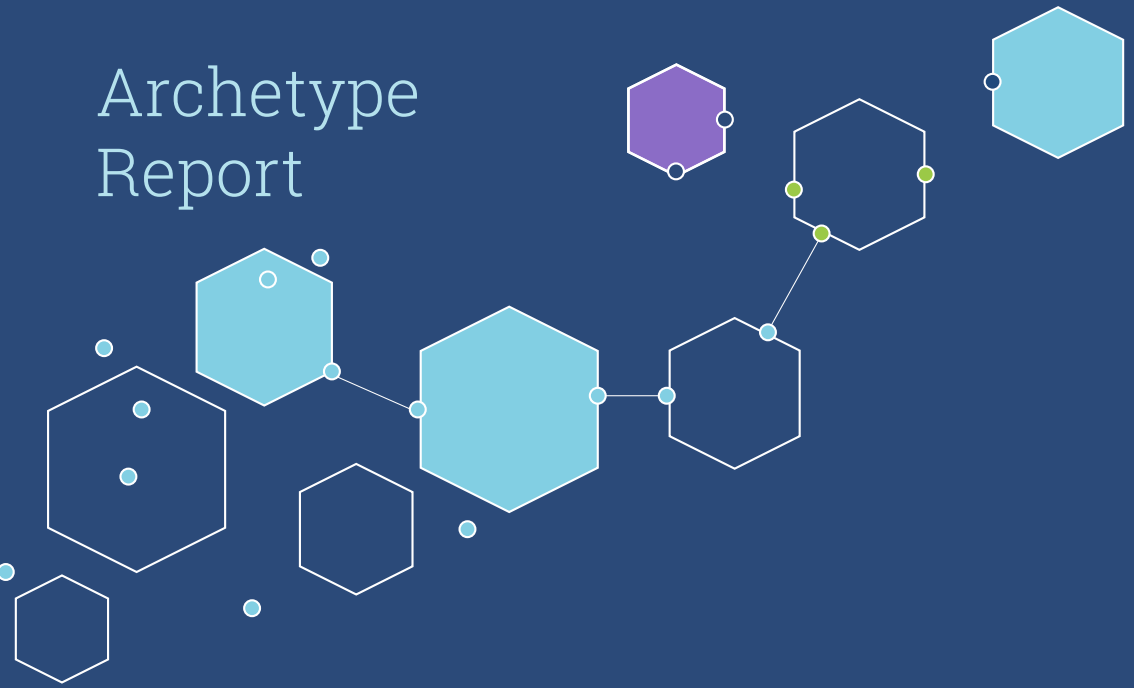
ISG Provider Lens™

Private/Hybrid Cloud - Data Center Services & Solutions

Archetype Report



A research report aligning enterprise requirements and provider capabilities

September 2019

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About this Report

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The research and analysis presented in this report includes research from the ISG Provider Lens™ program, ongoing ISG Research programs, interviews with ISG advisors, briefings with services providers and analysis of publicly available market information from multiple sources. The data collected for this report represents information that ISG believes to be current as of June, 2019 for providers who actively participated as well as for providers who did not. ISG recognizes that many mergers and acquisitions have taken place since that time, but those changes are not reflected in this report.

All revenue references are in U.S. dollars ($US) unless noted.

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EXECUTIVE SUMMARY

Managed services are continuously being innovated with cutting-edge technology in an as-a-service model. Enterprises want service providers to manage their entire IT workload in an optimized way by leveraging artificial intelligence operations (AIOps) models with real time analytics, smart monitoring and management as a continual exercise. Hybrid IT managed services have seen significant growth last year, and we believe that this momentum will continue as enterprise businesses are becoming more agile and distributed. With these shifts in demand by enterprises and market patterns, managed services are becoming more strategic in nature. Managed service providers (MSPs) are offering strategic advisory and consulting services to enterprises in the decision-making process while considering capital expenses and operating expenses for multi-year deals. They also offer to manage enterprise workloads with integrated and cognitive technology along with AI-based services.

ISG Provider Lens™

As the business dynamics of enterprises are becoming more agile and distributed globally, one of the key priorities for CXOs is to have AI-led automation and analytics services to ensure that end-customer centricity and satisfaction rate remain high. Small and medium-sized businesses (SMBs) as well as large managed service providers are investing heavily to ensure that enterprise needs are addressed well in time. MSPs are also making many acquisitions in the space, particularly to address the key areas of enterprise needs such as co-relation, machine learning and visualization. These features feed into the leadership dashboard with end-user experience, prediction and capacity management.

The internet of things (IoT) managed services market is expected to witness the highest growth in the global market because of an increased development of smart factories and the number of connected devices across industries. Enterprises are seeking more mature managed service providers along with IoT-centric security services as a bundled package to manage their daily operational exercises. Over the next few years, billons of connected devices are expected to be integrated in the IoT ecosystem. Emerging technologies like blockchain and big data can create big opportunities for infrastructure MSPs. These providers have been monitoring the trend and started offering various solutions and frameworks to identify this gap and gain substantial knowledge on these technologies to increase their stake in the untapped market.

From a commodity and innovation standpoint, budgets for hybrid cloud computing have doubled in the past few years. The fundamental nature of hybrid cloud computing eliminates or minimizes hardware infrastructure, resulting in huge savings. However, cloud technology and services are not always simple. Organizations are realizing that they need expertise in capitalizing their investments to gain the benefits of this technology. They must be patient to see the revenue realization from a trap-value perspective. It is important for enterprises to craft their strategies clearly and let the execution progress to see the ROI sooner.

In the last few years, the growth in the use of public or hybrid cloud has increased. Enterprises are seeking a cloud management platform with a single pane of glass, which helps control the costs across hybrid or multi-cloud environments. They see hyperconverged infrastructure (HCI) as a flexible, agile and cost-optimized converged infrastructure. Global infrastructure service providers understand the convergence dynamics of the physical and digital enterprise worlds and have built various solutions, products and services around it. They have a large pool of trained and certified subject matter experts along with robust HCI experience.

Introduction

This ISG Provider Lens™ report summarizes the relative capabilities of 30 data center outsourcing services providers and their abilities to address the requirements of four typical, frequently encountered categories of enterprise buyers referred to as archetypes. Each archetype represents a unique set of business and technological needs and challenges.

Our research found that there are several service providers with varying capabilities that are adequate to satisfy the managed services and transformation requirements of most enterprises. However, it is rare to find one managed and transformation services provider than can address all the needs across most user archetypes. This is primarily due to two core realities regarding the archetypes:

1. The characteristics of each archetype are moving targets. While the core requirements rarely change, the relative importance of different requirements can vary based on business or technological environment changes.
2. Most enterprises, especially larger firms, tend to encompass multiple archetypes. As the requirements of each archetype evolve and adapt based on business and technological changes, so do the influence and value of each archetype within the enterprise. Therefore, enterprise IT leaders, service owners, procurement managers and others who are involved in data center management and transformation initiatives can select from a wide range of service providers. They will need to strike a balance between optimal business value and relative cost of the provider engagement, integration and management. Market changes, new business models, fluctuating economic factors and other variables will continually add to and subtract from user needs.

The assumption that an organization fits solely within a single archetype will limit the value received over time from data center managed and transformation services. For providers, slotting customers into a single archetype and failing to anticipate that their needs will change can prevent them from delivering value and thus lead to customer dissatisfaction.

About This Research

This report uses research and analysis from ISG's long-running work with enterprise clients and BPO services providers to identify and examine key changes, approaches and buyers in the private and hybrid cloud managed services space. We map the user-side requirements to provider-side offerings and capabilities. Not every user enterprise has the same requirements. In this report, we use four buyer archetypes, detailed in the following sections, to identify and assess buy-side requirements for business value relative to provider-side offerings and capabilities. All revenue references are in U.S. dollars ($US) unless noted.

The assessment methodology has been developed and refined over several years of working with buyers to understand and articulate their services requirements and from working with services providers to understand how those buyer requirements influence the development of suitable solutions and go-to-market strategies.

This report assesses the capabilities of 30 providers. Some service providers that are typically included in our research are not included in this report because they were unable to or declined to participate. They may be included in future versions of this report, based on merit and on the willingness of services providers to offer current and rele¬vant materials. Readers should not make any inferences based on a services provider's absence from this report.

How to Use This Report

This report is intended to provide advice founded on ISG's experienced-based, proprietary assessment of the providers' relative suitability to the needs of the typical private and hybrid cloud managed services customer. This advice is then applied across each of the four archetypes as profiled. No recommendation or endorsement is indicated, suggested or implied. Clients must make the decision to engage with any provider based not only on their specific, current workplace needs, but also on other factors such as cost, culture and timing.

This report is organized as follows:

Client Archetype Descriptions: This section identifies and describes the most common user-side archetypes that we have identified in our ongoing research and analysis.

Assessments by Archetype: These sections detail each of the client archetypes, along with the types of service offerings that each typically requires to realize the most business value. Each archetype section includes our assessment of the relevant capabilities and positioning of the services providers surveyed and interviewed. It covers the relative suitability of the providers for each archetype based on the information they have provided to ISG. These assessments are developed using the data, analysis and comparative methodology described in the methodology section.

Methodology: In this section, we outline and explain how we developed and applied the data, analysis and insights provided in this report.

***Please note**: The report presents the known capabilities of services providers in the context of the typical project needs of user enterprises (which are categorized as specific archetypes). It is not meant to rank providers or to assert that there is one top provider with capabilities that can meet the requirements of all clients that identify themselves as a particular archetype.*

CLIENT ARCHETYPE DESCRIPTIONS

Client archetypes used in this report (and in our ongoing advisory and consulting engagements) represent the various types of clients that ISG has observed and how they are classified based on their relative outsourcing maturity and objectives. Each client archetype encapsulates the typical characteristics of a specific type of buyer that is looking to outsource one or more processes or functions. The use of archetypes enables us to develop sets of characteristics and needs that can be applied uniformly and repeatedly across multiple environments, industries, provider types and other variables within one service line.

The archetypes are not meant to be comprehensive examinations of all potential or likely client situations and requirements. They are meant to provide a simple, relevant and repeatable set of user-side requirements against which a similarly simple, relevant set of provider capabilities can be assessed.

