WHITE PAPER • JUNE 2018

ca technologies

A Comprehensive Guide to Managed Services in the Digital Economy

Findings From Our MSP Whitespace Assessments

Table of Contents

Executive Summary

To compete and win in today's markets, your customers need to continuously deliver compelling, increasingly innovative user experiences. To meet this charter, it will be incumbent upon businesses to establish a modern software factory. Those service providers that effectively support businesses in achieving this objective will be well positioned for market growth in the digital economy. To help our service provider partners address customers' evolving requirements, we've been undertaking whitespace analyses. Through these analyses, we provide partners with a tailored look at how their current service offerings match up against their customers' evolving needs. This white paper offers an extensive look at our findings, uncovering the most promising strategies for service providers looking to align their service catalogs with modern customer requirements.

Introduction

Over the course of decades, CA has partnered extensively with both enterprises and service providers. In our work with enterprises, we're seeing how their environments and objectives are evolving, and how their needs for services change as a result. Through these engagements, we've identified a key trend taking shape: the move to the modern software factory.

As customers move to establishing the modern software factory, the services they need will be changing substantially.

In our work with our service provider partners, we focus not only on equipping them with solutions that can power services, but in helping them develop optimal service catalogs and bringing new offerings to market. As customers move to establishing the modern software factory, the services they need will be changing substantially. In response, service providers will need to evolve their service catalogs. Helping service providers align their offerings with evolving customer demands and priorities is a major objective of our whitespace analyses. Through these analyses, we assess service provider's existing offerings and help them identify "whitespaces" or gaps in service coverage where new services can be added in order to tap into increasing customer demand.

There are two main components to these whitespace analyses. First, we assess the service provider's online presence. Second, we map existing offerings against a comprehensive list of potential services. We then deliver these findings in detailed reports. Through these efforts, we can help service providers identify opportunities for enhancing websites and market positioning, expanding services and increasing revenues.

In another white paper, we provide a look at the key takeaways from our analyses of managed service provider (MSP) websites. (See "**How Leading Websites Align With Emerging Customer Requirements: Findings From MSP Whitespace Analyses**.")

Whitespace Analyses: Key Impressions

We have been conducting whitespace assessments for some time. Through these efforts, we have analyzed the approaches of a significant number of partners. In recent months, we have done dozens of detailed assessments of a broad cross-section of service providers around the world.

Based on this research, we've seen a lot of interesting trends, and a very broad array of service mixes and business models. Often, it seems each new service provider we analyze has a unique twist, whether in terms of specialization, the mix of offerings or how services are packaged and positioned. Ultimately, those that can build an area of expertise and specialization are able to more effectively avoid commoditized markets and their associated pricing pressures.

Following is just a sampling of some of the wide array of offerings we've seen:

- Digital transformation services and digital infrastructure and Internet of things (IoT) packages
- Intelligent service desks
- Digital workplaces
- Modern data centers
- Infrastructure modernization and infrastructure as a utility
- Intelligent automation
- Artificial intelligence (AI) and analytics
- Cyber security
- Application services, including an application packaging factory, DevOps consulting and app development and testing
- Cloud consulting, including readiness assessments, broker and builder services and migration assistance

Ultimately, those that can build an area of expertise and specialization are able to more effectively avoid commoditized markets and their associated pricing pressures.

We've been seeing an evolution in the way services are marketed and packaged. We're increasingly seeing services oriented toward modernization, digital transformation and enabling a modern software factory. These changes appear to be well aligned with shifting customer priorities.

Whitespace Analyses: Key Takeaways and Guidance for Service Providers

Given the uniqueness of services and models in play, there clearly isn't a single direction that would make sense for all service providers. However, we do see service providers needing to align with some top-level objectives:

- **Evolving infrastructure services from traditional to modern**. See the IT infrastructure section below for more information on this topic.
- **Moving up the stack from infrastructure toward delivering higher level, app-centric offerings**. See the application section below for more information on this area.
- **Evolving from traditional services to app economy-focused offerings**. There are a wide array of services across the traditional to app economy continuum. For many service providers, there are a wealth of opportunities to expand from traditional service offerings and start delivering app economy-focused services. For those providers that already do offer app economy services, there may be many opportunities to expand in or across categories.
- **Shifting from a focus on internal business operations to a focus on external digital engagement**. The following section offers more background on this objective.

Internal operations and external digital customer engagement

In today's competitive marketplace, your customers are doing battles on two key fronts: maximizing productivity and agility of their internal business operations and maximizing the quality of their digital interactions with customers. Service providers can deliver a wide range of services that help customers advance these objectives. Following is more information about the nature of services that fall into these categories:

- **Maximizing productivity and agility of their internal business operations**. Through these offerings, service providers are focused on helping customers modernize their internal environments and services so they can be more agile, help employees be more productive, maximize cost efficiency and so on. By leveraging these services, organizations can advance their operational evolution, so they move more rapidly and efficiently from the traditional into the modern. For example, through leveraging cloud solution stacks, such as Microsoft Azure™ and office apps, service providers are delivering modern workplace offerings that help boost the agility of internal operations. Other providers are delivering services that help customers onboard internal users more quickly. In other cases, service providers are helping customers digitize and automate their processes.

It is this effort to deliver differentiated, rewarding digital experiences to customers that will truly determine who wins and who loses in the marketplace.

- **Maximizing the quality of their digital interactions with customers**. These services are aimed at helping clients establish a modern software factory so they can accelerate app innovation and deliver more compelling digital experiences to their customers. This can include services in a range of areas, including agile management, DevOps, app development, app testing, user experience design, API management and security, analytics and identity management. Through application-focused services, providers can differentiate cloud infrastructure offerings.

