Cloud is critical enterprise technology, but the breadth of platforms, features and combinations is creating new complexity. Businesses are universally discovering gaps in cloud skills, now the major roadblock to transformation. This demand for access to specialized talent is defining the next phase of the managed services market.
About the Authors

**Liam Eagle**  
Research Vice President, Cloud, Hosting and Managed Services  
Liam Eagle is a Research Vice President, Cloud, Hosting and Managed Services. His research examines web and application hosting, managed hosting and cloud infrastructure. His research focuses in part on the adaptation of traditional hosting technologies and models to accommodate emerging needs. These include web presence SaaS, the focus on web professionals and the channel market for cloud infrastructure.

**Nicole Henderson**  
Analyst, Managed Services & Hosting

**Dr. Owen Rogers**  
Research Vice President, Cloud Transformation
Key Findings

- Hybrid and multi-cloud are now the default frameworks for operating enterprise IT. More than 70% of organizations using public cloud indicate they are working with multiple vendors. Among those that use multiple cloud vendors, the most commonly cited reason is the need to leverage vendor-specific platform capabilities in the public cloud, alongside on-premises resources.

- Most enterprises have skills gaps related to effective execution in cloud environments. More than 85% of those surveyed say they are acutely lacking in cloud skills, with cloud platform expertise, information security (in the cloud context), and artificial intelligence and data analytics skills being the most commonly cited gaps.

- Enterprises regard managed services as a solution to the rapidly increasing complexity that accompanies hybrid and multi-cloud, cloud native and overlapping vendor solutions. The opportunity for service providers is growing. While most categories of managed service have not yet been broadly deployed by enterprises, we see significant plans to implement managed services for cloud security (23%), cloud migration (22%), and cost and performance optimization (22%).
Executive Summary

Introduction

Cloud is critical technology. Enterprises want everything it has to offer: hybrid and multi-cloud environments, cloud-native frameworks and next-generation cloud services higher up the stack. Enterprises are choosing complexity because of the value it can bring to their business, and the challenge of managing that complexity is defining the new opportunities for managed services and service providers in the cloud.

Addressing the complexity that comes with cloud requires specialized skill sets, and enterprises are faced with challenges when it comes to acquiring these skills. Most organizations surveyed by 451 Research indicate they have skills gaps associated with cloud platforms, cloud security and advanced cloud functions. Access to the necessary talent is quickly becoming the most significant roadblock to effective use of cloud and is becoming the basis for the way many managed service providers go to market.

As most enterprises adopt mostly the same cloud platforms and technologies in pursuit of mostly the same benefits and with shortfalls in mostly the same skill sets, but nevertheless with different needs and objectives, service providers are working to standardize the parts of their work that can be standardized, while delivering in a modular structure that allows clients to customize from within those building-block frameworks. As this model develops, managed services will become better able to evolve with customers as their requirements change over time.

With the variety of cloud technologies, platforms, services and deployments growing continuously, the role of the managed service provider has evolved well beyond simple operational tasks and is now about making sure the breadth of IT resources, in particular the cloud, operates more effectively. This includes engagement from the assessment stage to solution design, migration, security and ongoing optimization.
451 Research’s 2020 Trends in Managed Services & Hosting

Source: 451 Research, 2019

Winners

Complexity Will Drive Enterprises to Cloud Professional and Managed Services
Those brave enough to break away from traditional infrastructure; vendors willing to offer continuous enterprise support to optimize complexity

Access to Talent Will Be a Key Roadblock to Effective Use of Cloud
Service providers that develop expertise in partnering and that collaborate on the basis of specialization; those prepared to educate customers on the value of individual services and capabilities

Navigating Overlapping Vendor Partner Programs Will Become a New Managed Services Opportunity
Service providers that align well with the objectives of their vendor partners and those that acquire the necessary competencies and certifications to demonstrate unique skills

The Core Managed Services Stack Will Become More Standardized and Modular
Service providers able to standardize and automate a significant part of their operational responsibilities; those that create an effective pipeline for developing new managed service building blocks

Efforts To Market Alternative Clouds Will Persist
Service providers that effectively target perceived limitations of the hyperscale public cloud platforms or that appeal effectively to a specialized category of buyers

Losers

Service providers that won’t partner with hyperscalers; service providers that rely too heavily on tools

Service providers that focus on outsourcing tasks rather than providing access to expertise and those that specialize ineffectively or demonstrate their capabilities inadequately

