

The future of colocation services – Data Center-as-a-Service (DCaaS)

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September 2020

*ISG Provider Lens™

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Colocation services evolved

Colocation providers have recently evolved beyond just providing physical space to being more of a strategic partner that can help an enterprise fulfill its infrastructure needs. Enterprise client needs and preferences have also evolved. Hyperscalers have captured a large part of the changing market, but colocation providers still play a key role and offer enterprise clients some important advantages.

Although hyperscale providers have their own real estate, their required expansion was only possible by the leveraging of the capacity of colocation providers. That development confirms and puts into perspective the valuable contribution added by the colocation providers and their importance to the digital economy.

Colocation providers have also started offering public cloud-like environments to enterprises that are looking for a hybrid infrastructure setup in their digital transformation journey. In our ISG Provider Lens™ Private/Hybrid Cloud and Data Center Outsourcing Services study we found that colocation providers in the U.S. have been using AI technology to dynamically monitor and regulate the data center environment.

Tweaks and adjustments in cooling systems translate to significant energy and cost savings, plus an improvement in the overall data center efficiency. Some U.S.-based colocation providers have been designing zero carbon footprint or other green data centers and play a larger role in supporting environmental goals. These components make the market more competitive and challenging for the entire colocation provider community and force them to provide innovative solutions to create differentiation.

Today, enterprise needs for procuring data center services have evolved from having just an outsourcing partner to a greater desire for leveraging the provider to share more responsibilities. The procurement process previously had inflexible terms that mostly addressed space, power, cooling, and cross connects. These agreements strongly resembled a tenant-landlord relationship. Today, enterprises want to see a provider's capability of offering a multitude of services and want to consider providers as strategic partners with a commitment to participate in a gain-share model. Enterprises have started to realize that owning a data center involves considerable costs when

compared with moving to a colocation facility. And so, they are changing the way they use colocation services to meet their requirements for edge computing and high-throughput data processing along with better connectivity with lower latency. This is especially important for enterprises in the financial, media and entertainment, healthcare, education, e-commerce, and other services industries where every second of delay may cause lost revenues.

Enterprises are also looking at colocation products and services with a hub-like experience with a well-designed data center that has lower PUE (power usage effectiveness) and WUE (water usage effectiveness) values and provides a higher price/performance ratio for large server farms. Both PUE and WUE are critically important ratings for any sustainability-conscious organization to consider because they are a cumulative measurement of the efficiency with which a data center is constructed. Colocation providers are offering edge connectivity for hybrid connections across several offices where clients might have public cloud services to which colocation providers have direct lines to ensure speed and privacy.



DCaaS is the new norm

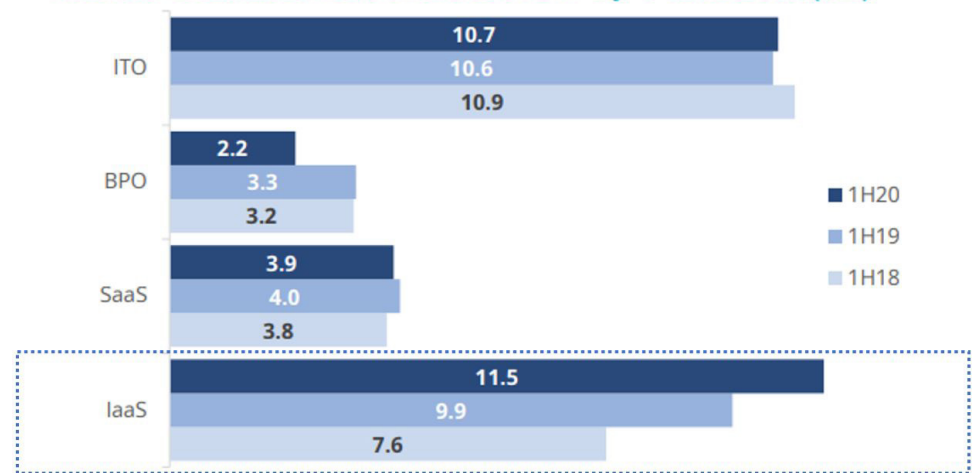
Managing a data center or other on-premise infrastructure is complex, especially at scale when server installations, patching and maintenance activities are a full-time job. Enterprises are mainly moving to a colocation environment when they are running out of space in their own data centers, because of the inconvenience and high costs incurred while building a new data center or when procuring a disaster recovery solution. Some of the key benefits of a colocation setup are that it provides uninterrupted service while enterprise clients retain control over the equipment being used, and can gain robust security. Such benefits can be enabled in a XaaS (everything-as-a-service) model. Though not a new concept, XaaS has become the need of the hour. The latest (2Q2020) ISG Index™ found an approximately 15 percent rise in the annual contract value (ACV) for both the Americas and global infrastructure-as-a-service markets.