Both of these battles are fundamental to succeeding in the digital economy. For the most part, we're seeing that internal, operationally focused categories tend to be very well addressed, with many service providers focused in these areas. As a result, these types of services are much more likely to become saturated and commoditized, leading to increased price pressures and decreased margins.

On the other hand, there tends to be little coverage in support of digital customer interactions. Further, it is this effort to deliver differentiated, rewarding digital experiences to customers that will truly determine who wins and who loses in the marketplace. By helping clients enhance their digital interactions with customers, service providers can deliver significant value, address an urgent demand and gain differentiation in their markets.

Whitespace Analyses: Opportunities to Address Emerging Needs

In the following sections, we examine some of the most important takeaways from our analyses. We look at some of the high-level service categories, and for each, look at current service offerings and where some of the most compelling opportunities exist for service expansion.

IT Infrastructure

Background

While IT infrastructure has always been foundational, its importance only continues to grow. That remains true, even as the way we define infrastructure continues to evolve. Following are a few of the most significant characteristics and requirements of today's infrastructures:

Criticality

Today's businesses are operating in an application economy, and it's the infrastructure that is relied upon to power the business applications that employees use to work and that customers use to engage and transact. Ultimately, it is infrastructure that is responsible for powering business enablement and success. Therefore, ensuring optimized infrastructure operation, performance and security is vital.

Agility

Given the dynamic nature of technology and markets in the application economy, organizations now need infrastructure that is built to last and built to change. To succeed in their digital transformation efforts, businesses will need an agile and resilient infrastructure that can support rapid development and deployment.

Ultimately, it is infrastructure that is responsible for powering business enablement and success.

Innovation enablement

Infrastructure will be key in supporting the business' move forward. It will either facilitate or stifle the innovation that will be vital to continued competitiveness. Infrastructure will power the modernization of internal operations, for example through support of digital workplaces. Infrastructure also supports the demands for accelerated innovation in the area of digital interactions with end customers. Infrastructure will also be key in powering innovations in operations, services and business models, everything from supporting dynamic pricing models to IoT.

Complexity

For today's businesses, it is the infrastructure that enables the digital supply chain, which is increasingly composed of a hybrid, complex and highly interrelated mix of technologies and environments. Now, IT infrastructure must encompass and support it all:

- Systems, including apps, networks and platforms
- Environments, including data centers, private and public clouds and disaster recovery sites
- User types, including mobile workers, contractors, partners and customers
- End-user devices, including laptops, mobile phones and wearables

Modern, traditional mix

For most organizations, the trick will be to establish an evolving mix of the traditional and the modern. Modern models and technologies can include cloud services, flash-based storage, hyper-converged platforms and software-defined infrastructure (whether computing, networking or storage). These modern approaches will be instrumental in realizing such key attributes as adaptability, elasticity, scalability, dynamic, intelligence, resilience and security.

The service provider opportunity

Modern infrastructure approaches will be increasingly key to ensuring organizations can successfully transform their infrastructures and establish the operational optimization, performance and security required. These approaches will also be key to delivering the customer-centric innovations required. Service providers can move up in the computing stack and in the value chain by delivering service offerings that support the implementation, administration or optimization of these modern models and technologies.

Whitespace analyses

In conducting our whitespace analyses, we look at a number of potential infrastructure services. At a high level, we break these services into two key categories: traditional and application economy. In categorizing these service areas, we've looked at application economy-related infrastructure services as those that enable or support modern business objectives, such as delivering optimized business operations or supporting digital customer interactions.

While traditional infrastructure services tend to see a lot of competition and commoditization, there are examples of highly differentiated models and services across both categories. For example, in the traditional grouping, we analyzed a Latin American service provider that offered an extremely comprehensive range of infrastructure services, including those more common as well as some that were very unique. For example, they delivered mobile data centers, fully contained IT environments in semi-trailer trucks.

In the application economy category, we looked at a service provider that offered a very distinct approach, delivering fully managed, infrastructure utility services that offload significant cost and risk from customers. Another service provider offered advanced infrastructure services that support digital innovation in areas like IoT.

Traditional

As one might expect, a lot of service providers offer infrastructure services that fit into the traditional category. A big percentage of service providers we looked at offered infrastructure services in the following areas:

- Data center services, which typically are focused on support of data centers on the customers' premises
- Backup and disaster recovery
- Systems integration
- Server and OS management
- Server virtualization
- Storage management
- Colocation
- Power and resource management, which includes helping support customers' battery backup, power supplies and so on
- Asset management services, which tend to be hardware-focused
- Video conferencing
- Desktop management

Service providers can move up in the computing stack and in the value chain by delivering service offerings that support the implementation, administration or optimization of these modern models and technologies.

On the other hand, several categories are not very commonly addressed by the service providers we looked at. These less common services include warranty management, managed print and mainframe services.

App economy

Following is an overview of the app economy-related services we've been tracking:

Analytics and big data

Within the infrastructure arena, analytics represent an important area, a way to offer customers a higher level of value. Analytics can serve a number of different groups within the client organization. In particular, analytics services can support customers' IT operations, helping fuel improvements in infrastructure utilization and performance. Ultimately, these services can help improve the infrastructure's ability to support business objectives.

Based on our analyses, it appears service providers are in the early stages of moving to deliver offerings in the areas of artificial intelligence and machine learning.

These infrastructure analytics can also be used to support expansion, establishing a foundation for the ultimate delivery of services that support optimized app performance and end-user experience. Service providers can also consider building on these services to expand into artificial intelligence operations (AIOps). Through AIOps, service providers apply advanced analytics and machine learning to help customers gain insights across domains, ultimately enabling advancements like preemptive fixes and automated remediation.