Service providers that remain too focused on a single partner relationship and those whose managed service capabilities and expertise remain too siloed

Service providers that persist in offering inflexible managed service packages that can’t scale to customer requirements; those that apply outdated pricing models to modular service delivery

Service providers that are unrealistic about how they can add value in their role as an alternative cloud provider and those that fail to complement existing strengths with strategic partnerships

Methodology

Reports such as this one represent a holistic perspective on key emerging markets in the enterprise IT space. These markets evolve quickly, though, so 451 Research offers additional services that provide critical marketplace updates. These updated reports and perspectives are presented on a daily basis via the company’s core intelligence service, 451 Research Market Insight. Forward-looking M&A analysis and perspectives on strategic acquisitions and the liquidity environment for technology companies are also updated regularly via Market Insight, which is backed by the industry-leading 451 Research M&A KnowledgeBase.
Emerging technologies and markets are covered in 451 Research channels including Applied Infrastructure & DevOps; Cloud Transformation; Customer Experience & Commerce; Data, AI & Analytics; Datacenter Services & Infrastructure; Information Security; Internet of Things; Managed Services & Hosting; and Workforce Productivity & Collaboration.

Beyond that, 451 Research has a robust set of quantitative insights covered in products such as Voice of the Enterprise, Voice of the Connected User Landscape, Voice of the Service Provider, Cloud Price Index, Market Monitor, the M&A KnowledgeBase and the Datacenter KnowledgeBase.

All of these 451 Research services, which are accessible via the web, provide critical and timely analysis specifically focused on the business of enterprise IT innovation.

For more information about 451 Research, please go to: www.451research.com.

**451 Research’s 4SIGHT: Empowering the Digital Revolution**

Throughout this report, you will see the below graphic indicating which of our 451 4SIGHT themes each trend relates to. 4SIGHT is 451 Research's look into the future of information technology, organized around four main themes that we expect to shape the digital transformation agenda over the next 10 years and beyond. The 4SIGHT report is available to all clients via our research dashboard. For more information, visit our website.
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Trend 1: Complexity Will Drive Enterprises to Cloud Professional and Managed Services

**Implication:** Complexity brought about by hybrid cloud, cloud native and new cloud services higher up the stack is making it harder for enterprises to extract value from their developments and applications. Managed and professional services will become more important in maximizing value.

Rather than the simple ‘plug in and consume’ electricity analogy mooted a decade ago, enterprises are using hybrid cloud, cloud-native frameworks and new innovative services higher up the stack like AI, serverless and IoT to build their applications. Rather than keeping things simple, enterprises are choosing complexity, because it delivers value in the form of differentiated offerings, more efficient applications, happier customers and lower costs. In other words, taking advantage of all the options available to them helps them build more innovative applications that better meet business objectives.

In fact, since September 2018, 451 Research’s Cloud Price Index has seen the number of individual SKUs from Amazon Web Services (AWS), Google and Microsoft rise an astonishing 86% to over a million. Clearly, a ‘one size fits all’ approach doesn’t suit today’s enterprises, and service providers are giving developers tools to customize cloud for their specific ends.
When we started the Cloud Price Index in 2015, we focused on public cloud because this was where most inquiries were coming from. We subsequently added coverage of private cloud, services up the stack, managed services, country-specific data and hybrid cloud because it became clear that enterprises wanted a mix of options, capabilities and services. According to our Voice of the Enterprise (VotE): Digital Pulse, Budgets & Outlook 2019 survey, 62% of enterprise decision-makers identify hybrid as their primary IT environment strategy; as shown in Figure 1, their top reason is the need to leverage vendor-specific platform capabilities (as well as existing on-premises resources). In other words, enterprises want the flexibility to mix and match the best tools for the job to gain maximum efficiency and deliver the best value. Far from simply wanting to plug in and consume virtual machines, enterprises want complexity.

Figure 1: Reasons for Working With Multiple Public Cloud Vendors
Source: 451 Research’s Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019
Q. You indicated that your organization uses multiple IaaS/public cloud vendors. What are the most important reasons why? Please select up to 3.

