for the client, IDC is interested in how many clouds the managed SP manages for a client, even if there are multiple contracts involved.
- **Life cycle of services:** This IDC MarketScape included "embedded" professional services (e.g., business consulting, technology consulting, migration, application development) to support "migration (modernization) to the cloud," which are standard capabilities included as part of any managed service.

- **Role of multicloud platforms and technologies:** In terms of the use of multicloud platforms and technologies, IDC views this as an "input" to supporting delivery of cloud capabilities to support multiple clouds. This study did not require that customers use a multicloud management platform from the managed SP, just that the managed SP provisions managed cloud services to support multiple public clouds and/or hybrid clouds that clients use to support their businesses. However, IDC included assessment criteria regarding the use of multicloud management platforms and technologies as part of supporting the provisioning of managed multicloud services.

Exceptions and Exclusions

While managed cloud services involve the full life cycle of services that include "embedded" professional services, such as strategy, assessment, migration, modernization, and implementation services, for professional services that are procured as a set of discrete capabilities not included as part of the managed services engagement, IDC excludes these "discrete" engagements.

IDC also excluded client use of managed cloud services to support the following types of single cloud environments:

- **Single private cloud:** This involves the managed SP supporting clients in managing their enterprise private cloud needs. This can encompass a single private cloud or support for multiple private clouds that are utilized by a *single* client. Private clouds can also be located anywhere (e.g., on premises, hosted/colocation).
- **Single public cloud:** This involves the managed SP supporting clients in using a single public cloud provider. This can encompass managed SPs supporting clients using a single cloud service (e.g., IaaS) or multiple cloud services from a single public cloud provider (e.g., using Microsoft Azure for both IaaS and Microsoft Dynamics).