Infrastructure analytics can also be used to support expansion, establishing a foundation for the ultimate delivery of services that support optimized app performance and end-user experience.

Cloud services

Cloud models are clearly playing an increasingly significant role in enterprises' IT infrastructure mix, and will be increasingly integral to supporting organizations' infrastructure modernization and transformation. The agility and flexibility advantages afforded by cloud models will fuel enhancements in both internal business operations and digital customer engagement.

Through our analyses, we've seen a number of cloud services with broad support among service providers, including cloud builder and broker, cloud readiness assessment, cloud migration, hybrid cloud, classic IaaS, public cloud, private cloud and multi-cloud connectivity. Cloud orchestration is another play service providers are making, helping customers optimize cloud resource provisioning.

Desktop as a service is another offering that's seeing broad coverage. By delivering SaaS offerings that stream apps from centrally hosted virtual desktop infrastructure (VDI) environments, service providers are helping support the transition from traditional desktop approaches.

These cloud services are also increasingly being positioned in a modern context, often by leveraging cloud computing stacks like Azure. For example, modern desktop services are being offered that package not only the VDI environment but productivity and collaboration apps. Similarly, modern data center services package a number of the cloud offerings outlined above.

Mobility

Mobile infrastructure represents another foundational component of business in the app economy. We're seeing significant traction in the area of mobile management services, with service providers supporting customers' use of mobile phones, tablets and wearables. Through these offerings, service providers can support enhancements in internal operations and in customer engagement.

Software-defined networking

Software-defined networking (SDN) represents a key area within the general move towards software-defined infrastructure outlined above. While not getting as much coverage as mobile management services, software-defined networking is nevertheless getting significant traction. SDN services can be a strong part of a network operations play. Through SDN, organizations are able to significantly enhance the agility of their network infrastructure, so delivering services in this area can be a strong contributor to a service provider's growth.

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Digital transformation and IoT

Within the European Union, virtually all the service providers we assessed were making references to digital transformation. This approach wasn't nearly so widespread in the United States. In our analyses, we have seen that some service providers are beginning to deliver IoT services, and in the process, they are providing a unique service that can help establish a competitive edge.

For example, one service provider promoted a wide range of services under the umbrella of digital infrastructure. Within this category, they offered IoT packages for specific industries that featured sensors and all the technologies required.

Cloud

Background

In our years of working with service providers, we've seen a lot of changes. The evolution that's taken place relating to the cloud is one of the areas in which this change has been most substantial. In our discussions with service providers in years past, we were hearing a lot of people voicing concerns around what the cloud may mean for their sales and business models. Today, that picture has changed dramatically. In our analysis over the past few months, pretty much all the service providers we've looked at have some form of cloud offering, and many have strong coverage across a number of areas.

Whitespace analyses

In this section, we report on some of the key findings from our whitespace analysis, outlining some of the top trends and service opportunities we've seen in our investigations of service providers' cloud-related offerings.

Overall, there's a lot of activity in this area, with quite a significant uptick from 12 to 18 months ago. Service providers now tend to have far broader cloud portfolios. However, it often seems, based on the light site presence that exists for many offerings, that service providers may well be in the early stages of testing and rolling out these offerings in the market.

That being said, there are a broad array of cloud services that aren't well addressed by service providers currently, and that are in strong demand. One area in particular that seems ripe for expansion for many service providers is in the area of applications. As outlined above, more than ever before, it is the caliber of applications that shapes an organization's fortunes.

In the application economy, enterprises will increasingly need value-added services that help speed application innovation. Those service providers that address this demand can boost their long-term prospects. Delivering application-focused services on top of existing cloud offerings can be a great way to move up in the value chain, boost differentiation and establish more strategic customer relationships.

Traditional

In the cloud arena, a number of services fall into the traditional category. Often, these are traditional remote services that have gradually evolved into cloud-based offerings. This can include cloud-based backup and disaster recovery, cloud storage and cloud hosting, which is often effectively traditional Web server hosting that is given cloud branding. In addition, cloud-based productivity and collaboration applications, such as Microsoft Office 365®, can also fit into this category, however, they can also fit on the app economy side of the categorization, as they can lend themselves to establishing a more agile business. In addition, as outlined in the infrastructure section, these cloud-based applications are also being packaged within higher level digital workplace offerings.

App economy

In the app economy side of the cloud category, the most common plays are focused on supporting clients' cloud services, including adoption, migration and ongoing management.

In observing service provider sites, we often see that these services aren't very well defined, making it difficult for a site visitor to ascertain the scope of the service, the specific offerings delivered or the value that will be realized. This is a clear distinction between traditional cloud services, which tend to be very well defined. As these app economy cloud services are promoted on websites, they often feel more like dry, dictionary definitions, rather than descriptions that effectively sell the offering.

These more cursory descriptions give the impression that services aren't fully formalized, but are rather more experimental, or one-off in nature. Some of these service providers would be well served by giving prospects a more clear, detailed and compelling service descriptions, which can help move more prospects through the sales cycle. In addition, there seems to be an opportunity for many service providers to package and position their cloud services within the context of modern business objectives, such as transformation, agility and innovation.

Cloud monitoring

Traditional infrastructure monitoring is one of the most common offerings that service providers deliver. Cloud monitoring represents a natural extension to these traditional monitoring services, and it supports customers' objectives in the application economy. Particularly as enterprise IT environments continue to get more hybrid and complex in nature, cloud monitoring continues to grow increasingly critical, and more challenging for customers. To deliver consistently optimized customer experiences, cloud monitoring investments are a strategic priority for customers.