<table>
<thead>
<tr>
<th>Reason</th>
<th>% of respondents (n=191)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to vendor-specific platform capabilities</td>
<td>38%</td>
</tr>
<tr>
<td>Optimizing for cost</td>
<td>27%</td>
</tr>
<tr>
<td>Business units/individuals within the organization use different IaaS vendors</td>
<td>26%</td>
</tr>
<tr>
<td>Specific preferences of my customers</td>
<td>19%</td>
</tr>
<tr>
<td>Vendor lock-in concerns</td>
<td>17%</td>
</tr>
<tr>
<td>Vendor selection influenced by a third party</td>
<td>14%</td>
</tr>
<tr>
<td>Currently comparing and evaluating IaaS environments/vendors</td>
<td>14%</td>
</tr>
<tr>
<td>Vendor-specific connectivity to my partners/suppliers</td>
<td>13%</td>
</tr>
</tbody>
</table>

However, as hybrid/multi-cloud becomes the default framework for enterprise IT, the dynamic mix of on-premises and off-premises infrastructure, containers, VMs, cloud providers, distributed workload execution venues and emerging technologies complicates the task of making cloud work ‘as advertised’ (i.e., delivering the key benefits of speed, agility and scale.)

Furthermore, the desire to take advantage of all this capability is creating unintended complexity. In a 451 Research study commissioned by the cost management firm Cloudability, 58% of 300 decision-makers say they are overspending on cloud resources compared with budget. A hefty 8% say they are paying 2-4x their budget. Perhaps more alarmingly, this spiraling complexity is affecting more than costs: 38% say sub-optimal application service levels are resulting, and a quarter state that innovation is being affected. For our VotE survey respondents, cost optimization is the second most common reason for using hybrid cloud.
In an ideal world, willful complexity, which provides the capability for applications that add value, needs to be supported and even encouraged. But there must be some control to stop unintended complexity from getting out of hand. The solution, and the path to enterprise value, lies in the pursuit of ‘optimization’ rather than ‘resolution.’ What is the difference? Resolution suggests the dumbing down or simplification of complexity, but the result is that much of the value that complexity has created might be lost. Optimization means the complexity will remain but will be managed – i.e., accepting that things will be complex and not perfect, but good enough that agility is achieved while complexity remains manageable. Resolution suggests a one-off event that disrupts the value chain by dumbing it down; optimization suggests an ongoing need to reassess and react while enabling greater value.

Crucially, this optimization can’t just be driven by tools. Tools provide data that can be used to optimize but expertise must still be required. Yes, analytics tools can recommend when a resource is underused, and automation can buy a better-sized instance when this is detected. But human intervention is needed to understand that a resource is intentionally being underused as product management is about to launch a new service, for example.

Recommendations

- **Don’t dumb down, optimize.** Service providers should look to enable complexity to add value for enterprise customers. Look to simplify management, rather than applications, using tools and new managed services running on third-party clouds and hybrid deployments.

- **Optimize beyond cost.** Service provider propositions should move beyond one-time recommendations on right-sizing and reserved instances and should provide ongoing support to architect better applications. Show enterprises how they can take advantage of new services and help them optimize each workload for its specific security, compliance, scalability and business requirements.

Winners

- **The brave.** Tools are increasingly being used to optimize infrastructure costs, and this is a limited value add in 2020. Skilled individuals specializing in helping enterprises innovate beyond a single cloud service add significant value, but this requires investment, training and – typically – breaking away from a tried-and-trusted proposition.

- **The sociable.** Cloud is an ongoing service; support and professional services must become ongoing too. Enterprises need ongoing conversations and support to optimize complexity and prevent it from spiraling out of control. This support can unlock new revenue opportunities through a trusted advisor status.
Losers

• **Service providers that try to go it alone.** The hyperscalers are here to stay, and will be a vital part of hybrid cloud, cloud-native and technology innovation for the foreseeable future. Service providers must partner with the hyperscalers or they will become increasingly irrelevant.

• **Service providers that rely too heavily on tools.** Tools can provide data that can be used to optimize automatically, but greater value can be added to enterprises by using this data in conjunction with less quantitative sources, such as ongoing conversations with business leaders, to determine how business objectives can be better achieved using the technology available. Reselling an optimization tool is table stakes; using the data is a value-add.
Trend 2: Access to Talent Will Be a Key Roadblock to Effective Use of Cloud

Implication: Faced with an increasingly complex technology landscape, and a growing demand for specialized IT skills, enterprises are reporting shortages in IT staffing, with many acute skills gaps related specifically to cloud platforms. Access to specialized talent is becoming a critical roadblock to effective use of cloud, and addressing these skills gaps is emerging as a key basis for managed services.