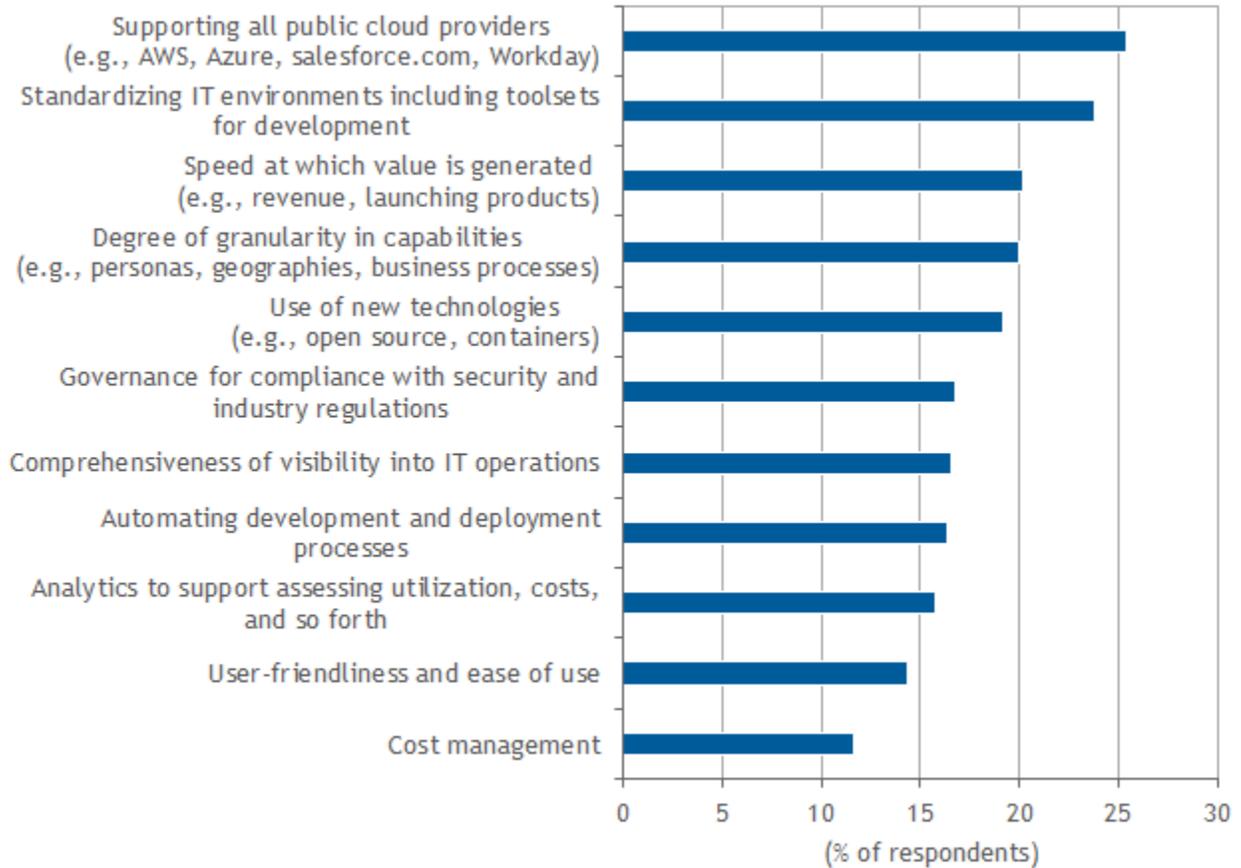
Situation Overview

Meeting client needs that are utilizing multicloud capabilities with managed multicloud services requires managed SPs to provide a portfolio of multicloud management platforms and technologies that encompass both IT and business processes, including external partners and supply chains. As shown in Figure 3, these multicloud management set of capabilities must support all public cloud providers (e.g., AWS, Azure, salesforce.com, workday), help standardize IT environments including tool sets for development, enable speed at which value is generated (e.g., revenue, launching products), and meet the degree of granularity in capabilities (e.g., personas, geographies, business processes). These multicloud management capabilities must also utilize advanced automation (AIOps), analytics, and standardized templates and blueprints in provisioning services for any cloud option that can help run, measure, and ensure proper usage of all cloud and noncloud resources that span financial, compliance, and asset utilization requirements. The goal is to help firms align business outcomes with the use of all IT and cloud resources while complying with security and regulatory policies.

FIGURE 3

Worldwide Value of Cloud Management Platforms

Q. Please select the top 2 areas in which your company/organization sees value in using a cloud management platform to manage across all your IT assets and cloud resources, both private and public, including all cloud service providers (IaaS, PaaS, SaaS) with managed cloud services.