Often, for those service providers that do offer cloud monitoring currently, we're seeing that these alternatives only provide monitoring coverage of a very small subset of customers' hybrid environments. We conducted an extensive survey with 451 Research that shows customers are looking to service

providers for much more. The research shows that respondents are looking to service providers to get help with addressing their monitoring challenges—and that they're willing to pay a premium for services that help. To learn more, be sure to download the paper, entitled "**Cloud monitoring services: An opportunity emerges for service providers**."

Hybrid cloud

Given the broad-based move of enterprises into cloud environments, it is to be expected that service providers would start offering hybrid cloud services. For many service providers, this will be a natural progression and a way to address a significant need in the market. Those service providers that can deliver unified visibility of customers' dispersed, hybrid computing environments, helping support such efforts as managing performance and optimizing resource utilization, will be able to address a critical requirement.

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Private cloud

Private cloud services are being offered by a significant percentage of service providers. These services are a logical fit for a number of service providers, including cloud providers that can deliver these services from their own data centers and MSPs who can offer on-premises private cloud alternatives.

We have seen some innovative approaches in this area. For example, one service provider is offering private clouds that customers can deploy anywhere, and that are delivered via a modular, capital expenditure business model.

Within the private cloud category, we're also seeing a significant number of service providers that are implementing, supporting and managing hyper-converged computing platforms.

Cloud builder, broker

When it comes to choosing and procuring cloud services, many enterprise decision makers are choosing to work with trusted service providers rather than directly with the cloud vendors. To establish the cloud implementations that best support their business objectives, these executives are looking to service providers who are experts in cloud services to give advice, design the right deployment approach and broker the required services.

Cloud IaaS

IaaS represents a crowded, competitive landscape that is highly commoditized. The service providers we looked at typically either offered IaaS services through their own cloud infrastructure or delivered these services by establishing partnerships with the major cloud vendors, such as Amazon Web Services (AWS) and Microsoft.

Those providers that offer basic IaaS options will be forced to compete predominantly on price and contend with very narrow margins. For many service providers, this will be an area where the need to move up the stack and deliver the higher level, application-centric services discussed above will be increasingly vital.

Cloud migration

Many service providers we looked at deliver cloud migration services. While these services are common, we're seeing that the service descriptions on the providers' sites tend to be pretty vague, lacking much definition around what the service entails.

Public cloud

A significant percentage of service providers are offering public cloud offerings through partnerships with AWS, Azure and Google. Through these partnerships, service providers that don't have the data centers required, can still deliver cloud services to customers. In particular, many service providers are closely aligned with Microsoft, a company that is proving to be very partner friendly. These Microsoft partnerships are most often behind the modern workplace and modern data center services outlined above.

Cloud consulting, readiness assessments

Through these offerings, service providers are helping their customers effectively prepare for and plan their cloud migrations and implementations.

Cloud (desktop as a service)

Early adopters in this category often started by leveraging Citrix VDI. We've been seeing increased movement in this category, particularly in Europe, with service providers delivering modern or digital workplace offerings. These offerings are often delivered by leveraging cloud offerings like Azure and Citrix Cloud. Through these services, organizations can support enterprise business agility, enabling optimized business operations that support rapid user onboarding.

Additional services

We've also seen a significant portion of the service providers analyzed delivering the following offerings:

- Multi-cloud connectivity
- Cloud application hosting
- PaaS
- SaaS

While not uncommon per se, we were seeing a lower percentage of service providers that delivered orchestration and cloud hosting/e-commerce services.

Applications

Background

In the application economy, it is through software that businesses understand and interact with customers. Given the critical role applications play in the business' prospects today, building a modern software factory has become essential. Building better applications faster, and maximizing application performance now represent key objectives. By delivering application-centric services, MSPs can achieve strong alignment with these strategic priorities.

Traditionally, those MSPs that have offered application-focused services have tended to support business productivity and collaboration applications, or business management software, such as ERP platforms from SAP. One challenge is that many service providers have started to offer similar services over the years, so some of these offering categories have grown more commoditized, which can lead to increasing price pressures and decreasing margins.

As outlined in the introduction, service providers can gain strong differentiation and deliver significant value by moving beyond internal applications and introducing services that support client organizations' digital interactions with their end customers. However, as organizations move to capitalize on these opportunities, they'll be tasked with overcoming the challenges of addressing highly unique customer application environments, while establishing the standardization required to scale and preserve margins.

Whitespace analyses

In our analyses, we've seen many MSPs that have started to make the move to deliver services in support of applications, either through organically creating the capabilities and expertise internally, or by acquiring companies that offered these services. For example, we saw a couple examples of larger firms that acquired service providers that specialized in end-user experience and application design. These acquisitions offered a strong complement to the companies' overall focus on application innovation and development.

We also saw service providers that were building up internal teams that had application development expertise, so they could expand their application consulting, design and development services. For example, one large networking and communications provider had built up a significant team in the application area, and was able to offer full support of the software development lifecycle, from application development and testing to ongoing application management.

In terms of overall coverage, we've seen a pretty significant contrast between the cloud and application categories. While the cloud services categories tend to be very well covered, there are comparatively many more whitespaces we're seeing in the application arena. Applications can therefore represent a fertile area for growth for many service providers.

As we were doing our analyses, we were struck by the often understated nature of the way service providers presented their application-oriented services. References to application services usually only appeared in the second or third tier of their sites' navigation, if they appeared in the main navigation at all. Given the strategic nature of applications for today's businesses, many service providers will be well served by increasing the emphasis of applications on their sites.

Traditional

Within the traditional category, help desk and service desk offerings tend to be very common. Through these offerings, service providers offer customers a central point of contact for support of applications.