Digital transformation is a nearly universal imperative among enterprises surveyed by 451 Research. More than 90% of respondents to our VotE: Cloud, Hosting & Managed Services say they are on a path to digitally transforming their business, and more than half say they are actively executing on a plan. Most believe cloud platforms will be among the technologies with the greatest transformational impact. The steady shift of workloads toward public cloud environments, which 451 Research has tracked for more than a decade, is tied directly to this transformation imperative.

As enterprises apply new technologies to processes across their organizations and seek to extract critical insight from growing volumes of data, they are also introducing complexity throughout the business. Public cloud, for which the pace of new feature innovation is a selling point, is an example of a technology for which business value is accompanied by complexity. New technology skills are necessary, and acutely lacking. With finite IT resources, enterprises face choices about where to focus on developing the necessary expertise and where to look outside the organization for assistance.
Skills gaps surrounding cloud platforms are common. Close to 90% of businesses surveyed in 451 Research’s VotE: Digital Pulse, Organizational Dynamics study indicate they currently have skills gaps associated with implementing cloud (see Figure 2). These include a core understanding of the cloud platforms, information security in the context of cloud, familiarity with cloud-native functions, and specific disciplines around artificial intelligence and data analytics. These skill shortages are growing along with increasing complexity and competitive demand. Enterprises more frequently indicate they are looking to service providers to fill these skills gaps. This is particularly true in relation to cloud.

Figure 2: The Cloud Skills Gap Is a Roadblock to Execution
Source: 451 Research’s Voice of Enterprise: Digital Pulse, Organizational Dynamics 2019
Q. Which of the following challenges does your organization face as you implement cloud?

<table>
<thead>
<tr>
<th>Skill</th>
<th>% of respondents (n=807)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud platform expertise</td>
<td>46%</td>
</tr>
<tr>
<td>Information security</td>
<td>38%</td>
</tr>
<tr>
<td>Machine learning/artificial Intelligence</td>
<td>37%</td>
</tr>
<tr>
<td>Data science/data analytics</td>
<td>35%</td>
</tr>
<tr>
<td>Cloud native functions/tools</td>
<td>34%</td>
</tr>
<tr>
<td>IT integration and orchestration</td>
<td>25%</td>
</tr>
<tr>
<td>Business intelligence/data visualization</td>
<td>24%</td>
</tr>
<tr>
<td>Data compliance/governance</td>
<td>24%</td>
</tr>
<tr>
<td>Application development</td>
<td>20%</td>
</tr>
<tr>
<td>IoT</td>
<td>18%</td>
</tr>
<tr>
<td>Open source/community code expertise</td>
<td>14%</td>
</tr>
<tr>
<td>Third-party service provider management</td>
<td>10%</td>
</tr>
<tr>
<td>None</td>
<td>14%</td>
</tr>
</tbody>
</table>

86% of businesses currently identify some kind of skills gap associated with implementing cloud.

Service providers are seeing an acknowledgement by a significant portion of the cloud user base that the skills required to execute effectively in the cloud may reside in a managed service. Providing access to specialized talent associated with implementation hurdles will become a critical framework for how providers bring managed services to market, how they engage with upstream technology suppliers (including public cloud vendors) and how they engage in partnerships between service providers.
Recommendations

- **Providers must position managed services as answering the complexities and skill gaps presented by digital transformation and cloud implementation.** Service providers can look to the lists of gaps in cloud-related skills or reported plans to engage with managed services as an acknowledgement by a significant portion of the cloud user base that certain skill sets associated with cloud may reside outside the organization. Service providers should design and market services as providing access to necessary but lacking expertise.

- **Design services to actively address the key business objectives associated with cloud adoption.** Enterprises are adopting cloud with specific business outcomes in mind – a mixture of agility, improvements to application performance and availability, reduction in operating costs and improvements to information security. These are also key drivers for engagement with managed services. Service providers must be prepared to articulate the value of their services on this basis, particularly operating cost and business agility, and to be measured according to these outcomes.

Winners

- **Service providers that develop expertise in partnering and that collaborate on the basis of specialization.** Like the enterprises they aim to serve, service providers face complexity in building services that address the full spectrum of infrastructure services and emerging technologies. Hybrid IT is a puzzle, and few providers can complete the whole picture on their own. Service providers that identify areas of specialization (on applications, technologies or vertical markets) and develop deep expertise will make excellent partners. Strong partnerships and a willingness to participate in an ecosystem of services are necessary to address customer requirements end to end.