n = 1,500

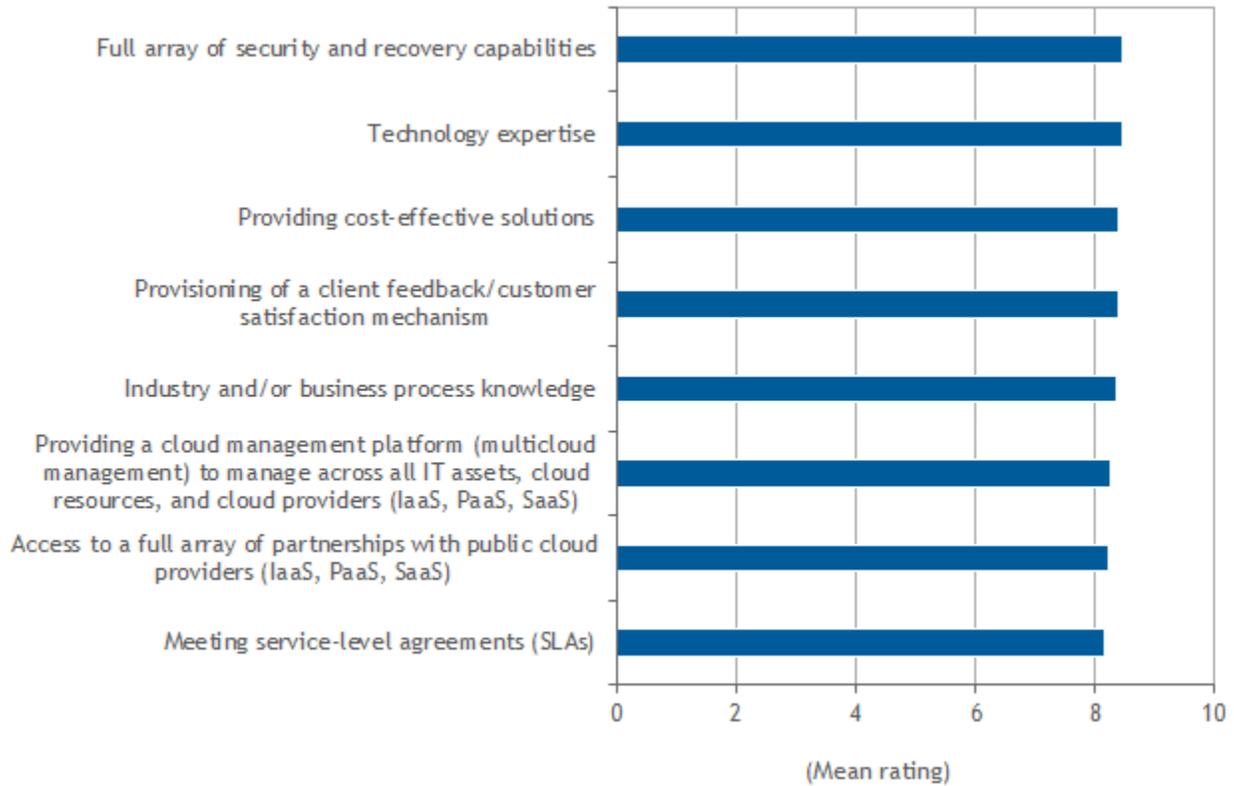
Source: IDC's *Worldwide Managed CloudView Survey*, 2020

Figure 4 highlights how enterprises expect managed SPs to offer a broad array of capabilities in provisioning managed multicloud services. Ultimately, managed SPs need to utilize these capabilities in a multicloud environment to support any cloud operating model (private, public, hybrid), cloud platforms (IaaS, PaaS, SaaS), cloud service providers, workload and application types (e.g., ERP, SCM, CRM), critical software brands (SAP, Oracle, Microsoft), and competencies (e.g., analytics, blockchain, cognitive/AI, hybrid cloud, IoT).

FIGURE 4

Worldwide Vendor Attributes for Selecting a Service Provider for Managed Cloud Services

Q. How important are each of the following attributes in selecting a service provider for managed cloud services?



n = 1,500

Note: Mean rating is based on a scale of 0 to 10, where 0 = not at all important and 10 = extremely important.