Another common category was business application consulting. Consulting services include providers offering advisory services on application options and approaches. Support for productivity and collaboration applications, including desktop applications like Microsoft Office 365 and the Google suite of apps, represent services that have been delivered for a long time. Services around Office 365 were one of the most common we've seen across all our analyses. Another broadly addressed segment is that of business management software, which can include enterprise resource planning, customer relationship management, human resources and other apps from vendors like Microsoft, Oracle and SAP.

Given the strategic nature of applications for today's businesses, many service providers will be well served by increasing the emphasis of applications on their sites.

While many existing app consulting offerings were ones we'd put in the traditional category, MSPs can clearly further clients' app economy objectives by moving to support or enhance those applications that end customers use to engage with the business and that promote the agility of internal operations. Many service providers are building on cloud-based office applications to deliver packaged services that are being positioned as modern or digital workplace offerings.

App economy

Within the app economy category, we were tracking the delivery of a range of service offerings, including those in the following sections.

Application performance monitoring

Optimized application performance is a critical imperative in the digital economy, where poor performance can erode a business' brand, customer satisfaction ratings, employee productivity, revenues and profits. Enhancing app performance is a strategic high-level business priority and key objective for organizations moving to establish a modern software factory.

Application performance management (APM) services can offer customers significant value, helping ensure end users always receive reliable, responsive digital interactions. In our assessments, we were looking for services that offered end-to-end transaction and performance metrics. These services would typically support high-transaction, business-critical applications, such as e-commerce and ERP applications. It was fairly rare for the service providers we analyzed to offer much detail in terms of whether they deliver these complete capabilities. Often, there was only a brief mention of the phrase "application monitoring." However, we typically gave the provider the benefit of the doubt in designating them as offering coverage in this area.

These services can address an urgent challenge for many enterprises because many are struggling in this area. In a survey we conducted of enterprise IT executives, the top pain point identified was the fact that they were hearing complaints on application performance, with 58 percent saying they were contending with this challenge. Further, of those suffering from these challenges, a significant percentage, up to 88 percent, indicated they would be willing to pay service providers a premium for the specific services that can help.[1]

These APM services represent a logical extension to the infrastructure monitoring services that have been the core offerings of many providers historically. Services currently offered by MSPs may be somewhat rudimentary in nature, which means there's an opportunity to expand and enhance offerings in this area. Ultimately, comprehensive APM services can provide a 360-degree view of the end-user experience by linking transactions to the underlying infrastructure, across complex physical, virtual, mobile, cloud and mainframe environments. These comprehensive services can give clients' DevOps teams the insights needed to fix application problems fast and identify opportunities for improvement.

Application user experience design and analytics

For your customers, virtually every facet of business success is now in some way contingent upon a single key aspect: the user's application experience. Today's application users are accustomed to intuitive, fast, engaging and stable application experiences—and they are increasingly unforgiving when those expectations aren't met. In the digital economy, the digital customer experience is becoming the ultimate lens with which businesses are evaluated. Brand affinity, staff efficiency, revenues and many other key factors can be shaped by whether an application falls short of or exceeds user expectations. However, within many businesses today, it is difficult to find the time and expertise needed to track the users' application experience.

Given these realities, application experience analytics services are emerging as a compelling service offering. Through these offerings, service providers can offer clients granular tracking of how end users are interacting with mobile applications, so they can gain the insights needed to improve the users' experience. These services represent a focal point for customers given the criticality of application innovation and the user experience. By delivering services that support the design and development of quality applications, service providers can address a highly strategic imperative and deliver significant value.

When issues arise, analytics are essential in rapidly determining whether it is a factor of design, code or infrastructure. These insights, along with the ability to track the buyer's journey and identify how, when and where customers use an application, will be increasingly strategic in enabling businesses to deliver an optimized experience across Web, mobile and wearable applications.

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[1] 451 Research, "Cloud monitoring services: An opportunity emerges for service providers," June 2017, **https://www.ca.com/content/dam/ca/us/files/white-paper/cloud-monitoring-services-an-opportunity-emerges-for-service-providers.pdf**

Application development

Some MSPs we've assessed are already providing development services for standard, commercial apps. We're also seeing MSPs introducing custom application development services, where they adapt existing solutions to expand capabilities and address more customer requirements. By doing so, these businesses can deepen account penetration and expand market share.

Application release automation

To meet their business imperatives, enterprises need to build better apps faster. To do so, they're under increasing pressure to transform how they deliver applications to market. To support customers in undertaking this transformation, a fair amount of service providers are delivering application release automation services, which can also be referred to as release management offerings. Through release automation services, providers can boost their customers' agility and speed in application delivery, without compromising quality or stability.

Release automation can help customers get to the point that they can deliver applications in a reliable, on-demand fashion through each phase of the development lifecycle. As the cadence, number, volume and complexity of applications grow, these release automation services provide the agile scalability that is required. Given these benefits, this service can be an integral, high-value offering within a provider's DevOps portfolio.

Application testing

When customers make changes to their application and IT environments, it is vital to ensure modifications don't have a negative impact on the user's experience. Through advanced testing services, MSPs can help their clients gain more confidence in the quality of new code delivery, while reducing testing costs and speeding time to market. In our analyses, we were seeing service providers that had extensive testing services, which were backed by seasoned engineers with experience in a broad set of technologies.

Through release automation services, providers can boost their customers' agility and speed in application delivery, without compromising quality or stability.

Application monitoring of customer or user experience, across digital channels

Monitoring of application users' experiences represents an approach to understanding how users are actually interacting with an application and their experience when doing so. This category designation includes a focus on "omni-channel" visibility, meaning tracking application experiences regardless of the specific end-point devices or interfaces used to interact with the organization's apps, for example, whether mobile, wearables or Web browsers.

Through these services, providers can deliver key insights for optimizing the user experience. Further, these services can deliver powerful insights to many different teams within the enterprise, including application owners, developers, IT operations and business leadership.