- **Service providers prepared to educate customers on the value of individual services and capabilities.** We see strong signs that this opportunity is in its infancy. Plans to implement managed services related to cloud execution exceed present usage in many categories. Hyperscale public cloud vendors are investing strongly in their partner programs, and see a growing part of their business coming through these channels. Especially when dealing in services related to skills gaps, service providers will likely be required to educate customers on the actual value and impact of things like cost and performance optimization for cloud, services for identifying workloads’ best execution venue, and others.
Losers

- **Service providers that focus on outsourcing tasks rather than providing access to expertise.** Offloading repetitive, time-consuming or mundane maintenance work is one part of the value proposition for managed services. However, it continues to move toward the bottom of the priority list as customers and providers emphasize the delivery of true business value via specialized expertise and deep understanding as key to the value of these services. Service providers that continue to offer undifferentiated offload of work will fail to stand out.

- **Service providers that specialize ineffectively or demonstrate their capabilities inadequately.** As specialization becomes increasingly critical to differentiation in managed services, and providers become more specialized across the market, enterprises need tools to help them identify the depth of promised specialization. Service providers promoting themselves as specialists without the necessary depth, or without the certification or vendor-issued competencies, are more likely to produce unsuccessful relationships.
Trend 3: Navigating Overlapping Vendor Partner Programs Will Become a New Managed Services Opportunity

Implication: As enterprises adopt increasingly complex hybrid combinations of IT services and technologies, the overlapping influence and strengthening partnerships between software, hardware, cloud platform and other vendors is becoming a new opportunity for service providers to add value. As their existing hardware, software and cloud partners forge new and stronger relationships, service providers can build new managed offerings around connecting those dots for enterprises, managing new issues of complexity, accountability and technology execution.

As enterprises embrace cloud as a core component of their IT infrastructure, adopt hybrid IT strategies and seek to migrate critical applications into public cloud environments, the need for integration and interoperability across the breadth of these technologies is creating the need for stronger partnerships between cloud platform vendors, software vendors selling enterprise applications or management and orchestration tools, hardware vendors and other technology and services suppliers that, in other circumstances, might regard each other as competitors.

Competitive lines are blurring as service providers and technology vendors are increasingly expressing commitment to partnering across categories. A widespread example of the spreading partnership trend is service providers of various types partnering with hyperscale public cloud vendors. According to 451 Research’s Voice of the Service Provider: Differentiation & Vendor Selection study, a significant majority do so today, and providers in every category expect to partner more with hyperscalers in the future (see Figure 3).
The intended outcomes of these partnerships – enterprise applications running effectively in public cloud, on-premises hardware components integrating with off-premises infrastructure, connectivity services spanning disparate infrastructure environments, management systems effectively delivering operational control across the breadth of hybrid IT – all represent engineering and operational challenges, as well as sources of complexity and possible confusion for the enterprises expected to benefit.

Managed service providers can play a key role in helping enterprises navigate this new source of complexity. Providers whose partner relationships extend into these areas of overlap (between cloud platforms, applications, management tools and hardware vendors) are finding new avenues to deliver value by connecting the dots between these vendors, navigating issues of accountability and technology and ensuring combined technologies operate as intended. Effectively supporting these vendor partnerships is elevating service providers in the eyes of vendors as well as customers and is likely to lead to new engagements.

**Recommendations**

- **Seek out emerging opportunities created by supplier partnerships.** Vendors are actively creating partnerships surrounding the synergies between their technologies. Service providers can create additional value around those synergies by doing the work to make them more applicable to specific or specialized use cases, including on a vertical market basis (including taking on aspects of the compliance work) or by creating further synergies with additional technologies, such as ensuring a particular enterprise application runs securely and effectively on a combination of hardware and cloud.
• **Address the growing need for internal collaboration across technology disciplines.**

Service providers whose value is based in providing clients with access to specialized skills related to specific technologies must be careful to identify the ways in which those skills are complementary, particularly where highlighted by vendor partnerships. Just as the technology vendors are working to collaborate, service providers must develop processes and practices for collaboration across disciplines within their organizations in order to address the impact of vendor collaboration and create more holistic solutions for their customers.

**Winners**

• **Service providers that align well with the objectives of their vendor partners.** As vendors build strategic partnerships, they do so with an understanding of where these collaborations will have the most impact in the market, and which use cases and market segments they want to capture. Managed service providers supporting these vendors will be able to elevate themselves in these partner ecosystems by bringing the right customers and use cases to the table and helping the combined offerings to be executed and operated as intended.