The archetypes included in our reports are based on the most current marketplace knowledge regarding prevalent buy-side goals, resources, initiatives and requirements. Archetype characteristics are also developed (and refined over time) based on our advisory and consulting work with enterprise clients and IT service providers, and on our global business IT market research and advisory programs.

TRADITIONAL ARCHETYPE

These clients have limited outsourcing experience and engage with service providers through selective outsourcing. They only outsource a fraction of their data center operations. This is done through one or a mix of the following options: staff augmentation, project-based work or partial outsourcing of ongoing infrastructure management. Cost optimization is the primary driver for such engagements. Project work typically includes standardization, consolidation and expanding virtualization. Infrastructure automation and cloud enablement efforts are still evolving. While these clients are receptive to the benefits offered by public clouds, mid to large-scale hybrid cloud deployment initiatives are in a rudimentary stage. Outsourcing contract sizes are not large.

MANAGED SERVICES ARCHETYPE (MIDSIZED FOCUS) ARCHETYPE

These clients have previously signed small outsourcing contracts with a focus on cost optimization and are now willing to transfer greater operational responsibility to an outsourcing service provider. However, budgets are constrained, and deals sizes are not very large (typically ACV between $5 million to $15 million). While the primary focus is still on tactical service-level agreements (SLAs), these clients are willing to embrace some transformation elements, such as modest investments in automation and cloud. The outsourcing engagement scale is considerable compared to the traditional archetype. The managed services client is willing to engage in a multi-sourcing model and work with midsized providers because of their flexibility and responsiveness. In addition to optimizing ongoing infrastructure management, the managed services archetype client also aims to achieve a moderate level of hybrid cloud adoption as a short to mid-term goal.

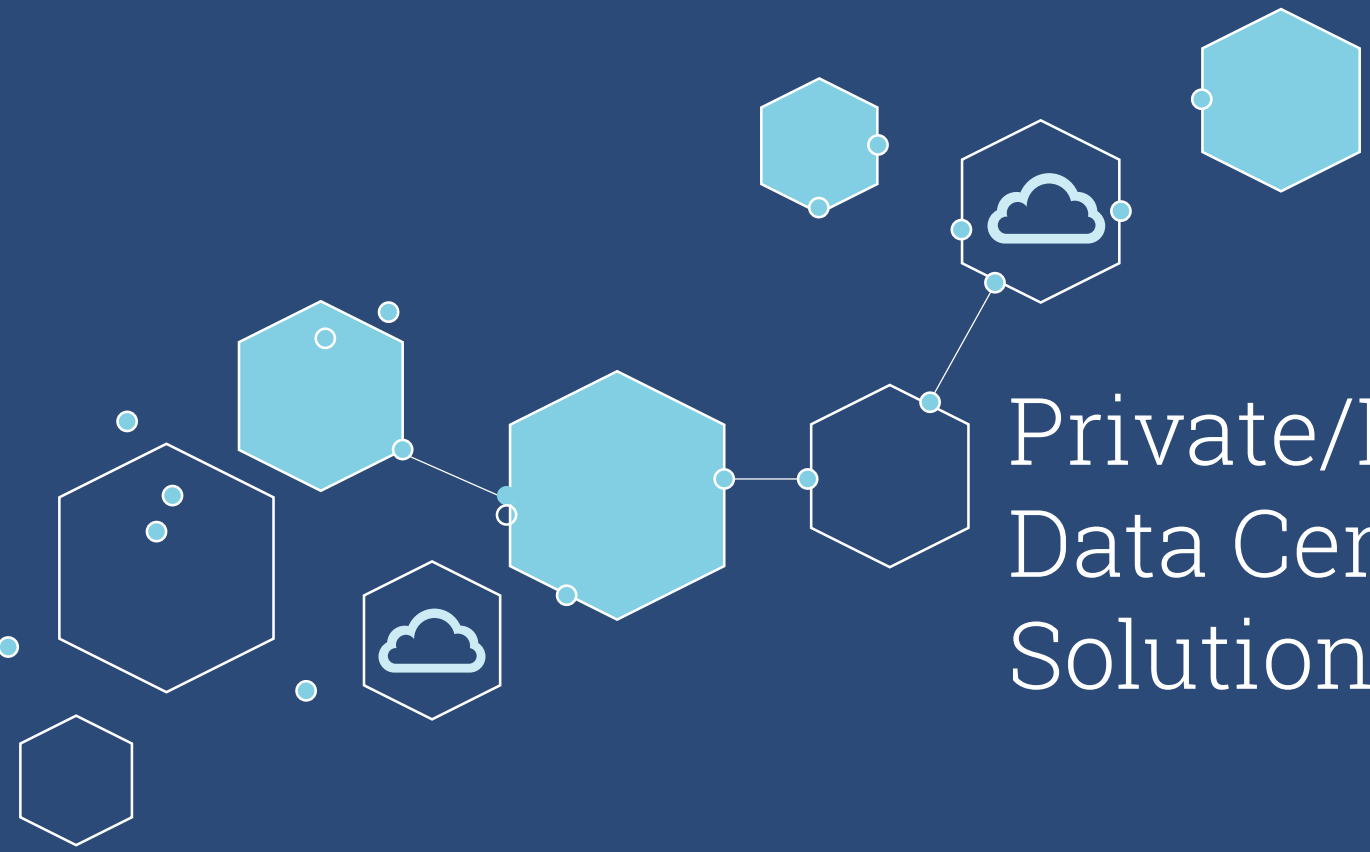
TRANSFORMATION ARCHETYPE (LARGE-SCALE FOCUS) ARCHETYPE

These clients are third-generation outsourcers with a preference for an optimized mix of onshore, nearshore and offshore delivery models. They are not severely constrained by budgets and undertake large transformation initiatives. They view service providers as strategic partners that should be willing to make a commitment to participate in gain-share deals. These clients seek to provide IT services to their business units using an as-a-service, utility-based model. Accordingly, their short to mid-term goals include increasing the adoption of private clouds that have core functionalities of self-service and high levels of automation, orchestration and chargeback. Long-term goals revolve around issues such as high availability of infrastructure resources to support business.

These clients also seek to simplify hybrid IT management through unified monitoring and management tools. Advanced technologies such as ML are preferred for eliminating lower-level infrastructure management and service desk tasks. Transformational clients want service providers to adopt modern infrastructure management practices such as the use of configuration management tools that codify and automate infrastructure management.

PIONEERING ARCHETYPE

These clients seek to extend their transformation initiatives with investments in software-defined networking and storage, in some cases, to attain an end-to-end software-defined data center. They seek service providers with the knowledge and experience in software-defined enabling tools, including hyper-converged storage systems. They view service providers as strategic partners with a commitment to participate in gain-share deals that include business outcomes. These clients have already achieved a significant level of cloud adoption and now focus on further optimizing hybrid cloud management, including next-generation practices such as workload portability. Pioneering archetype clients strive to improve developer productivity by providing an abstraction layer over complex infrastructure and their operations. They prefer service providers that can manage infrastructure with a DevOps-oriented approach.



Private/Hybrid Cloud - Data Center Services & Solutions Archetypes

TRADITIONAL ARCHETYPE

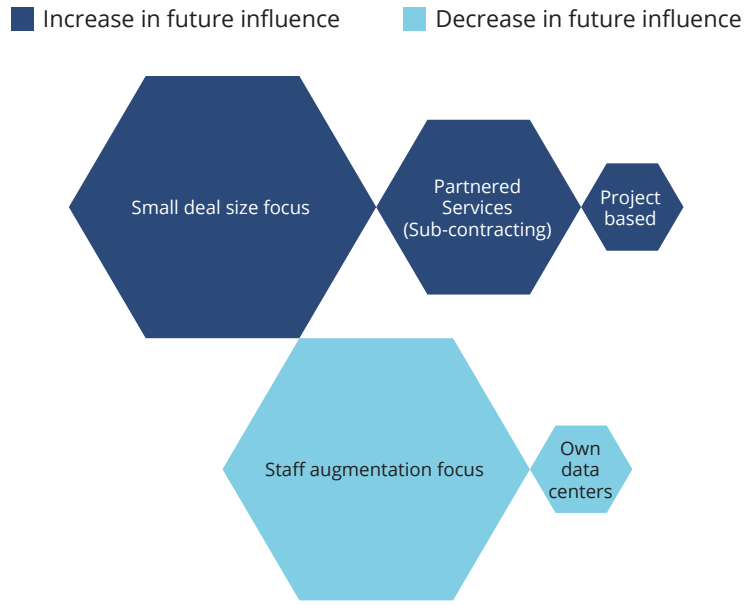
These clients prefer to have substantial control over their IT organization. They view outsourcing as a means to fill certain gaps in skills through staff augmentation or by offloading part of the management of their non-mission critical IT assets, primarily from a cost containment perspective. They outsource small to midsize projects, such as standardization or incrementally increasing the virtualization footprint. Traditional archetype clients evaluate service providers primarily on their ability to deliver these services cost effectively. Ongoing infrastructure management for some of their IT assets is primarily achieved through remote infrastructure management (RIM) services from low-cost delivery centers. Infrastructure transformation initiatives are in the nascent stages. Service quality and alignment with industry-standard practices such as information technology infrastructure library (ITIL) are still evolving.

Traditional Archetype Client Objectives

- Infrastructure monitoring and management services to identify cost drivers and improve efficiency.
- Project work such as standardization and virtualization to drive up capacity utilization and setup simplify infrastructure management practices.
- Need service providers with strong knowledge of technology and experience in managing virtualized environments.