While one could argue this is the most critical service, it is one that is discussed the least currently. While this type of service is not being directly promoted, it is possible that some of these types of capabilities are being covered within other services, such as APM and user experience design and analytics, which a significant number of service providers are delivering currently.

Over time, service providers can move into or expand their offerings in this app experience monitoring category, and both they and their customers can realize significant benefits. Through advanced app experience analytics services, MSPs can help customers gain insights for enhanced app performance management, and deliver developer analytics and usage analytics for Web, mobile and wearable apps. These services can give customers a deeper understanding of users' overall digital experience.

ERP applications

Through these services, MSPs can support the operational improvements that are vital to success in the digital economy. Many service providers have established strong specialization in this area and deliver extensive support of these applications.

Application management, assisting with ongoing maintenance

A significant percentage of service providers we analyzed offered services in this category. Through strong application management services, providers can help clients offload a range of management tasks to seasoned experts, and so enhance operational efficiency and application quality.

Additional services

We also tracked other services, including application lifecycle management, which was offered by a significant percentage of service providers. On the other hand, mainframe application development services were only being delivered by a small number of providers.

Security

Background

In the digital economy, one of the brand attributes that customers care most about is trustworthiness. If customers don't believe their data, identity and transactions will be secure, they'll take their business elsewhere. On the other hand, when individuals know an organization takes security and privacy seriously, they're more likely to engage with the business, become repeat customers and promote the business to others. That's why, as enterprise IT teams set out to build a modern software factory, one of their chief objectives will be to make security a competitive advantage.

Within today's enterprises, the environment in which security needs to be employed has changed substantially. Networks have become much more complex and dynamic. Data and resources are being spread across an expanding variety of domains, including public and private clouds, mobile endpoint devices and remote offices. As a result, enterprise IT teams are being compelled to adapt their security capabilities to contend with these new realities.

MSPs and managed security service providers (MSSPs) can therefore capitalize on a significant opportunity by delivering robust security offerings that help customers in pursuing their emerging security objectives. This can include a range of new services:

- **Advanced identity and access management**. MSSPs can deliver services that help customers establish simple, reusable access and authentication, smart identity management and strong privileged access controls. By extending these capabilities into cloud and hybrid environments, providers can effectively differentiate their cloud offerings.
- **DevSecOps**. MSSPs can also build on their development and security expertise to deliver DevSecOps services, including secure code development services that help ensure vulnerabilities in code are detected and addressed before apps make it into production. Through these offerings, MSSPs can help clients earn and keep users' trust and enhance digital experiences, without introducing friction.
- **API security**. APIs will represent another area for growth for MSSPs and MSPs looking to expand their security services. APIs enable application integration using Web technology. As we'll outline below, APIs represent increasingly fundamental building blocks of the app economy, and their use will see rapid growth moving forward. However, enterprises will need to grapple with the security implications of

employing APIs. Some of the very advantages of advanced API approaches—including open access, publicly documented implementations and increasing numbers of calls—can also serve to introduce or exacerbate risks. By combining API expertise and management frameworks with strong security capabilities, MSSPs can deliver high-value services that address a critical customer challenge.

Whitespace analyses

Traditional

Following are the traditional security offerings we were tracking:

- Virus and intrusion detection
- Data and application security
- Network security
- Security consulting
- Vulnerability assessment
- CISO as a service
- Risk management
- Auditing and certification services
- Mainframe security

We've been seeing many examples of service providers that were modernizing or otherwise enhancing these traditional offerings to help address the evolving needs of customers in the digital economy.

Through our analyses, we've been seeing many examples of service providers that were modernizing or otherwise enhancing these traditional offerings to help address the evolving needs of customers in the digital economy.

App economy

Cloud security

A majority of the providers we analyzed offered services in this category. In fact, this was the most common security service we were seeing offered. This is a broad category, and among the provider sites analyzed, we were seeing a wide range of depth being promoted. In some cases, there was only a cursory reference to the phrase "cloud security" and nothing else. In other cases, cloud security represented a deep section of the website that feature detailed descriptions of multiple offerings.

Endpoint security

A significant percentage of providers we looked at featured endpoint security offerings. Through these offerings, providers can secure end-user devices, such as mobile phones, laptops and desktop PCs, and guard against the risks posed by these devices connecting to enterprise networks.

In this area, we saw an example of a provider that delivered end point security services that helped both protect and enable end users. Their services included packaged encryption, authentication and patching offerings.

Identity and access management (IAM)

In the digital economy, enterprises continue to deliver new and more innovative ways of engaging with end users. While these new and evolving digital interactions offer great potential, they can also introduce an expanding set of risks, including many threats that traditional perimeter-based security approaches are ill equipped to combat. In fact, in today's distributed, dynamic and hybrid-cloud environments, the very notion of a security perimeter gets increasingly blurred, and ever more difficult to defend. In the digital economy, user identities are emerging as the new security perimeter.

Today's business need to be able to authenticate each individual and give users the ability to work with whichever device they choose. Those service providers that can adapt and expand their offerings to support these modern IAM requirements will be well positioned to grow their businesses moving forward.

To gain insights into the evolving IAM market, CA undertook an extensive survey of enterprise decision makers.[2] The survey examined current obstacles to IAM investment. Results indicate that many organizations are stuck, unable to advance their IAM capabilities. What prevents organizations from investing in IAM and advancing their capabilities? Organizational immaturity, unpredictable costs and lack of internal competence were each cited by significant percentages of respondents—and each of these areas are ones in which service providers can change the customers' paradigm and help them get moving in the right direction.