• **Service providers that acquire the necessary competencies and certifications to demonstrate unique skills.** Most enterprises surveyed by 451 Research have few cloud certifications on staff. However, they also indicate they value these kinds of certifications as indicators of the abilities of a prospective provider of managed services. As the combined efforts of technology vendors create specialized and specific use cases, vendor-supplied certifications and competencies become an even more essential tool for service providers to demonstrate capabilities to both their customers and suppliers.

**Losers**

• **Service providers that remain too focused on a single partner relationship.** Many managed service providers have built their business on the basis of expertise in the technology of a key vendor partner and have elevated themselves in the partner ecosystem that surrounds that vendor’s technology. As collaboration between vendors increases, market expectations will continue to evolve, and the expectation of more interdisciplinary capabilities among managed service providers will limit opportunities for specialists that fail to evolve and diversify.

• **Service providers whose managed service capabilities and expertise remains too siloed.** Enterprises are relying on managed service providers to deliver on the promise of upstream vendor collaborations. Service providers that fail to follow the example of their vendors, and continue to treat their relationships with these technologies as separate disciplines, will be poorly equipped to deliver services that holistically handle the vendor offerings that result from collaboration.
Trend 4: The Core Managed Services Stack Will Become More Standardized and Modular

Implication: Providers have built managed service offerings that address common business challenges, and they are evolving their approach in how they price and package these services to meet customer needs around flexibility. Increasingly, we see managed service providers positioning services as standardized building blocks that can be assembled in ways that feel bespoke to customers.

Enterprises tell us that flexibility and agility are among the core benefits intended from cloud adoption. They also rate among the top expected benefits from engagement with managed services. However, managed services have not always delivered on this promise. Tiered packages and pre-determined suites of services offer a limited ability to adapt to customers’ changing needs and bring little inherent flexibility. Service providers are addressing this need with a more modular approach that standardizes core managed services as building-block service components that customers can effectively drag and drop into a mix of cloud services.

The benefits of a modular approach include improving customer experience. However, service providers that are successful at delivering on this strategy can deliver managed services in a more scalable fashion while simplifying the sales cycle. It also allows a managed service offering to evolve along with a customer’s requirements as they continuously reconfigure to address changing needs.

This modular mode of offering managed services is arising at large consulting organizations and midsized managed services organizations as a means of packaging areas of specialized expertise and concentrating services on specific applications, platforms and business outcomes.
They can be deployed by service providers alongside genuinely bespoke services, lessening the operational overhead for providers, and offering a framework for turning custom work into further standardized components over time.

Responses to 451 Research’s VotE: Cloud, Hosting & Managed Services survey indicate a growing demand for specialized managed services that handle individual aspects of cloud adoption and operations. Strong adoption is expected for services around security, migration of applications from on-premises to cloud platforms, and optimization of cloud infrastructure – all services that can be delivered through a modular approach (see Figure 4).

Figure 4: Plans for Managed Services Deployment Fit With Modular Strategy
Source: 451 Research’s Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019
Q. Does your organization currently purchase any of the following types of managed services in connection with cloud?
Q. Does your organization plan to purchase any of the following types of managed services in connection with cloud during the next two years?

<table>
<thead>
<tr>
<th>Managed Services in Use and In Plan</th>
<th>Today</th>
<th>In Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup and recovery (replication, synchronization, restoration)</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>Day-to-day operational monitoring of cloud infrastructure performance (including monitoring/alerting/incident response)</td>
<td>29%</td>
<td>21%</td>
</tr>
<tr>
<td>Management of applications deployed on cloud infrastructure (including patching, security etc.)</td>
<td>26%</td>
<td>15%</td>
</tr>
<tr>
<td>Ongoing execution of security for cloud/hosted deployments/data</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>Migration of applications/data from internal environments to cloud platforms, and integration with existing systems</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>Optimization of cloud infrastructure/deployment for cost or performance</td>
<td>15%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Recommendations

• **Meet customers’ desire for flexibility with service modularity.** Organizations indicate that improving business agility and taking advantage of cost flexibility are core motivations for adopting cloud. Exceed customer expectations around cloud adoption with modular managed services that can be added and removed as business needs change and as priorities around cloud adoption shift.

• **Align managed service building blocks with business outcomes.** As cloud buyers become more sophisticated, service providers must clearly convey how the managed services they offer help customers achieve the goals set out by business leaders. Service providers must be able to articulate the value of their services in terms of the desired outcomes, including operating cost, business agility, security and application performance.