Fig 1

Traditional Archetype of Provider Capabilities



Size based on relative current importance in the archetype profile

Fig 2 Traditional Archetype Leaders

Out of the 30 service providers included in our research, we found seven that match the traditional archetype based on our assessment of their capabilities as described in the methodology section in the appendix. These seven, referred to as Archetype Leaders, and their relevant capabilities are presented in the below figure and briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

● Score 4 out of 4 ◕ Score 3 out of 4 ◑ Score 2 out of 4 ◔ Score 1 out of 4

A1	Staff augmentation focus	Project based	Small deal size focus	Own data centers	Partnered services (sub-contracting)
Ensono	◕	◕	◕	●	◕
GAVS	●	●	◕	◔	◑
HTC (Ciber)	◕	◑	●	◑	◑
Microland	◕	◕	◕	◑	●
Sungard AS	◕	◑	●	◕	◕
UST Global	◕	◕	◕	◑	◑
Zensar	●	◑	◑	◕	◑

Ensono

Ensono provides hybrid IT solutions that help established enterprises, across all industries, with their complex IT ecosystem and accelerate their digital transformation. The company has presence across North America, Europe and India. It has increased its scale and capability both organically and inorganically through the acquisition of Wipro Hosted Data Center Services Business. The overall product roadmap and investment have elevated its global portfolio attractiveness and client base. The firm has gained the trust of some of the world's most successful companies because of its ability to deliver complete hybrid IT solutions and governance with a level of customization for each client's IT journey. Its portfolio includes managed services that span across mainframe and public cloud. In terms of revenue, the mainframe services will continue to account for the larger portion of Ensono's business, while public cloud will overtake traditional infrastructure. Consulting-led engagements cover application portfolio rationalization, hybrid IT assessments, data center transformation, consolidation and establishing software-defined infrastructure. Ensono is in the process of data center consolidation and modernization which would help cater to the cutting-edge hybrid cloud ecosystem.

Ensono's operations and delivery centers are mainly concentrated in the U.S. and the U.K., with a growing footprint in Poland and India. It has invested in transformational consulting capabilities to bolster infrastructure services, especially hybrid IT, public cloud and private cloud managed services, including scenarios where mainframe and midrange components are involved. It is expected to grow its client base from the current 200 to about 500 by 2021.

Ensono had recently announced the launch of its Cloud Transform Framework. The framework is a set of six services that follow a best-practices methodology for public cloud. The modular set of services — Cloud Activate, Cloud Migrate, Cloud Operate, Cloud Optimize, Cloud Enable and Cloud Innovate provide a roadmap that is tailored to enterprise needs.

GAVS

GAVS Technologies (GAVS) is a global full-service provider of digital transformation, consulting and enterprise support. It has a focus on AI, predictive analytics and robotics led infrastructure managed services. It has more than 20 years of experience in providing IT infrastructure management services, with strong SLA commitment to industries. GAVS' IP-led solution Zero Incident Framework (ZIF), an AIOps based TechOps platform, enables proactive detection and remediation of incidents helping organizations drive towards a Zero Incident Enterprise™. GAVS service offerings products serve the entire gamut of IT infrastructure technology and applications services, architecture guidance, application development and integration, management and consulting services. Its cloud first and mobile first strategy and a robust technology partner ecosystem are a key catalyst to drive operation excellence and transformation in their services. GAVS achieves this by leveraging AIOps, predictive analytics, smart machines and instrumentation, enabling organizations to achieve a Zero Incident Enterprise™. The Zero Incident framework has positioned GAVS well in the market to support enterprise clients. GAVS provides tailormade offerings through a number of frameworks, methodologies and IP-related tools that it has built over years of project experience and is uniquely positioned to address the needs of business/enterprises. A large number of end users, more than 5,000 network nodes, and over 20,000 physical and virtual servers are managed by its robust tools, technologies and frameworks.

HTC (Ciber)

HTC's managed infrastructure and cloud services enable organizations to optimize their technology foundation with a full stack of services on which organizations can run their business confidently and focus on breakthrough initiatives. HTC's wider partnerships ecosystem with industry-leading global vendors has helped enterprises to manage their hybrid IT in an optimized mode. As the sales pipeline and net new client statistics look promising, HTC Global Services is planning to recruit up to 3,000 tech employees in India in the coming two years as part of taking its revenue target of $1 billion by the end of 2020. The U.S.-based IT services company has a strong employee base across its development centers in Chennai, Hyderabad and Bengaluru. It has a workforce of nearly 12,000 employees globally, including Ciber and CareTech. HTC said that its integration with IT consulting firm Ciber for $93 million in 2017 has resulted in a larger client base. The company is looking to increase its market share of automation-led services to achieve faster growth.

Microland

Microland's data center outsourcing revenue has increased exponentially in the last financial year. Its infrastructure management services accounted for a majority of its revenue. The company accelerates the hybrid IT journey for global enterprises, enabling them to deliver high-value business outcomes to its clients. It has demonstrated a strong focus on building intellectual proprietary around hybrid IT. Microland has successfully carried out several consulting-led, outcome-based projects.

To modernize clients' legacy infrastructure, Microland has developed an end-to-end transformation framework called Now2Cloud, which offers phase-based transformation into next-generation data centers while transitioning to a multi-cloud environment, with an automation-led workload migration. Integration with the AIOps platform enables proactive and predictive management of the environment. The AIOps platform integrates with smartcenter™ and ServiceNow, SC365 for Azure cloud management and CMP for hybrid management capabilities.

Microland has more than 4,100 employees across its offices in Australia, Europe, India, the Middle East and North America. It enables global enterprises to become more agile and innovative though the integration of emerging technologies and the application of automation, analytics and predictive intelligence to their business processes. The company provides data center transformation services by using its Microland Datacenter Transformation Services Framework (MDTSF) to help clients analyze their existing infrastructure and execute an end-to-end transformation for their data centers.

Sungard AS

Sungard Availability Services provides fully resilient and recoverable IT infrastructure solutions that are tailored to client's unique business needs. With a heritage in disaster recovery services, the firm manages its customers' mission-critical IT across hybrid infrastructures in both production and recovery globally. It has the ability to address enterprise needs at all events for business continuity and uses app-based intelligent orchestration to serve the most complex infrastructure and can assess the success and failure of disaster recovery tests. Its disaster recovery services have been verified by DRI International with the managed recovery success rates significantly higher than the industry average. It also has considerable experience in consulting-led IT transformation programs, including the migration of traditional workloads to private and public clouds and in delivering hybrid infrastructure models.

Sungard AS' hosted private cloud services are based on a software-defined architecture that was built using a set of VMware technologies, enabling clients to leverage a highly automated cloud setup. The company positions its ability around mission-critical recovery services along with its hybrid IT services with a business-centric application and infrastructure strategy as key differentiators.

UST Global

UST Global's data center outsourcing global revenue took a positive spike compared to the previous year. Ongoing infrastructure management services has accounted for a majority of it its data center outsourcing revenue. The company's data center outsourcing deals are mostly sold as a bundled and standardized managed service, while transition and transformation services are customized to the customer's requirements. Along with three of its own data centers, UST Global also has several partner sites plus additional remote infrastructure management facilities across the globe. The company has large pool of trainers and certified subject matter experts to cater to data center outsourcing managed services clients from nearshore and offshore locations. UST FORTUNA, a private platform, promises to deliver cloud services, including serverless computing, at competitive prices and speed. Built entirely using open source components, the platform can be adopted by enterprises during any stage of their digital transformation and enables cost savings.

UST Global's AI-based platform enables enterprises to plug in with automation capabilities for their hybrid infrastructure orchestration. It uses COTS products for robotic, autonomic and cognitive process automation and for ML. UST's IP 'SmartOps' is an AI and ML capable platform which brings in intelligent automation into IT operations. The company has also setup SDDC environments for several banking and financial services clients, which has helped them move into a virtualized ecosystem and help manage it using a single pane of glass. UST Global is helping enterprises to adopt a hybrid infrastructure model where their most sensitive data will be on premise, while the rest will be on the cloud. It is focused on building AIOps capabilities and next-generation cutting-edge technology as well as expanding the partner ecosystem and creating key accelerators for digital transformation.

Zensar Technologies

Zensar's data center outsourcing revenue grew over the last few financial years with its ongoing cloud and hybrid IT services driving most of the data center services growth. The firm has been working with multiple products and their integrations for software-defined data center setup and management. It provides next-generation managed services and is focused on leveraging autonomics and automation to improve efficiencies and operation excellence. Its managed services are powered by The Vinci™ which is an autonomics-led agile infrastructure management platform. This makes Zensar stand out among other traditional managed service models that focus more on ticket resolution, SLA, and traditional L0 to L4 model. Zensar's approach is to help enterprises automate most of the issues and recurring requirements by using a sift-lift approach of resolution from L4 to L0/ L-1.

Zensar has joined with NetApp and Cisco to deliver the FlexPod converged infrastructure managed private cloud offering, which integrates NetApp storage, Cisco UCS compute/networking resources and Zensar's The Vinci Smart Autonomics Platform to deliver a feature-rich private cloud for customers. As part of the FlexPod Managed Private Cloud (MPC) program, Zensar provides a fully managed, zero-touch dedicated private cloud infrastructure to customers globally that will allow enterprises to maintain ownership of the infrastructure and data with Zensar managing and monitoring the service.

The company has been increasing its revenue share contribution from automation, cloud enablement and software-defined infrastructure projects to provide Return on Digital®. Zensar has been working in private, public and hybrid cloud deployments in a variety of verticals using VMware, OpenStack, AWS, Azure, GCP and Oracle as well as multi-cloud management platforms. It utilizes microservices-based architecture implementations on public clouds, providing continuous integration and deployments to automate DevOps pipelines for enterprise business applications.

OTHER NOTEWORTHY PLAYERS – TRADITIONAL ARCHETYPE

Some other providers scored high in one or more areas that are important for the traditional archetype client. However, they were not categorized as leaders for this archetype as they did not rate high in enough categories.