In our whitespace analyses, IAM was often presented less as a dedicated, well-defined practice and more as a line item among a number of security services. Often, these services were promoted as part of solutions based on major cloud offerings, such as Azure. It was also common to see that, if IAM-focused services were offered, they tended to be oriented towards initial IAM platform configuration and integration projects, rather than longer-term engagements.

MSSPs can expand their offerings to feature advanced, automated provisioning, single sign-on across cloud and on-premises applications, account discovery and management and multi-factor authentication. Through these advanced services, MSSPs can help customers strengthen security, boost employee productivity and improve business agility.

Privileged access management

Securing privileged access is a major concern for enterprises managing their own datacenters and distributed infrastructure running in third-party cloud services. Particularly in the context of the cloud, it is important to recognize what a significant concern security is for customers. They want to be sure that access to their cloud-hosted applications will be controlled, and that entails both managing identities of application end users and the identities of privileged users, both those within the client organization and those of the cloud provider. For cloud service providers, the risk posed by privileged access compromise is magnified, since a breach exploiting privileged access can cascade across multiple customers and deal a profound blow to the business' reputation.

Strong privileged access management can help businesses mitigate these risks. Through these services, organizations can defend and control privileged users and the credentials administrators use to access and manage digital infrastructure. These services can protect sensitive administrative credentials, enforce role-based limits on privileged user access and proactively enforce security policies—all while monitoring and recording privileged user activity across virtual, cloud and physical environments.

Those cloud providers that can establish strong privileged access management capabilities can ultimately position themselves to ensure the controls are in place to guard against the potential of rogue administrators exposing sensitive data. As a result, they can strengthen security and establish and retain customer trust. Further, these capabilities can provide a foundation for offering privileged access management services to customers, which offer significant customer value and enable providers to establish strong differentiation in their markets.

In addition, privileged access management services can represent a natural evolution for MSSPs that provide IAM offerings. MSSPs can build on these IAM capabilities and offerings to deliver privileged access management offerings that can address an urgent market demand.

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[2] CA, "Identity and Access Management in the Application Economy: The urgent market demands and how service providers can address them," **https://www.ca.com/content/dam/ca/us/files/white-paper/identity-and-access-management-in-the-application-economy.pdf**

APIs

Background

In the application economy, APIs represent the fundamental building blocks that power virtually every business transformation initiative, enabling innovation in such areas as mobile, the cloud or IoT. If organizations are to meet their innovation mandates, it will become increasingly critical to employ API management in a strategic fashion and so establish a platform that enables business transformation through software. However, many enterprises are challenged to fully capitalize on the business opportunities enabled by APIs.

Consequently, enterprises will increasingly be turning to solution providers that can provide API management services and expertise. Those providers that can help customers rapidly establish efficient, secure and reliable API management capabilities will be poised to address a critical business need—and capitalize on a dramatically expanding market.

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Whitespace analyses

APIs were an area in which pretty much all service providers analyzed had whitespaces, or gaps, in service coverage. While large, global system integrators do offer API practices, there are a number of markets that these organizations don't serve, leaving many opportunities for other service providers to pursue.

A range of service providers can move into the API category. Many MSPs possess core competencies needed to deliver API managed services. Cloud providers can leverage their environments to deliver cloud-based API management platforms and optimize integrations in hybrid environments.

Application-focused service providers can build on their existing services to introduce API offerings. Those service providers that offer infrastructure monitoring can build on these services to introduce API monitoring.

Traditional

APIs have been around for decades. For some service providers, APIs may have played a role in traditional offerings, including application customization, systems integration and support services. However, APIs have not been called out directly in the sites analyzed.

App economy

API management

To fully maximize the potential of APIs to power digital transformation, organizations need full API management capabilities. Through comprehensive API management services, MSPs can support the full API management lifecycle, including planning and initial design, implementation and testing, deployment and operation and versioning and retirement.

By delivering robust, complete API management services, providers can help customers most fully exploit all the potential APIs present. Services can help accelerate time to value, maximize business advantages and optimize operational efficiency.

API monitoring

In today's world of microservices-oriented, cloud-native, containerized environments, APIs play a central role in application operations. Consequently, it is vital to ensure that APIs are performing optimally, so associated applications are ultimately delivering the service levels required.

As outlined in previous sections, customers today need cohesive, unified monitoring of the end-to-end digital supply chain, including infrastructures, cloud environments, applications and end-user experience. Given the critical role APIs now play in enabling these digital supply chains, they must be effectively monitored. Through API monitoring, service providers can establish or expand upon their application-focused offerings, which are increasingly strategic in today's digital economy.

API security

As we outlined in the security section above, APIs can introduce new threats and expand risks. In the digital economy, it will be vital for organizations to capitalize on the opportunities posed by APIs, while mitigating the inherent risks. By delivering API security services, MSSPs can help customers address both of these objectives.

Automation

Background

For service providers, automation represents fertile ground for not only expanded services but optimized operations. To meet their mandates to respond quickly to changing market demands and expand service offerings, it will be increasingly vital to leverage automation in order to realize the required improvements in efficiency. Through automation, service provider operations teams enhance business scalability, efficiently expand service offerings, speed order-to-cash cycles and boost margins.

In addition, automation can help power services for end customers, including those that maximize internal operational agility and that fuel more innovative digital experiences. Service providers have long offered IT process automation, and now many are delivering automation in support of digital economy objectives. Through these offerings, service providers can facilitate the automation that can fuel enhanced digital engagements with customers. By leveraging release automation, service orchestration and workload automation, organizations can ultimately establish the operational agility that can boost revenue, customer retention and agility.

Whitespace analyses

Traditional

Within the traditional category, a fair amount of service providers are delivering services like IT process automation and business process management. Business process management services typically focus on optimizing business workflows, supporting such efforts as modeling, automation, execution, control and measurement.