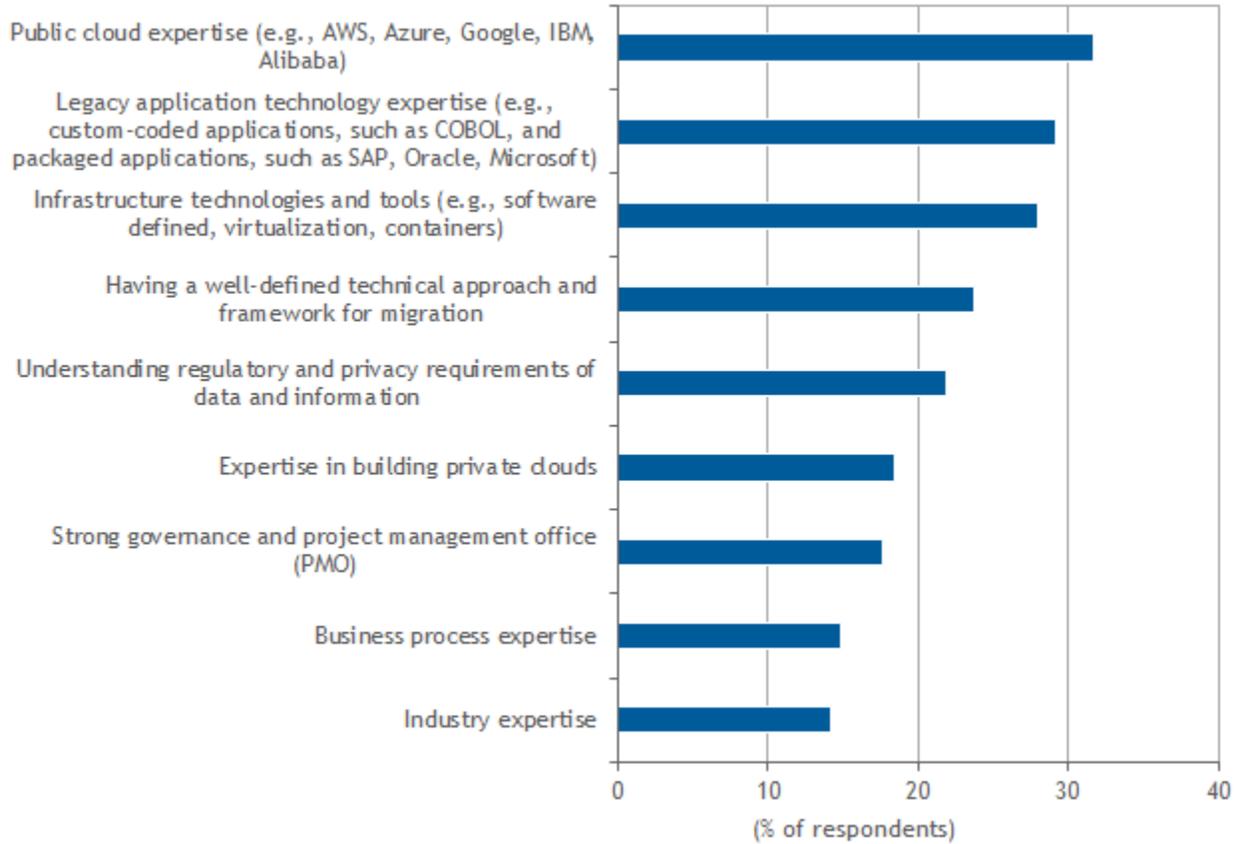
Source: IDC's *Worldwide Managed CloudView Survey, 2020*

Figure 5 shows the primary skills and knowledge that enterprises expect with managed multicloud services. These include public cloud expertise, legacy application technology expertise, and infrastructure technologies and tools.

FIGURE 5

Worldwide Skills and Knowledge for Managed Cloud Services

Q. Please indicate the two skills and knowledge that your company/organization believes a provider needs to support migration to managed cloud services.



n = 1,500

Source: IDC's *Worldwide Managed CloudView Survey, 2020*

Strategies and Capabilities Criteria

This section includes an introduction of market-specific weightings definitions and values of the two primary assessment factors involving strategies and capabilities, as shown in Tables 1 and 2, respectively. IDC has identified these weightings definitions as the primary characteristics that vendors in the managed multicloud services market must take into consideration when crafting a future strategy and in leveraging existing capabilities to optimize their opportunities. Weightings factored differently among criteria as determined by enterprise priorities based on IDC customer interviews and market studies of buyer needs along with IDC research on effective business practices required to optimize the value of managed multicloud services.