Noteworthy providers (service providers with a high score in one or more categories) for traditional archetype clients are:

Fig 3 Other Noteworthy Players – Traditional Archetype

Staff augmentation focus	Project based	Small deal size focus	Own data centers	Partnered services (sub-contracting)
Cognizant	Atos	NIIT Technologies	Capgemini	HCL
Infosys	Unisys	Tech Mahindra	DXC	NTT DATA
LTI	Wipro	Trianz	Flexential	T-Systems
Mindtree			IBM	
Mphasis			NTT	
Unisys			TCS	

A2 MANAGED SERVICES ARCHETYPE (MID-SIZED FOCUS)

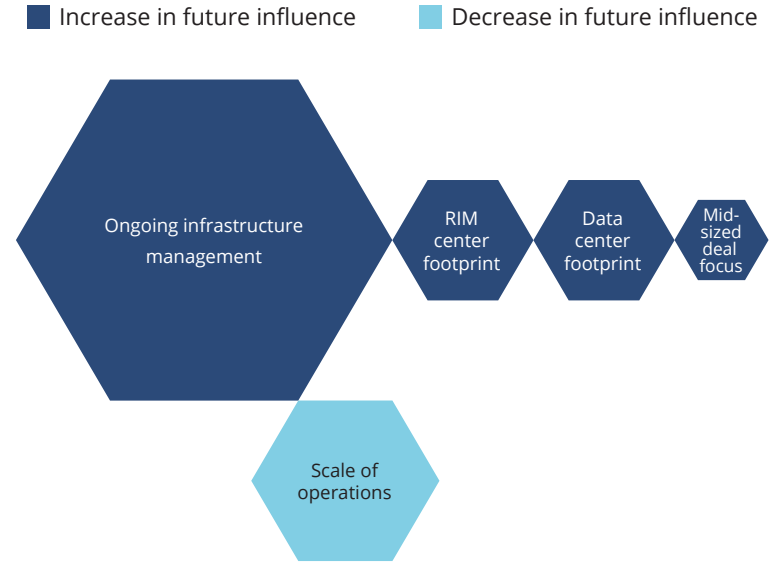
These clients have prior experience in outsourcing part of their data center operations and are willing to transfer additional responsibility to service providers. While their focus is primarily on cost reduction, they also consider it important to improve IT productivity by leveraging the expertise of an outsourcing partner. This archetype is looking for a broader suite of managed services with some transformation elements. Ongoing monitoring and management operations have evolved considerably, and the managed services archetype client is now considering ways to introduce automation to reduce or eliminate some mundane tasks. With cloud adoption accelerating, the focus is now on gradually increasing its penetration within organizations with a mid- to long-term vision. Though SLAs are still tactical, this archetype may want to experiment with strategic, outcome-focused SLAs. Service standardization is being enabled through industry-standard practices such as ITIL. Outsourcing contract sizes range from medium to large.

A2 Managed Services Archetype (mid-sized focus) Client Objectives

- Ability to scale up operations.
- Ongoing infrastructure monitoring from a mix of low-cost and nearshore locations.
- Extending virtualized environment to a cloud-based environment offered internally through a service catalog.
- Ability to centrally manage infrastructure resources spread across legacy, private cloud, colocation and public cloud environments.
- Automation tools and services to relieve L1 staff of mundane IT work and reduce costs.

Fig 4

Managed Services Archetype (mid-sized focus) Influence of Provider Capabilities



Size based on relative current importance in the archetype profile

Fig 5 Managed Services Archetype (mid-sized focus) Leaders

Score 4 out of 4 | Score 3 out of 4 | Score 2 out of 4 | Score 1 out of 4

Out of the 30 services providers included in our research, we found nine that stand out and match the managed services archetype (mid-sized focus) based on our assessment of their capabilities as described in the methodology section in the appendix. These nine, referred to as Archetype Leaders, and their relevant capabilities are presented in the below figure and briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

A2	Ongoing infrastructure management	RIM center footprint	Data center footprint (No. of owned and partnered DCs (combined))	Mid-sized deal focus	Scale of operations
Fujitsu	◕	◕	●	◑	◔
LTI	●	◕	◑	◑	●
Microland	◕	◕	◑	●	◑
Mindtree	◕	◑	◕	◕	●
NTT	◕	◕	●	◑	◑
NTT DATA	●	◕	◕	◕	◑
Orange Business Services	◑	◕	◕	●	◕
Tech Mahindra	●	◕	◑	◑	●
Unisys	◕	◕	◑	●	◑

Fujitsu

Fujitsu is a leading global IT infrastructure provider with its headquarters in Japan and a strong multinational presence. Its modular managed infrastructure services enable remote or local management of client's entire IT infrastructure. The company has more than 100 owned and partnered data centers around the world. Last year, Fujitsu's data center revenues grew 10 percent, of which more than half of its revenues were generated from ongoing infrastructure managed services. Globally, the company has a strong presence in the retail segment followed by state or local government sector. A major portion of its data center outsourcing contracts are mid-sized deal focus.

Fujitsu has a global network of eight delivery centers along with local service desks providing 24/7 support to clients in more than 160 countries. It has over 30 years of experience is building cloud services and enterprise-grade infrastructure solutions as well as delivering these as managed services. The company is leveraging AI to bring in efficiency in data center operations and is driven by Fujitsu Zinrai AI algorithms. Fujitsu has applied ML to the data used in its data centers to optimize the cooling and power consumption, reducing consumption by over 40 percent in its facilities, helping both clients and hyper-scale providers.

LTI

LTI derives a considerable portion of its data center outsourcing services revenue from ongoing infrastructure management. The firm offers end-to-end transformation solutions that cover the entire engagement life cycle that includes consulting, migration and operation services, which align to the customer's digital transformation strategy. It saw an increase of 15 percent in data center revenues when compared to last year. LTI is supporting 32 Fortune 500 companies with 99 percent SLA compliance for managed services.

LTI has developed more than 20 proprietary accelerators and frameworks, reinforced with more than 2,000 highly experienced consultants. It also has around 1,200 ITIL-certified resources to provide hybrid cloud services to its clients. The firm has been providing these services through a converged operations model with an industrialized delivery focus and a watertight and noiseless operation design. It also has a full-stack automation and command center with a single pane of glass view. LTI leverages its in-house built tools such as Rapid Adopt and MigExpress for accelerating the client's journey from on-premises to the cloud environment. These tools are also coupled with LTI's proprietary Mosaic platform for automation by leveraging its cognitive capabilities to predict outages and provide analytics with advanced visualizations.

Microland

Microland's data center revenues grew by 16 percent over the past year. The company generates most of its data center revenues through ongoing infrastructure management. It has been witnessing a major shift in managed services from a headcount or resource-based solution to an AIOps-driven proactive infrastructure management and an outcome-based model of services. The company has been focusing on having core skills such as full-stack development and management which are in line with the emerging infrastructure trends. Microland is targeting small and medium businesses and is providing them with cost-efficient managed hybrid cloud solutions. The company also has partnered with Cyxtera to help large organizations with their data center as a service need.

In order to provide hybrid cloud management capabilities, Microland has developed an AIOps framework that is integrated with service management tools such as smartcenter™, and ServiceNow as well as a cloud management platform. For setting up and managing private cloud environments, Microland leverages service catalog-based VMware and OpenStack technology to provide a public cloud-like environment that has billing and chargeback mechanism along with cost governance capabilities. Microland also leverages its smartMigrate factory solution to support large-scale migrations for customers.

Mindtree

Mindtree has shown double-digit growth in the data center services space, compared to last year. A majority of its data center revenues came from business services and the banking and financial services sector. Almost half of its data center revenues come from the ongoing management of clients' infrastructure assets. Mindtree solely manages platform as a service (PaaS) infrastructure for one of the popular public cloud providers. It has a significant number of certified full-time employees. These full stack engineers manage infrastructure as a code for hybrid cloud solutions. The company has a strong relationship with Microsoft Azure and has strategic partnerships with AWS, Google Cloud, CenturyLink and Rackspace.

Mindtree's focus on No-Ops has led to several automation initiatives across their clients leveraging more than 500 bots. The company has built platforms like MWatch, VMUnify and an automated meta-platform CAPE (Composable Automated Platform for Enterprises). Together they support seamless multi-cloud integration and management. Its unique Applistructure approach ensures a consolidated end-to-end view of the client's infrastructure and applications ensuring maximum business availability.

NTT

NTT has recently merged its subsidiaries (NTT Communications, NTT Security and Dimension Data) to become one company, called NTT Inc. This internal merger has helped the firm to consolidate all its infrastructure assets and become one of the top players in the market. Last year, NTT generated close to $1.7 billion in revenues with double-digit growth. With the combined entities, it has more than 250 data centers globally and serves infrastructure services to more than 500 large clients internationally. NTT has a strong presence in the banking and financial services, manufacturing and business services industries, which make up more than half of its data center revenues. It draws its strength from its massive global scale and can help large enterprises in getting end-to-end services from a single provider. It provides clients with a common set of SLAs, contracts and a management portal for their entire infrastructure assets.

NTT has managed to form long-lasting relationships with clients by ensuring the delivery of hybrid cloud workload management, smart monitoring and management of their infrastructure with predictive and prescriptive analytics for real-time insights. Its expertise in digital transformation implementation and agile methods for operating a hybrid cloud has been one of the success factors. The company has started working with its clients on an outcome-based managed services model. Along with assured SLAs, NTT also ensures the enterprise client sees real benefits through measurable business outcomes.

NTT DATA

With the acquisition of Dell Services, NTT DATA has strengthened its cloud and infrastructure portfolio. It has also been able to increase the scale of operations and expand its footprint, especially in North America. NTT DATA, a listed company, recently announced that it will be operating as a separate entity and will not be consolidating with other subsidiaries (NTT Communications, NTT Security and Dimension Data) of its parent NTT group. Its data center revenues grew moderately at around 5 percent, compared to last year. It is strong in the financial and healthcare industries with most of the infrastructure revenues coming from these areas.

NTT DATA has shifted its focus toward reskilling staff in infrastructure automation technologies. The company has a significant number of trained or certified employees in configuration management tools and several virtualization technologies. It has significant experience in implementing an end-to-end private cloud infrastructure solution with a diverse set of technologies. The company has enjoyed a healthy client base for managed hybrid cloud deployments. NTT DATA also has implemented software-defined infrastructure for a considerable number of clients. It has moved in the right direction of helping clients with their infrastructure modernization and the DevOps implementation journey.

Orange Business Services

Orange Business Services (Orange) has more than 70 data centers globally to provide managed services to clients. It provides these services through six strategically located delivery centers across the globe. Orange is very strong in the European market, especially in Western Europe and the Nordics, with most of its data center revenues coming from the region. A large portion of its data center contracts are small in nature. It works on smaller deals that typical large service integrators try to avoid. Orange has developed Cloud4Value, a co-innovation program focused on delivering customer business outcomes.

Orange provides custom hybrid cloud solutions to large customers by setting up a private cloud environment with VMware vRA, Prologue's UseItCloud multi-cloud cloud management platform or own DSRF (Digital Service Request Form) tool for more sophisticated customer-developed applications, and using public cloud hyperscalers to integrate their operation tools based on the client's requirements. It has planned to allocate around $10 million annually over the next four years along with investing in the Autonomics program, which is part of its core strategy. Under this program, Orange has automated L1 and L1.5 ITIL processes with an aim to deliver consistent scalable services regardless of platforms, along with swift delivery and reliability through repeatability. The company has also implemented AI to enhance automation, predict outages and include self-healing features to mitigate. Orange also developed a large Talent Management program and delivered over 45,000 hours of training in addition to providing a self-service training portal addressing thousands of topics including technology, security, governance, compliancy, etc.