App economy

IT process automation and business process management

Service providers are also building on IT process automation and business process management to facilitate the advancement of app economy objectives. In our analyses, we looked at a number of service providers that offered impressive automation-focused services. For example, one service provider delivers an intelligent automation platform that equips clients with a pool of digital labor. The platform features a number of impressive capabilities:

- Robotic process automation that forms the execution layer, emulating how users interact with systems.
- Digital workforce orchestration, featuring a Web-based console for developing and testing automation.
- Cognitive services that can leverage artificial intelligence to automate tasks that typically require human intellect and cognition.

Another service provider has made a massive automation push in its markets. In the business process optimization category, they take on multi-year engagements to take on a specific process, such as recruiting or payroll processing. Through these engagements, they focus on maximizing automation and optimizing the end-user experience.

Through cloud orchestration, providers help clients coordinate automated tasks in order to create logical workflows.

AI, machine learning and AIOps

In this category, we've seen impressive examples of service offerings. One provider promoted well established AI and machine learning offerings. The company featured an application that analyzed patterns to determine the best advice to provide customers and to identify the most effective way to address service issues. Through AI and machine learning, the application can analyze massive amounts of real-time and historical data to gain unprecedented and continuously optimized insights.

Cloud orchestration

In this area, we've seen several impressive examples of innovative offerings. These cloud orchestration services go beyond cloud automation, which is focused on the low-level tasks that must be executed in order to construct a given cloud environment. Through cloud orchestration, providers help clients coordinate automated tasks in order to create logical workflows. Through these services, providers can take smaller, more mechanical tasks, automate them, and combine them in a broader workflow or service.

DevOps and DevSecOps

Background

As outlined in prior sections, a great number of services can play instrumental roles in supporting businesses in the application economy. A significant number of the service providers we analyzed have comprehensive service portfolios that encompass many of the traditional and app economy categories detailed in this paper. Service providers can build on these comprehensive services to deliver differentiated DevOps offerings.

Through these DevOps services, providers can help customers make the move to establish a modern software factory, so they can achieve such key objectives as boosting agility, building better apps faster, making security a competitive advantage and maximizing application performance. In many ways, the DevOps category represents the combination and culmination of many of these services.

Through DevOps offerings, service providers can effectively deliver the modern software factory as a service and provide maximum value to their enterprise customers. By taking a methodical and strategic approach to expanding their service catalogs, service providers can position themselves as optimal long-term partners for their customers.

Even if they are not currently delivering DevOps as a complete outsourced service, providers can begin moving in this direction by aligning the services they deliver with a DevOps context. Following are a few examples:

- MSSPs with deep security expertise can deliver security services that support DevOps environments, and so establish a differentiated DevSecOps offering.
- As outlined in the prior section, automation services can help facilitate effective integration and maximize the productivity of DevOps organizations.
- By delivering monitoring services that offer visibility into the entire end-to-end digital supply chain, MSPs can help customers' DevOps teams improve application quality and help optimize the user experience.
- Providers that have strong competencies around DevOps processes can deliver advisory and optimization services.

By positioning their services in a DevOps context, providers can demonstrate their understanding and alignment with customers' key objectives and address their urgent requirements for success in the digital economy.

Whitespace analyses

Traditional

As discussed in prior sections, a lot of services we tracked fell into traditional operations categories, but they can ultimately support DevOps and other app economy objectives. Following are the services that we tracked that were focused on the "Ops" side of DevOps:

- IT service management and ITIL
- Help desk and service desk
- Network management
- IT monitoring
- Systems integration
- Database management services
- IT process automation
- Mainframe performance monitoring

App economy

Within the app economy category, the DevOps services we looked at largely fell into the app development category. In our whitespace analyses, we're seeing a wide range of phases of the application development lifecycle covered, as outlined in the application section. These services include application and API development, testing and security as well as release management. In addition, these services also included advanced agile operations capabilities, such as application performance management, omni-channel user experience monitoring, artificial intelligence-powered operations and more.

In our analyses, we're seeing managed service offerings in such areas as project and portfolio management, agile management, analytics and big data, and, in the security area, IAM. Often, DevOps services leverage traditional operations capabilities, while addressing the demands of DevOps. For example, monitoring expertise can be leveraged not only in production environments, but in development and testing environments, so organizations can spot performance issues earlier in the development lifecycle and better ensure optimized performance.

Conclusion

Through our whitespace analyses, we hope to help partners identify opportunities for enhancing websites and market positioning, expanding services and boosting sales. Through this white paper, we've sought to share insights on our findings, and so help service providers examine their own service mix and identify opportunities for expanding their service catalogs. By expanding and evolving their service catalogs so they're optimally aligned with the modern enterprise objectives associated with the move to the modern software factory, MSPs can optimally position their organizations for growth in the digital economy.

For More Information: Insights for Optimizing Websites

Even the best service catalog won't fuel success if it isn't marketed and positioned effectively. Once the right service mix is established, it is critically important to ensure that the business' website effectively promotes the offerings. That's why, as part of these analyses, we're doing extensive investigations of websites. Starting with MSP websites gives us a vital vantage point: It's the same way many prospects will find out about prospective businesses and services and make their initial determination as to which vendors to ignore and which to examine more closely.

In this research, we're seeing very striking differences between those leading firms that are positioning their business in the strongest possible fashion, and those that are coming up short in this regard. To learn more about what separates the best MSP sites from the rest, be sure to download "**How Leading Websites Align With Emerging Customer Requirements: Findings From MSP Whitespace Analyses**." This paper provides a detailed look at six key factors that are essential in establishing strong sites that are tightly aligned with current customer requirements and priorities.

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