TABLE 1**Key Strategy Measures for Success: Worldwide Managed Multicloud Services**

Strategies Criteria	Definition	Weight (%)
Delivery	This category reviews expected future areas of client focus required to support delivery of managed multicloud services involving different cloud platforms.	26.8
Functionality or offering road map	This category reviews the five-year investment strategies to support critical needs in areas such as security, resiliency, new technologies, and edge computing.	17.0
Growth	This category reviews the five-year investment strategies to support targeted areas of growth, providing customer experience, and building out new services.	17.4
Innovation	This category reviews expected future areas of client focus required to support delivery of managed multicloud services involving innovative technologies, types of applications, and big data.	16.9
R&D pace and productivity	This category reviews the five-year investment strategies to support development of multicloud management capabilities and centers of excellence.	8.9
Talent management	This category reviews the five-year investment strategies in developing talent and expanding cloud service provider partnerships.	13.0
Total		100.0

Source: IDC, 2021

TABLE 2

Key Capability Measures for Success: Worldwide Managed Multicloud Services

Capabilities Criteria	Definition	Weight (%)
Cloud provider partner ecosystem	This category reviews the scale of cloud service provider partners and degree of client engagements involving the use of multiple clouds across IaaS, PaaS, and SaaS.	4.0
Customer satisfaction	This category reviews client satisfaction across key managed SP requirements based on client interviews as well as client retention rate.	7.2
Customer service delivery	This category reviews key operational factors involving quality of service, operational capacity, and agility across clouds.	7.3
Financial performance	This category reviews financial measurements of vendors managed multicloud services business by multicloud engagements, geographies, sales strategy, and customer base.	11.4
Functionality or offering road map	This category reviews capabilities involving migration to the cloud, support for different technologies hosted on clouds, and key delivery requirements.	21.2
Innovation	This category reviews innovative capabilities spanning key technologies, centers of excellence, and unique as-a-service solutions.	17.0
Platform delivery (IaaS, PaaS, SaaS)	This category reviews the use of different platforms (IaaS, PaaS, SaaS) to support different types of technologies and by key cloud service providers along with cloud operating models (private, public, hybrid).	20.8
Pricing models	This category reviews inclusion of different pricing methodologies and premiums.	4.0
Talent management	This category reviews the range of talent to support different cloud service providers and innovative processes.	5.0
TCO	This category reviews the use of standards and client engagements to optimize performance of managed multicloud services.	2.1
Total		100.0

Source: IDC, 2021

LEARN MORE

Related Research

- *Worldwide Managed Cloud Services Deal Penetration for the IT Outsourcing Services Market, 2016-2020* (IDC #US47083521, September 2021)
- *Market Analysis Perspective: Worldwide Managed Cloud Services, 2021* (IDC #US47084321, August 2021)
- *Managed Cloud Services: The Role of Edge Computing* (IDC #US47674121, May 2021)
- *Managed Cloud Services: Optimizing a Cloud Ecosystem Matrix* (IDC #US47083321, May 2021)
- *Managed Cloud Services: The Value of Multicloud Management* (IDC #US47424321, February 2021)
- *Air Traffic Control: The Managed SP Role in a Changing Service Provider Industry* (IDC #US44650419, February 2021)
- *Managed Service Providers and Cloud Service Providers: The Changing Dynamics of Collaborating, Competing, and Controlling* (IDC #US45926420, November 2020)
- *Managed CloudView 2020: Executive Summary* (IDC #US46875120, September 2020)

Synopsis

This IDC study represents a vendor assessment of providers offering managed multicloud services through the IDC MarketScape model. The assessment reviews both quantitative and qualitative characteristics that define current market demands and expected buyer needs for managed multicloud services. The evaluation is based on a comprehensive and rigorous framework that assesses how each vendor stacks up, and the framework highlights the key factors that are expected to be the most significant for achieving success in the managed multicloud services market over the short term and the long term.

"Buyers need to manage a complex set of IT and cloud resources that involves different cloud operating models (private, public, hybrid), cloud platforms (IaaS, PaaS, SaaS), and cloud service providers is creating increased complexity for enterprises, which is challenging their ability to ensure the performance of all their IT resources. Ensuring successful use of managed multicloud services from managed SPs to deliver optimal performance of client cloud needs requires buyers to ensure access to the right talent, understand approach to multicloud management, assure collaboration and communication are core to the relationship, and establish rules of partnership." – David Tapper, VP, Outsourcing and Managed Cloud Services

About IDC

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