Tech Mahindra

Tech Mahindra enjoys a healthy data center revenue growth and has grown almost 30 percent year over year. The company has a strong presence in the manufacturing and telecom and media industries, with most of the revenues come from these two domains. It is focused on providing dedicated ongoing infrastructure managed services with competitive pricing to these customers. The company has 27 data centers and 25 remote infrastructure management centers globally.

Tech Mahindra has introduced automation capabilities by leveraging its Fixstream Meridian platform that uses AI and ML capabilities for AIOps to manage IT operations. Its Managed Platform for Adaptive Cloud (mPAC) solution is a unique hybrid multi-cloud management platform that enables clients to integrate, provision, customize and manage their entire infrastructure assets and build hybrid cloud capabilities. It supports brokerage across all major hyperscale providers and provides an interface to connect with different cloud environments. It also offers orchestration capabilities within public or private cloud or on-premise environments. mPAC leverages ML, natural language processing (NLP), cognitive, policy-based scripts and robotic process automation (RPA) capabilities to predict any future outages or problems within a cloud environment.

Unisys

Unisys' data center outsourcing practice is strong in the government and public sector verticals, followed by the banking and financial market. Most of its clients are mid-sized in nature and typically have standard virtualization requirements. It currently has around 29 data centers across the globe, of which 12 are owned and 17 are partnered. Unisys has strategic partnerships with Dell EMC, Microsoft and AWS for its cloud CloudForte™ requirements with Microsoft Azure, AWS, private and hybrid clouds. It also has good relationships with technology partners such as VMware, Cisco, SAP, Oracle, Equinix and Salesforce among others. Unisys CloudForte™ accelerates digital transformation and maximizes innovation in the cloud without sacrificing security or governance. CloudForte™ accelerates with self-service blueprints, automated governance and workflow, automated provisioning, security, reporting and advanced analytics.

Unisys has a long-standing implementation service called Data Center Transformation Service (DCTS) which helps clients to consolidate, migrate, optimize, and automate their data centers and achieve a software-defined data center (SDDC) vision. For an SDDC design and implementation, Unisys provides advisory services, along with application and infrastructure assessment, cloud/data center design and implementation and a robust hybrid IT management service. The DCTS helps clients transform their data centers from a cost center to an innovation center. Unisys provides custom SLAs for its services, which in turn provides the client with flexibility based on their requirement.

OTHER NOTEWORTHY PLAYERS – MANAGED SERVICES ARCHETYPE (MID-SIZED FOCUS)

Some other providers scored high in or more areas that are important for the Managed Services Archetype (mid-sized focus) client. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for managed services archetype (mid-sized focus) clients are:

Fig 6 Other Noteworthy Players – Managed Services Archetype (Mid-Sized Focus)

Ongoing infrastructure management	RIM center footprint	Data center footprint	Mid-sized deal focus	Scale of operations
Cognizant	DXC	Atos	HTC (Ciber)	Accenture
HCL	Infosys	Capgemini	Sungard AS	IBM
HTC (Ciber)	Zensar	DXC	T-Systems	TCS
Mphasis		Flexential	Trianz	Wipro
		IBM	UST Global	
		TCS	Wipro	

A3 TRANSFORMATION ARCHETYPE (LARGE-SCALE FOCUS)

These clients have set an agenda to provide IT as a utility service across the organization. They have a decent level of cloud adoption and a desire to go further with features such as policy-based self-service provisioning, a robust governance structure, and chargeback mechanisms for metered billing by business units. They undertake massive transformational projects and prefer to work with service providers that have achieved significant scale of operations. Transformational archetype clients want to achieve high hybrid cloud adoption levels and prefer a multi-cloud environment that is centrally managed using sophisticated cloud management platforms. They also aspire to achieve workload portability across some of their multi-cloud components.

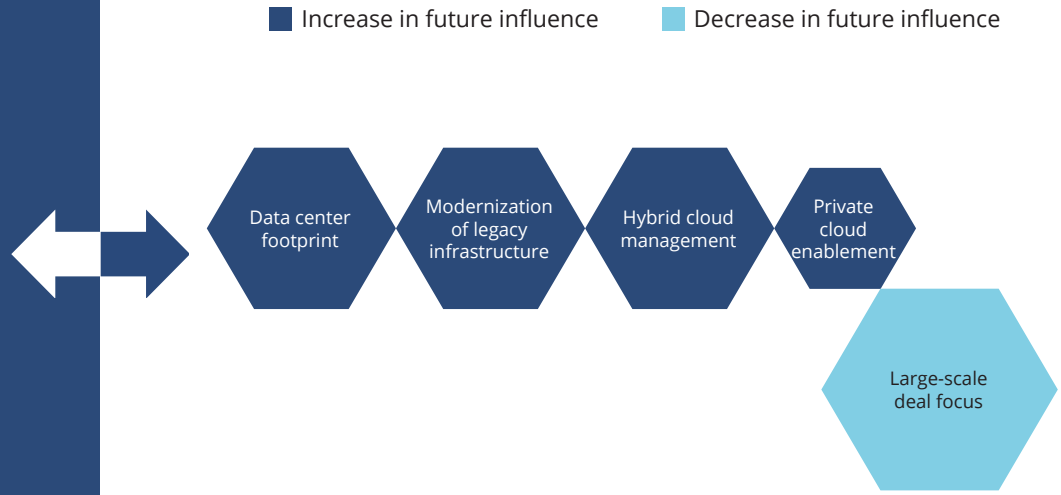
Transformational archetype clients have diverse technology requirements and prefer system integrators that can aggregate best-of-breed technologies and offer unified solutions. Considering the scale and complexity of their environments, these clients need consulting services and seek providers with a strong partner ecosystem to consult on a wide range on emerging technologies. Automation initiatives include adopting ML technologies to incorporate self-healing systems for infrastructure resiliency.

A3 Transformational Archetype (Large-Scale Focus) Client Objectives

- Driving down manual IT intervention in operations through self-service models via service catalog.
- Hybrid cloud model adoption, including multiple public cloud providers to avoid vendor lock-in.
- Migrating mission-critical workloads such as SAP from dedicated equipment to a hybrid cloud solution.
- Reducing manual infrastructure management practices through automation.
- Aggressive SLAs around MTTA and MTTR, as well as business outcomes.
- Considerably reduce investments in the run part of their IT management activities and redirect the savings into the change part.

Fig 7

Transformation archetype (large-scale focus) Influence of Provider Capabilities



Size based on relative current importance in the archetype profile

Fig 8 Transformation Archetype (large-scale focus) Leaders

Score 4 out of 4 Score 3 out of 4 Score 2 out of 4 Score 1 out of 4

Of the 30 services providers included in our research, we found ten that stand and match the transformation archetype (large-scale focus) based on our assessment of their capabilities as described in the methodology section in the appendix. These ten, referred to as Archetype Leaders, and their relevant capabilities are presented in the below figure and briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

A3	Large scale deal focus	Hybrid cloud management	Private cloud enablement	Data center footprint (No. of owned and partnered DCs (combined))	Modernization of legacy infrastructure
Atos	◕	◕	◑	●	◑
Capgemini	◕	◕	◕	●	◕
Cognizant	●	◑	◑	◑	◕
DXC	◕	●	●	●	◕
HCL	◕	●	◕	◕	◕
IBM	◑	●	◕	●	◕
NTT	●	◑	◕	●	◑
TCS	●	◕	◕	●	◕
Unisys	◕	●	●	◑	◔
Wipro	◕	●	◕	◑	◑

Atos

Atos' data center transformation strategy is centered around orchestrating hybrid services based upon its Canopy cloud offering. Modernizing existing data centers and providing agile infrastructure with intelligent operations has been a key area of focus for Atos. The company relies on its strategic partnerships with Google Cloud Platform, Dell, Microsoft and AWS among others to provide end-to-end hybrid cloud services. It provides frameworks, delivery tools processes with customizations for delivery across industry verticals.

Atos has 107 data centers in total (owned and partnered) and has signed more than 100 large-sized (over $15 million) deals in the last three years. It also has strong capabilities in providing services to highly regulated industries dealing with sensitive data. The company has a strong focus on Industry 4.0 and has worked on building edge-centric data centers to provide advanced capabilities. It has deep expertise in ServiceNow solutions that enable seamless integration and automation for traditional IT and business services. In 2019, Atos has been awarded by ServiceNow for its exceptional services in Europe, the Middle East and Africa. Its acquisition of ServiceNow Gold partners Engage ESM and imaKumo has provided it with enhanced SNOW capabilities and helped it to develop a global center of excellence to better serve its customers worldwide. Atos has made considerable progress in automating ticket resolution across both structured and unstructured patterns. It aims to achieve steady progress in handling and resolving non-standard incidents.

Capgemini

Capgemini provides infrastructure services to a significant number of large global clients. The company has more than 11,000 employees to provide managed infrastructure services. A significant portion of the overall revenue comes from infrastructure services due to its investments in digital transformation capabilities. Capgemini's hosted multi- and single-tenant private cloud services address challenges in key areas such as virtualization to security. As a member of the Open Data Center Alliance, it ensures that the best-of-industry standards are met. Capgemini's cloud center of excellence provides the support required for the commercial cloud service in terms of certified and skilled resources.

Capgemini has significant expertise in the transformation of legacy infrastructure deals. It also has partnerships with industry-leading vendors such as VMware, SAP, Oracle and Microsoft. The firm has also developed automation and DevOps frameworks that provide AutoOps capabilities in auto ticketing, incident management and problem management to enable self-healing. Capgemini has been working steadily on modernizing infrastructure capabilities by leveraging its cloud management platform and low-touch and zero-touch capabilities.

Cognizant

Cognizant's hybrid cloud solution is built on a software-defined data center architecture that leverages leading computing, networking and storage virtualization technologies. It also offers a platform to orchestrate applications across multiple clouds and provides a common management framework for network, application, security and virtualization across governance, security and compliance. Cognizant's revenues are majorly driven by ongoing infrastructure modernization projects and staff augmentation.