Winners

• **Service providers able to standardize and automate a significant part of their operational responsibilities.** Central to the value proposition of managed services is access to a set of operational capabilities and skill sets that are lacking in the customer organization. However, services that rely heavily on human intervention are difficult to scale. Service providers able to standardize and automate components of their offerings will be able to apply them more quickly, efficiently, effectively and at a greater scale than those that require significant manual intervention.

• **Service providers that create an effective pipeline for developing new managed service building blocks.** Managed service providers are increasingly offering these services alongside professional services that help customers address aspects of the transformation process that may be more unique to their businesses. However, custom work delivered effectively in the form of professional services can be standardized to create managed services. Service providers that strategically create processes for turning custom work into standardized service components have a means to differentiate from areas of strength.
Losers

- **Service providers that persist in offering inflexible managed service packages that can’t scale to customer requirements.** Rigid managed services structures that do not reflect changing customer requirements or make it easy for customers to add or subtract managed services offer a potentially unsatisfactory experience that customers are more likely to outgrow. Prescribing managed services without considering customers’ changing business needs will set a service provider up for failure.

- **Service providers that apply outdated pricing models to modular service delivery.** Vendor lock-in and long-term contracts that offer little flexibility as customers’ business needs change do not match the intention of modular managed services. The forces driving this shift toward modularity in services include transformation and the pursuit of business agility. Attempts to adapt delivery models without truly accommodating the larger shift toward consumption-based pricing models are incomplete efforts, and are likely to frustrate customers.
Trend 5: Efforts To Market Alternative Clouds Will Persist

Implication: Hyperscale public clouds make up a significant majority of public cloud market revenue. However, there is still room for alternative cloud providers to add value as enterprises increasingly adopt multi-cloud strategies, and smaller companies opt for services that intentionally skew away from the complexity of hyperscale cloud. Alternative cloud providers that find appealing ways to differentiate will be able to capture smaller pieces of a very large IaaS market, which 451 Research expects to reach more than $39bn in 2023.

Ease of access and on-demand provisioning make simplicity part of the promise of cloud, but huge feature sets and the pace of innovation at hyperscalers make complexity an almost immediate adoption challenge. Addressing this complexity by offering a simpler option is a sweet spot for many of the alternative cloud providers in the market.

The message of simplicity from alternative cloud providers such as DigitalOcean, Linode and others resonates with developers who need to deploy applications quickly, don’t need access to the full suite of advanced cloud functions, and prioritize price, performance and access to a level of technical support.

Developers are not the only customer demographic that may opt for an alternative cloud. SMBs with limited technical IT staff are likely to value more hands-on (or localized) customer support, vertical knowledge or specialization around a certain application.

Though we describe this category of cloud providers as ‘alternative’ in relation to hyperscalers such as AWS, Microsoft Azure and Google Cloud Platform, their use doesn’t preclude the use of hyperscalers. In many cases, businesses may regard them as a possible best fit on a per-workload basis. Our survey data suggests that many businesses take a multi-cloud approach in which they use services from a combination of public cloud vendors.
In response to 451 Research’s Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019 study, 72% of respondents that use public cloud say their organization has more than one vendor in place (see Figure 5). Among businesses that rely on multiple public cloud vendors, the most commonly cited reason is access to vendor-specific platform capabilities (38%), followed by efforts to optimize by cost (27%) and the preferences of business units (26%). The cost- and capabilities-focused drivers are appetites to which the alternative cloud vendors can appeal.

Figure 5: Majority of Organizations Leverage Multiple Vendors for Public Cloud
Source: 451 Research’s Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019
Q. How many different IaaS/public cloud vendors does your organization currently use?
Q. Approximately what percentage of your organization’s IaaS/Public cloud usage is with your primary cloud vendor?

Number of public cloud vendors in use
% of respondents using IaaS/public cloud (n=267)

<table>
<thead>
<tr>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>More than three</th>
</tr>
</thead>
<tbody>
<tr>
<td>29%</td>
<td>41%</td>
<td>23%</td>
<td>8%</td>
</tr>
</tbody>
</table>

72% of organizations using public cloud currently have more than one vendor in place.

Usage with primary vendor
% of respondents with multiple vendors (n=116)

<table>
<thead>
<tr>
<th>80-100%</th>
<th>50-79%</th>
<th>20-49%</th>
<th>Less than 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>45%</td>
<td>35%</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

45% of organizations with more than one public cloud vendor say more than 80% of their usage is with their primary vendor.