In the current economic slowdown and pandemic crisis, enterprises need to investigate on-demand services that allow them to focus on more important business processes. There is great value when these services can eliminate the client's need for monitoring and managing IT infrastructure such as servers, network switches and hard drives and reduce physical overheads such as space, power, HVAC (heating, ventilation and air conditioning) and IT staff. Enterprises need to strategize their infrastructure needs for long-term as well as for any kind of uncertainty, for which data center-as-a-service (DCaaS) is an ideal solution. With DCaaS, enterprises can rent out a part of the data center or the entire facility based on their requirement. No upfront costs and commitments are involved, and users pay for only what they use.

DCaaS is an offset of colocation services, but the term is primarily associated with supporting the on-demand resource provisioning requirements of an agile business. Enterprises can access the DCaaS provider's servers, storage, network, hardware, infrastructure, bandwidth, and several other resources remotely through a wide area network. This arrangement provides clients a cloud-like experience on an on-premise

Global Commercial Sector ACV by Function (\$B)

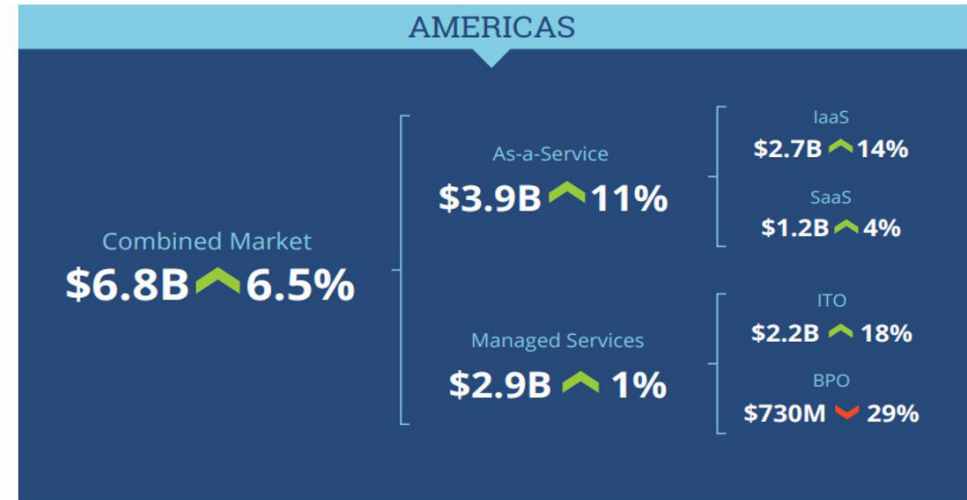


infrastructure setup. Enterprise clients can have flexible service-level agreements (SLAs) with providers instead of rigid contracts.

The demand for extensive connectivity to other data centers, branches, service providers and partners is growing. Network connections must be set up within a short amount of time via carriers that host their networks in the telco rooms of colocation providers. Due to the pandemic, many enterprises want to adopt the work-from-home model, which has accelerated the movement of workloads to as-a-service models and environments. Currently, DCaaS is one of the best options for enterprises that seek an on-demand service such as a cost-effective solution that enables scalability, flexibility, reliability, and robust security.

“DCaaS provides opportunities to scale up based on demand and be able to securely build up lighting fast connections between office locations or hyperscalers which is offered by colocation providers. This also means to get rid of CAPEX and turn business models into OPEX.”

Heiko Henkes, Director and Principal Analyst – ISG Provider Lens



Source: ISG Index™ 2Q 2020; presented by Steve Hall, Kathy Rudy, Barry Matthews, Stanton Jones, Michael Fullwood, Scott Furlong

Reacting to the recent pandemic

In the past, parameters such as rack prices, number of racks available, security, high availability, data center location, data residency and internet connectivity were considered for choosing a colocation provider. Considering the current global crisis, ensuring reaction speed, agility and uninterrupted service have become important differentiators among colocation providers. The backbone of all this is networking, which plays a crucial role in providing a seamless experience to enterprise clients.

The COVID-19 pandemic has caused a market disruption that is driving several changes to modernize IT, business processes and policies, and to fulfill new compliance and regulatory requirements. The event has compelled enterprises to accelerate their transformation journey by either moving to a hybrid cloud or to a colocation arrangement where a pandemic such as this or any natural disaster-like situation does not cause services disruptions. Colocation providers have amassed expertise over the years in building their data centers in safe locations, which is difficult for enterprises to do because they prefer having their data centers close to their other operations. Unlike natural disasters that cause a short-term impact such as earthquakes and hurricanes, a pandemic

can affect industries for a considerable period. Therefore, enterprises should plan their infrastructure strategy by including colocation or DCaaS solutions in their infrastructure mix.

The need for on-demand solutions has never been more prominent before now. Enterprises need to make their businesses agile so that any external disruptions would not lead to service interruption for customers. This can be achieved by adopting a flexible and agile strategy of procuring data center services, that includes an as-a-service model along with setting up a hybrid and multi-cloud ecosystem.

“Flexential has shown differentiation with its high-quality networking infrastructure which offers extremely low latency bandwidth to its clients. The company has proven itself in helping clients accelerate their transition to a hybrid cloud environment with its Colocation services and Data Center-as-a-Service (DCaaS) solution.”