Cognizant has gained tremendous recognition for using bots with cognitive learning capabilities to automate basic service level (L1 and L1.5) tasks. Its proprietary automation and operations tools include HiveCenter™ and DIAL (delivery integration and liaison). Cognizant's ArcTern migration tool is aligned to migration methodologies with automated workflows and governance for large migration projects. It also leverages industry partnerships to aid risk mitigated migrations. The services can be viewed on a single pane of glass in a multiple provider ecosystem. Its automation capabilities have helped clients improve their bottom lines and reduce operational expenses.

DXC Technology

DXC has signed the highest number of large-scale transformations deals. A major portion of its data center outsourcing business comes from clients in the banking, financial service and insurance, manufacturing and public sectors. Its ongoing infrastructure management services are still the biggest revenue generator.

DXC provides server consolidation services that utilize VMware's modern platform. The company leverages partner technologies for integrating automation and provides them in solution stacks. Its infrastructure monitoring solutions include automation capabilities with a customizable cloud-based, self-service portal that enables rapid self-provisioning on physical and virtual machines with available storage, CPU and memory sizing features. Turbonomic, a key partner, provides an automation solution for workload management of virtual machines on their clusters. It has helped clients to reduce costs and also offers efficient and optimized workload rebalancing whenever necessary. DXC's automation foundation is the DXC Operations Automation Framework that drives tool standardization and enables an efficient use of frameworks. Its focus on automation has also extended steadily to DevOps CI/CD over the past year.

HCL

HCL's data center outsourcing revenue grew by 12 percent over the past year. Most of the revenue is driven by ongoing infrastructure management and SDDC-enablement projects. The adoption of a cloud-first strategy and flexible pricing options are key enablers in getting new business. HCL also has a large talent pool compared to its peers.

HCL provides multi-cloud and hybrid cloud management capabilities through its proprietary management platform called HCL MyCloud. It combines HCL's AIOps called NXTGenOps to provide monitoring services. NXTGenOps is a hybrid cloud operations management framework that standardizes and optimizes IT operations and is business and scale oriented. It leverages DRYiCE™, which is HCL's autonomics framework. MyCloud provides one-click blueprint creation capabilities that enable provisioning of virtual machines and custom APIs to provide DevOps capabilities in hybrid cloud environments. HCL has increased its investments in AIOps and automation by 30 percent over the year. This has led to the development of more than 3,000 processes and workflows in 2018.

IBM

IBM's technology services and cloud platforms business unit accounts for around 46 percent of the company's total revenue of $78.7 billion (source: CapitalIQ). The firm has 437 data centers (both owned and partnered) that deliver services onshore, near-shore and offshore. It has undergone a transition to reposition itself as a cloud services player along with providing traditional infrastructure services. About 50 percent of IBM's top clients opt for workload deployments on private cloud because of its end-to-end services expertise. Along with the application runtime frameworks, the firm delivers a core set of management services for these frameworks with the applications being developed on top. It has among the largest network of data centers and delivery centers globally to support onshore and offshore client requirements. The focus will be on the integration with its in-house and leading third-party cloud workload management tools. IBM's investments in cognitive tools and IT operations analytics have helped clients significantly reduce operating expenses and extract actionable insights from large volumes of data.

NTT

NTT's subsidiaries are undergoing consolidation and each unit will add its own strengths to the cloud services portfolio. This will result in new packaged services for large-scale transformation deals for enterprises. The company has good support for both traditional IT service models and "mode 2" DevOps models that feature continuous development and integration. Banking financial services and insurance, business services and manufacturing are NTT's biggest revenue-generating verticals.

NTT has deep expertise in transformation deals and offers extensive management capabilities via a consolidated and customizable view of all managed service assets regardless of the underlying platforms through its customer portal. It is among the companies with the highest number of employees who are certified and trained in technologies such as virtualization and infrastructure automation using configuration management tools.

TCS

TCS has more than 500 owned and partnered data centers. Data center outsourcing and associated application services revenue grew nearly 30 percent when compared to last year. The firm has adopted the Machine First Delivery Model (MFDM™) to automate hybrid workloads and integrate better AI and ML capabilities. The model has gained considerable appeal in the industry because of its ability to generate real-time insights and suggest action items driven by business objectives. TCS has a significant number of employees who are trained and certified in virtualization and infrastructure automation technologies as well as those with public cloud provider certifications. Its private cloud enablement is focused on providing customized virtual machines, automated infrastructure provisioning, and better chargeback and show-back solutions on its cloud management platform.

For modernization deals, TCS performs P2V or V2V migration, OS re-platforming and upgradation activities for platform standardization, infrastructure consumption optimization and data center consolidation are among other core processes. TCS is also accelerating its cloud journey by offering prebuilt design templates and the Infrastructure Migration Factory for faster go-to-market and automation using Chef and Puppet among other applications. Although TCS advocates its ignio™ platform, it is engaged with products from other vendors as such as IBM. The firm has signed a significant number of clients in the recent past. It has a strong focus on upcoming technologies related to container management and hyper-converged technologies.

Unisys

Unisys has a proven transformational expertise that is focused on aligning IT with business requirements to drive growth and innovation at controlled costs. The company has operations in more than 100 countries and has global infrastructure delivery services with a rich heritage of providing solutions to demanding and complex workloads ecosystem. It has significant experience in hybrid cloud management and private cloud enablement, including designing and implementing the hybrid IT environment consisting of private, public and hybrid clouds. Unisys currently has around 29 owned and partnered data centers, through which it provides Data Center Transformation Service (DCTS). The company strategically delivers services from ISO-certified data centers with nearshore, on-shore and offshore capabilities, along with delivering software-defined services.

Unisys offers cloud migration and infrastructure management solutions by leveraging its IP - CloudForte™, which accelerates digital transformation by providing self-service blueprints, automated governance and workflows, automated provisioning, security, reporting and advanced analytics. Unisys has several large government clients, both state and federal, helping them to migrate to hybrid cloud environments involving public clouds such as AWS, Azure, GCP and private clouds. The company was recently chosen to provide secure cloud services by the U.S. Department of the Treasury, which includes implementation and validation services for identity and access management, and cloud access brokerage services. Unisys has been a preferred choice when it comes to large and complex transformation engagements.

Wipro

Wipro's large-scale transformation offerings include infrastructure, application, operating system and database modernization. These leverage several in-house and third-party virtualization, automation and orchestration solutions that help enterprises modernize their legacy infrastructure and accelerate their journeys toward hybrid cloud. The firm also uses bots to perform quick cloud assessments to arrive at landing zones and R-Lane treatment and has its own accelerators for migrating critical applications like SAP and Oracle to Cloud. Wipro's EDOC (Enterprise Digital Operations Center) provides a single pane of glass dashboard for hybrid cloud management across private and public cloud and across IaaS, PaaS and CaaS.

Wipro has been improving its HOLMES™ platform, in line with its vision of creating a "manual by exception" infrastructure services, which will be significantly automated. HOLMES™ has also become an integral component of introducing virtual assistant to address daily mundane tasks with intelligent workflow. In addition to a dedicated focus on AI- based operations, there is augmented operation enablement in an agile model.

The company has also made substantial investments in a software-defined infrastructure technology partner ecosystem like VMware Cloud Foundation and Nutanix and has significant experience working with these partners. Wipro helps in building an agile infrastructure through cloud orchestration on top of software-defined infrastructure to accelerate the transformation journey.

OTHER NOTEWORTHY PLAYERS – TRANSFORMATION ARCHETYPE (LARGE-SCALE FOCUS)

Some other providers scored high in or more areas that are important for the transformation archetype (large-scale focus) client. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for transformation archetype (large-scale focus) clients are:

Fig 9 Other Noteworthy Players – Transformation Archetype (Large-Scale Focus)

Large-scale deal focus	Hybrid cloud management	Private cloud enablement	Data center footprint	Modernization of legacy infrastructure
Accenture	Ensono	Sungard AS	Flexential	Accenture
Infosys	LTI	Zensar		Mindtree
NTT DATA	Mphasis			Sungard AS
Orange Business Services				Trianz
Tech Mahindra				UST Global

PIONEERING ARCHETYPE

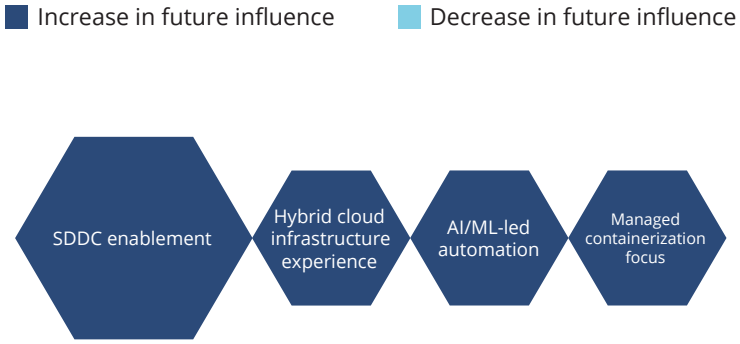
These clients have fewer budget constraints than other archetypes and are focused on strategic initiatives aimed at business process enhancement. They are at the forefront of IT management practices among their peers. Tactical priorities, such as near-term management cost reduction, are lower on the agenda as compared to improving developer productivity by supporting a DevOps-oriented infrastructure with programmatic capabilities. By creating an abstraction layer over the underlying infrastructure, these clients seek to achieve faster time to market and simplified hybrid cloud management. The move toward such an environment may be carried out through a gradual transformation of data center components or relatively quickly through the use of single-vendor solutions (for example, hyperconverged solutions). Such clients also find this similar to achieving a public cloud-like experience in their own data centers in the long term, with their cost per virtual machine dropping as scale and process maturity evolve.

Pioneering Archetype Client Objectives

- Focus on managing application delivery and reducing effort to manage the underlying infrastructure.
- Software-defined infrastructure for operational agility.
- Significant hybrid cloud adoption, including workload portability wherever feasible.
- Infrastructure automation capabilities to support DevOps environments.
- View outsourcing as a strategic partnership activity and willing to engage in outcome-based deals.