Recommendations

- **Service providers must define and refine their alternative cloud proposition to the market.** Competing on price is one of the more ambitious targets for a service provider that intends to provide an alternative to hyperscalers, and it puts that business at the mercy of the hyperscalers’ pricing choices to an extent. However, combining price with another differentiating factor – simplicity, support, a geographic footprint – can be a more compelling offer. Defining an organization’s strength and then turning specializations into products in a focused way is critical in a successful alternative cloud pitch.

- **Design services to reflect the reality of a multi-cloud approach.** The majority of organizations using public cloud have more than one vendor in place, and while usage is typically concentrated with a primary vendor, there is still an opportunity for alternative vendors, provided they operate willingly alongside other clouds. This is non-negotiable for customers that opt for multi-cloud environments.
Winners

• **Service providers that effectively target perceived limitations of the hyperscale public cloud platforms.** The value of an alternative cloud platform necessarily lies in how it differs from the mainstream option. In the case of cloud infrastructure, platform complexity is among the perceived limitations for the segment of the market that may lack the capability to take full advantage (although, viewed through another lens, that complexity is a feature). The successful alternatives will offer something truly different, and simplicity (of operations, features and pricing) is a strong avenue for this type of differentiation.

• **Service providers that appeal effectively to a specialized category of buyers.** While pursuing differentiation on the basis of cost or simplicity already begins to place alternative cloud offerings in the range of certain user segments (including SMBs and independent developers), further building capabilities, functions or traits that appeal to specialized market segments will help alternative clouds to be relevant choices even alongside use of other cloud services within a single business. Business unit preference is a key reason organizations identify for relying on multiple cloud vendors.

Losers

• **Service providers that are unrealistic about how they can add value in their role as an alternative cloud provider.** Trying to compete with hyperscalers on number of features or the rate at which they are introduced is a losing battle for alternative cloud providers. Service providers that are unaware of their limits, and those that attempt to oppose the overwhelming preference of customers for multi-cloud flexibility and focus too much on being the primary cloud vendor to their users, will struggle to define their role.

• **Service providers that fail to complement existing strengths with strategic partnerships.** Identifying internal strengths and capabilities is a good starting point to understanding how a service provider can add value to cloud environments, but alternative does not necessarily mean entirely independent. Partner services for channel delivery technology integration, simplified application deployment (for example via marketplaces) and other engagements are a key part of building up the value of alternative platforms. Service providers determined to go it alone will be challenged.
The Long View

Enterprises have big expectations for cloud: optimization of IT operations, modernization of legacy applications, access to new and exciting platform functions, cloud-native resources for new development, and a basis for innovation as data and analytics increasingly drive all businesses in a world of pervasive intelligence. The technology is transformational, but the execution is complex. This will present an ongoing challenge for enterprises.

Complexity of functions and capabilities is a feature of the cloud, and enterprises are opting into complexity for the value it offers. With the pace of innovation in cloud accelerating, organizations are likely to see the challenge of complexity increase and skills gaps widen with time.

For a growing portion of organizations using cloud, accessing the talent needed to execute in the cloud will mean engaging with managed service providers that possess exactly the necessary skill sets. Acquiring, categorizing, automating, productizing and demonstrating these skills will be key to the success of managed service providers. As enterprises rely more on this layer of specialized skills, their relationship with the underlying resources will become more abstract and the infrastructure more invisible.

For service providers, their success in capturing this piece of the cloud market will rely on how well they are able to deliver the necessary skills to customers. It is critical they look for new opportunities in partnership, including joining deals as specialists, and examining the ways in which new partnerships between their vendors will create opportunities for managed services.
Further Reading

*Rackspace Analyst Day recap: New leadership rallies around modular managed services*, November 2019

*Effectual funded to begin M&A-fueled cloud managed services buildout*, November 2019

*phoenixNAP's FlexServers offer vertical CPU scaling on bare metal*, November 2019

*Leaseweb USA bullish on bare metal as dedicated infrastructure market growth stalls*, October 2019

*Flexibility and security are the drivers of today’s private cloud opportunity*, October 2019

*Cogeco Peer 1 rebrands as Aptum Technologies, adds managed AWS service*, September 2019

*Hostway, HOSTING shed legacy associations with rebrand as Ntirety*, September 2019

*Voice of the Enterprise: Digital Pulse, Budgets & Outlook 2019*

*Voice of the Service Provider: Differentiation & Vendor Selection 2019*

*Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Key Projects 2019*
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