Fig 10

Pioneering Archetype Influence of Provider Capabilities



Size based on relative current importance in the archetype profile

Fig 11 Pioneering Archetype Leaders

Score 4 out of 4 Score 3 out of 4 Score 2 out of 4 Score 1 out of 4

	SDDC enablement	Hybrid cloud infrastructure experience	AI/ML-led automation	Managed containerization focus
Accenture	●	◕	◑	●
Cognizant	◕	◕	◕	◑
DXC	●	●	◑	◑
HCL	◕	●	◕	●
IBM	◕	●	●	●
TCS	◕	●	●	◕
Wipro	◕	◕	●	◕

Out of the 30 services providers included in our research, we found seven that stand out and match the pioneering archetype based on our assessment of their capabilities as described in the methodology section in the appendix. These seven, referred to as Archetype Leaders, and their relevant capabilities are presented in the below figure and briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

Accenture

Accenture's deep consulting and advisory services drive innovation and help accelerate an organization's growth with a large spectrum of digital, analytics and enterprise cloud services. The firm has a strong footprint and has successfully onboarded large enterprise clients where it manages more than 20,000 container implementations. It has strategic alliances with Docker and is the founding member of Kubernetes Certified Service Provider (KCSP). Accenture and Docker are collaborating on developing migration accelerators and best practices for enterprise clients that adopt containers. The firm has formed a strategic innovation-centric alliance with Intel to deliver software-defined Infrastructure, cloud and analytics to enterprise clients globally. Its Accenture Cloud Platform (ACP) delivers a unified management experience across multi-cloud and hybrid enterprise resources from one pre-integrated, on demand, pay-as-you-go platform. it has extensive public and private cloud partnerships to better integrate orchestration capabilities on its CMP. The platform is used in more than 750 projects currently.

Cognizant

Cognizant's hybrid cloud offering combines proprietary tools stacks that work in tandem with standard public cloud offerings. The firm also simplifies the use of the IaaS provider's self-service portal and leverages partner OEM's integration, automation, and management tools and frameworks. It has a new-age application assessment framework that provides a deeper cloud assessment to drive the output for workload migration and TCO-centric operating expenses and capital expenses model. Cognizant's HiveCenter™ platform is powered by more than 1,000 bots with cognitive learning capabilities. Its Smart Operations™ combines the operations across infrastructure, application and security and active analytics for real-time business monitoring. HiveCenter™ is an integrated intelligent automation platform that leverages AI and cognitive capabilities to deliver services ranging from advisory to managed automation. Cognizant offers container services with its OneDevOps™ platform. Along with its strategic partnerships with AWS and Azure, the GCP partnership complements Cognizant's infrastructure with cloud-native approaches, microservices architecture, containers, DevOps and technologies within the Kubernetes ecosystem such as Docker, GKE, PCF, PKS and OpenShift among others. Cognizant is focused on large-cutting edge digital and cloud centric engagements.

DXC Technology

DXC's hybrid cloud and could-native solution portfolio has enabled enterprise clients to move workloads to a multi-cloud environment with tailored proprietary platforms and agile practices to modernize client's applications and data centers with AIOps and analytics services. DXC's managed container PaaS is powered by Red Hat OpenShift and leverages its proprietary Bionix™ platform to accelerate the application development and deployment processes. Its partnership with Red Hat OpenShift has helped to build, deploy and manage containerized applications on a single platform across hybrid and cloud infrastructures. DXC's hybrid cloud client base has been steadily expanding over the years. Its cloud services for hybrid IT include blueprint services. Given its overall cloud services, DXC has a strong position among cutting-edge technology providers that have taken a modern approach in hybrid IT, including DevOps, automation, community sourcing, ML and AI. The firm is modernizing the legacy environment to help businesses move forward.

HCL

HCL is been a key enabler to drive the hybrid cloud and AIOps journey by leveraging digital transformational platforms (PaaS) for container deployment and management, digital transformation services, digital continuous delivery, and digital enterprise operations. Its DRYiCE™ AIOps and ElasticOps integrated cloud managed services provide enterprises with several ways to apply automation and gain operational flexibility. HCL's container solution offers end-to-end containerization services such as build, migrate and operate. It also offers a separate solution to manage the entire container lifecycle. HCL has opened a dedicated software-defined infrastructure center of excellence with certified resources. It has partnerships with leading hyper converged and software-defined data center providers. More than 150 clients leverage DRYiCE™ to deal with the complexities of cloud and hybrid technologies. HCL has also advanced the capabilities of the platform by extending third-party automation integrations to data center layers such as network and security.

IBM

IBM's overall hybrid cloud portfolio revenue grew modestly over the last few financial years. Its high revenue growth is driven by many hyper converged infrastructure implementations, large data center consolidation and transformations deals. Other drivers include cognitive solutions with a deeper focus on the Watson platform, robust technology service and the cloud platform ecosystem. IBM has stronghold in private cloud implementations and post implementation sustenance support through its large service management wing. Its acquisition of Red Hat will help boost the overall opportunity to cross sell AI, middleware and analytics-related cloud services. IBM's vast cloud portfolio and the Red Hat cloud suite have helped the firm increase its market share around hybrid IT services. Being a founding member of the Cloud Native Computing Foundation, it has introduced conformance testing, which is a required set of testing rules to carry out the optimization and implementation of container (PODs) implementation. IBM's cognitive capabilities are integrated with orchestration and management tools to reduce the development cycles and time to market. In the recent past, the firm has signed a significant number of million-dollar deals to drive the digital transformation journey by leveraging its diversified cloud product and service portfolio. Enterprise sees IBM's cloud product and service portfolio as a complete package to accelerate digital transformation.

TCS

TCS has significant strengths in infrastructure automation for supporting DevOps environments and has large pool of workforce talent who are trained and certified in container, AIOps and cloud services. The firm has a hybrid container as a service (CaaS) portfolio with pre-built architectures for agile deployment and is currently managing more than 15,000 containers using the ignio™ platform to optimize and manage container pods. It is focused on providing advanced capabilities in the DevSecOps space and on Industry 4.0. TCS has made significant investments in its services, technology, partner ecosystem and talent pool. The company has more than 400 pre-built design templates and a cloud migration factory-based model with various IPs (for example, ignio™). Its MFDM™ has helped enterprise clients intelligently automate hybrid cloud workload services with increased flexibility. Its recent strategic alliance with Actifio and a strong global portfolio has helped the firm accelerate its digital transformation initiatives, reduce storage costs and meet the speed and scale requirements of the multi-cloud world.

Wipro

Wipro is providing technology solutions based on its intellectual property to deliver software services to its customers and tap growth opportunities in newer digital services with IP as the differentiator. It is focused on building strong capabilities around data center, private cloud, AIOps and hybrid IT services. The firm is continuing to invest in R&D to develop more suitable and tailormade solutions to drive autonomous implementation and operation excellence. Around 20 percent of Wipro's outsourcing services revenue comes from SDDC-enablement engagements, with more than 150 enterprise clients globally. The company currently manages more than 160,000 containers. The BoundaryLess Data Center (BLDC) ITaaS platform leverages a "Business First, Pipeline First. Cloud First" approach and accelerates the digital journey of clients by providing an agile and intelligent hybrid infrastructure through industrialized transformation solutions. BLDC provides end-to-end cloud lifecycle services from assessment, migration, digital operations and optimization services across IaaS, PaaS and CaaS services. Wipro's AI and ML offerings have benefited enterprise clients from an accelerated automation standpoint.

OTHER NOTEWORTHY PLAYERS – PIONEERING ARCHETYPE

Some other providers scored high in one or more areas that are important for the pioneering archetype client. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for pioneering archetype clients are:

Fig 12 Other Noteworthy Players – Pioneering Archetype

SDDC enablement	Hybrid cloud infrastructure experience	AI/ML-led automation	Managed containerization focus
Atos	Capgemini	Infosys	Capgemini
Mindtree	LTI	Mindtree	Infosys
NTT DATA	NTT	Tech Mahindra	
Unisys	Unisys	UST Global	
UST Global			

SERVICE PROVIDERS ACROSS ARCHETYPES

	"Traditional Archetype"	Managed Services Archetype (Mid-sized focus)	Transformation Archetype (large-scale focus)	"Pioneering Archetype"
Accenture	□	✓	✓✓	★
Atos	✓	✓	★	✓
Capgemini	✓	✓	★	✓✓
Cognizant	✓	✓	★	★
DXC	✓	✓✓	★	★
Ensono	★	□	✓	□
Flexential	✓	✓	✓	□
Fujitsu	□	★	□	□
GAVS	★	□	□	□
HCL	✓	✓	★	★

★ = Leaders

✓ = Noteworthy Providers *(number of check marks indicate the degree of alignment with the capability requirements of each client archetype)*

□ = *Not In (the Service Provider wasn't considered a leader in any of the capability requirements for this archetype)*

NOTE: All Service Providers evaluated for this report have the abilities to service all four archetypes, only those with the best fit to the capability requirements were identified as Leaders or Noteworthy Providers

SERVICE PROVIDERS ACROSS ARCHETYPES

	"Traditional Archetype"	Managed Services Archetype (Mid-sized focus)	Transformation Archetype (large-scale focus)	"Pioneering Archetype"
HTC (Ciber)	★	✓✓	□	□
IBM	✓	✓✓	★	★
Infosys	✓	✓	✓	✓✓
LTI	✓	★	✓	✓
Microland	★	★	□	□
Mindtree	✓	★	✓	✓✓
Mphasis	✓	✓	✓	□
NIIT Technologies	✓	□	□	□
NTT	✓	★	★	✓
NTT DATA	✓	★	✓	✓

★ = Leaders

✓ = Noteworthy Providers *(number of check marks indicate the degree of alignment with the capability requirements of each client archetype)*

□ = *Not In (the Service Provider wasn't considered a leader in any of the capability requirements for this archetype)*

NOTE: All Service Providers evaluated for this report have the abilities to service all four archetypes, only those with the best fit to the capability requirements were identified as Leaders or Noteworthy Providers

SERVICE PROVIDERS ACROSS ARCHETYPES

	"Traditional Archetype"	Managed Services Archetype (Mid-sized focus)	Transformation Archetype (large-scale focus)	"Pioneering Archetype"
Orange Business Services	□	★	✓	□
Sungard AS	★	✓	✓✓	□
TCS	✓	✓✓	★	★
Tech Mahindra	✓	★	✓	✓
Trianz	✓	✓	✓	□
T-Systems	✓	✓	□	□
Unisys	✓	★	★	✓✓
UST Global	★	✓	✓	✓✓
Wipro	✓	✓✓	★	★
Zensar	★	✓	✓	□

★ = Leaders

✓ = Noteworthy Providers *(number of check marks indicate the degree of alignment with the capability requirements of each client archetype)*

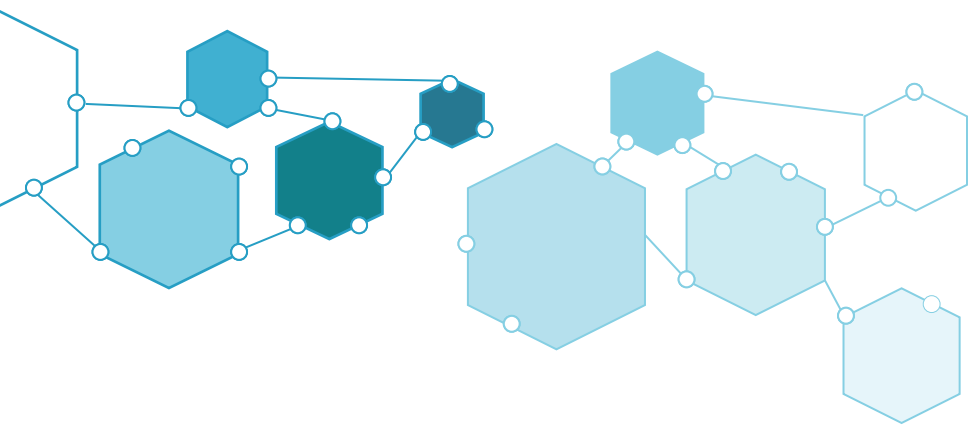
□ = *Not In (the Service Provider wasn't considered a leader in any of the capability requirements for this archetype)*

NOTE: All Service Providers evaluated for this report have the abilities to service all four archetypes, only those with the best fit to the capability requirements were identified as Leaders or Noteworthy Providers

GUIDANCE

This report highlights four different client archetypes for private/hybrid cloud and data center managed and transformation services. The archetypes are based on the journey that a client organization takes from siloed data center components to standardization, consolidation, virtualization and cloud enablement. The associated change is not just from a technology standpoint but also encompasses infrastructure management practices that evolve along this journey.

The report also distinguishes the archetypes based on buyer objectives and constraints. For example, the traditional archetype is bound by budget constraints and views IT more as a support function than a business enabler. This archetype has limited outsourcing experience and prefers a phased approach to transfer responsibility to a service provider. On the other hand, the managed service archetype has prior outsourcing experience and is comfortable in offloading significant control over data center management. Transformational and pioneering archetypes have a different mindset based on years of outsourcing experience, expertise and relatively less budget constraints. They view service providers as strategic partners that can innovate and participate in gain share deals based on business outcomes.



As more clients embrace infrastructure transformation initiatives, the traditional archetype may gradually become less visible. This is because quite a few organizations have already achieved a significant virtualization footprint and are now focused on achieving an agile infrastructure state through cloud enablement. Managed services clients that outsourced large portions of infrastructure monitoring and management services are now turning to automation to reduce the dependency on labor-intensive outsourcing models. Transformation projects that span cloud advisory services, private and hybrid cloud deployments, application migration and other services are becoming more mainstream. Software-defined infrastructure is still in its early stages of adoption, and the next two to three years should see accelerated activity in this area.

Enterprise Leadership Actions

Relook long and short-term IT investment strategy: From a commodity and innovation standpoint, budgets for cloud computing have doubled in the past few years. The fundamental nature of cloud and hybrid cloud computing eliminates or minimizes hardware infrastructure, resulting in huge savings. However, cloud technology and services are not always simple. Organizations are realizing that they need expertise in capitalizing their investments to gain the immense benefits of the technology. Enterprises should have a long-term strategy for the revenue realization from a trap-value aspect and thus need to define their strategies clearly to see the ROI sooner.

Modernize, converge or retire legacy IT infrastructure: Enterprises should look at their critical but aging application portfolio, computing platforms and lack of skills to decide on retiring such set of applications and infrastructure build around it. They should bring a deeper focus on legacy modernization decisions. In the last few years, the growth of public and hybrid cloud has raised the enterprises' demand for cloud management platforms with a single pane of glass view to control the costs around hybrid or multi-cloud environments. Enterprises see HCI as a flexible, agile and cost-optimized option for converged infrastructure. They can consider these options to modernize their infrastructure in order to accommodate cloud-native applications.

Strategic focus on one-touch to zero-touch IT operation: The dynamics of enterprises are becoming more agile and distributed globally. Their key priority includes having AI-led automation and analytics services to ensure that the end-customer centricity and satisfaction rate remain high. We believe that investments on AI and ML-led platforms would bring long-term operational excellence. Enterprises in a managed services model typically have a good volume of manual tasks that take up considerable time to manage day-to-day operations. Such customers should seek integrated, intuitive and cognitive ML-based automation and augmented operations.

Implement software-defined technology: Enterprise clients should look for service providers with a broad partner ecosystem and experience in developing solutions using various SDDC building blocks. Global infrastructure service providers have matured enough in the software-defined data center services space. Their partnerships include the likes of VMware and hyperconverged technology vendors for providing SDDC solutions. Other capabilities to look for include infrastructure management using infrastructure as code concepts and certifications that validate service provider designs.

Provider Leadership Actions

Automation should be the norm: Several service providers have automation as one of their strategic pillars of investments for the overall company. This should be an integral part of infrastructure services to drive efficiencies in operations. This will also create a differentiating factor among peers. The service provider should have the capability to bring in infrastructure automation to automate repetitive tasks, right from installing an operating system to installing and configuring servers on instances to how the hardware and software communicate with each other. The provider should be able to use modern infrastructure management practices such as treating infrastructure as code and supporting DevOps practices for clients.

Strategically partnering with hyper converged infrastructure (HCI) vendors: Service providers need to create a differentiation by strategically tying up with HCI vendors such as Nutanix, VMware and HPE. They should implement new technological advancements in order to keep up with the enterprise demands, along with modernizing infrastructure to serve cloud-native applications. They can also boost their appeal to clients by developing exclusive partnerships and create a unique offering.

Embrace and enforce evolving technologies: Service providers need to address the enterprise demands of leveraging evolving technologies such as software-defined infrastructure services. They should differentiate themselves through certifications and partnerships. This service line needs significant investments to establish labs and centers of excellence to create and demonstrate innovative solutions and test them for specific client scenarios before deployment into live environments.

Infusing cognitive capabilities for automation: The future of infrastructure automation is leveraging AI/ML for removing manual intervention and making it a zero-touch IT operations scenario. Service providers need to invest heavily and showcase their capabilities of leveraging AI/ML and cognitive capabilities. This will benefit clients in automating manual tasks and generating higher efficiencies.

Appendix

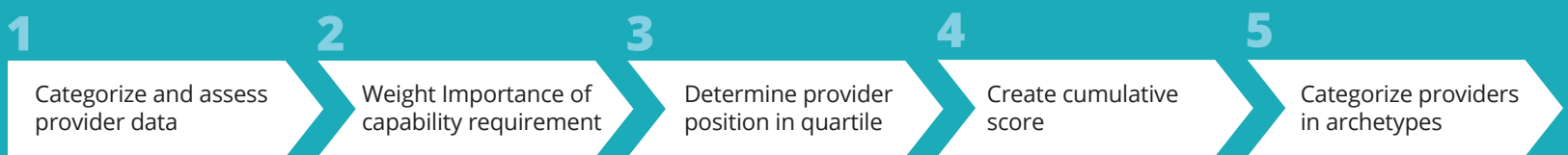
APPENDIX

Methodology

As previously noted, this report uses four archetypical sets of buy-side client requirements to assess the relative suitability of private and hybrid cloud managed services providers. Data regarding the providers' capabilities and positioning was provided to ISG via briefings, ISG advisor interviews and surveys of service providers, including client references if appropriate.

Private and hybrid cloud managed services providers (SPs) shared their data across different private and hybrid cloud managed services dimensions through the research initiatives noted above. These dimensions cover their technological competency, preferred engagement models, scope of work performed, service capability, functional expertise and industry and regional presence.

Report Methodology



Methodology Details

1. The data provided by the services providers were categorized and assessed according to the private and hybrid cloud managed services requirements described for each of the four client archetypes. In cases where the provider descriptions and data were not worded as precisely as our archetype requirements, our private and hybrid cloud managed services analysts leveraged their expertise and experience to classify the provider capabilities.

2. Each archetype capability requirement was weighted based on its relative importance to that archetype's typical requirements. Weightings for each archetype's requirements add up to a total of 100 percent. Specific weightings are not disclosed in this report. The relative importance of each capability requirement is depicted in illustrations at the beginning of each archetype section using differently sized hexagon icons.

3. 3. Once the relative ability of each services provider was assessed for each of the archetype requirements, each provider was then positioned in a relevant quartile (for e.g., top 25 percent, second 25 percent and so on). The top quartile was awarded a numerical capability score of 4/4; the second quartile scored 3/4, the third quartile earned a score of 2/4, and the fourth quartile earned a score of 1/4. Those with no capabilities to meet the archetype requirements were not included in the assessment.

4. Provider capability scores from Step 3 were then multiplied by the weightings developed for each client archetype requirement in Step 2. The results for each provider were then totaled to develop a cumulative score for each service provider.These cumulative scores are not disclosed in this report.

5. The cumulative scores were then used to identify the services providers that are most suited to each archetype's requirements. These providers are listed alphabetically and briefly profiled in each archetype section. Wherever relevant, additional services providers with noteworthy capabilities are also mentioned (for e.g., providers that may have scored well on a specific requirement but not across all the requirements for that archetype).

Please note: This report simply presents services providers' known capabilities in the context of the typical project needs of user enterprises. It is not meant to rank providers or to assert that there is one top provider with abilities that meet the requirements of all clients that identify themselves with a particular archetype.

Fig 13 Provider Capability Scores as Harvey Balls

Score	Harvey Ball representation
Score 4 out of 4	
Score 3 out of 4	
Score 2 out of 4	
Score 1 out of 4	

The cumulative score for each of the selected services providers against each archetype requirement is represented using Harvey Balls. For e.g., if a provider is assessed a score of 4 out of 4, then a full Harvey Ball is used to represent its capability against that requirement. Similarly, if a provider is given a score of 1 out of 4, then a quarter of a Harvey Ball is used as shown below.

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