Jan Erik Aase, Director and Global Head – ISG Provider Lens

Uninterrupted service by Flexential in the pandemic

In time of crisis, enterprises need a partner that can quickly implement a business continuity plan and prevent any service interruptions. Enterprises also expect the provider to have strong and resilient operations to serve them in these times. Flexential has been at the forefront of providing uninterrupted services to its clients. Its robust infrastructure service model and strong business continuity plans have helped it to prepare for any kind of disruption.

A case in point was when the outbreak spread across the U.S. in mid-March. Some states immediately issued stay-at-home orders, leaving many enterprises unequipped to provide support to even internal employees. Under these extreme conditions, Flexential did not report any outages nor any latency degradation and was able to react quickly to the needed bandwidth upgrades and deliver services without interruption. It helped enterprises to future-proof themselves by providing managed private or hybrid cloud solutions, along with backup-as-a-service (BaaS), DRaaS, managed containers, managed network services and managed security services in addition to next-generation colocation services.

Flexential was able to quickly enable employees to Work-from-Home

For some customers
Flexential helped move
to a WFH model in
days vs weeks



One example is how Flexential's customer, Moffitt Cancer Center, a brick-and-mortar healthcare provider, enabled its workforce to work from home in a matter of days with the help of Flexential's strong networking infrastructure. The client was able to increase its work from home volume from 350 employees to more than 4,000. In addition, due to the pandemic, Moffitt's telemedicine visits shot up by 90x, and by leveraging Flexential's products, the client was able to efficiently manage this massive increase in bandwidth demand. The helpdesk calls doubled to around 15,000 calls a month, which was again managed effortlessly.

"We built a scalable and flexible technology stack to enable our growth and mission. That work and planning allowed us to adapt for the pandemic"

John McFarland, CTO, Moffitt Cancer Center



Differentiation in an undifferentiated world

In the 2020 SG Provider Lens™ Private/Hybrid Cloud and Data Center Outsourcing services study, Flexential was identified as a Rising Star in the Colocation services quadrant. This positioning represents Flexential as one of the prominent players in the market due to its significant data center footprint in the U.S. and the network connectivity it provides to its clients a distinct strength for the company. Data centers are designed to offer continuous access to client data with a robust network channel. This is critical for enterprises that count on reliable networking to deliver better service continuity. Flexential offers high quality connectivity services via a robust networking infrastructure that it has deployed across the U.S. The company provides interconnection capability through its software-defined platform called FlexAnywhere™ that delivers high-speed throughput from all its distributed data centers, network POPs and connections to all major public cloud providers.

This FlexAnywhere platform delivers high-speed, predictable throughput from Flexential's 40 interconnected edge data centers, improving application performance and reducing costs while eliminating the need for multiple, complex network deployments. The platform also provides access to more than 80 on-net domestic and international carriers, 7 cloud nodes,



Source: Flexential

"Digital transformation happened overnight and there's no turning back."

– Flexential Customer

multiple peering exchanges and more than 250 networks, data centers and managed service and cloud providers (including AWS, Microsoft Azure and Google Cloud Platform). With the advancements in networking technology, it is now possible to provide a near zero latency network services (such as content delivery networks, or CDNs) that provide a similar experience as that of an edge location. Flexential plans continued investment in the networking space to create a high-quality network infrastructure that will continue to differentiate them in the market.

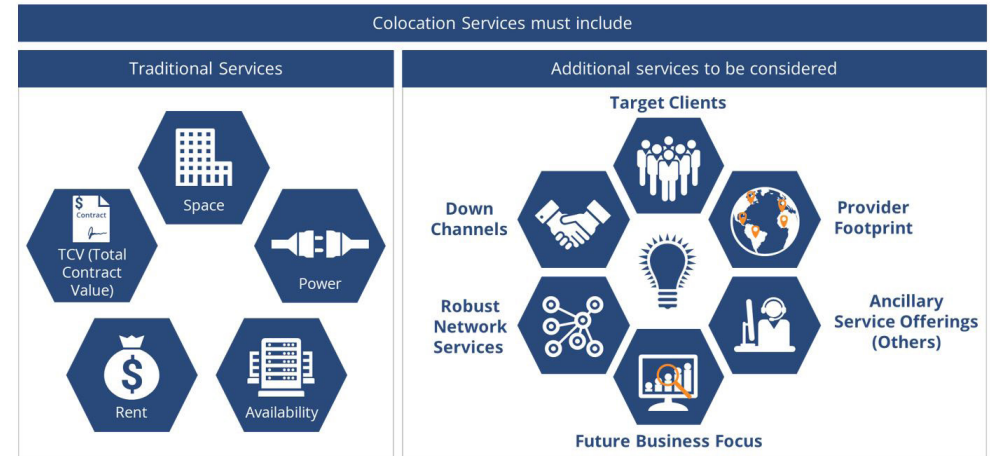
When it comes to security, most providers only offer infrastructure and physical security. Leaving their clients to develop, implement and manage their data security strategy/solution. Cybercrimes have increased considerably as malware sophistication and proliferation have grown. Data breaches from third-party providers and information theft have resulted in significant revenue loss, along with high costs incurred from downtime. Flexential offers managed security services for clients facing such risks through its Flexential Professional Services (FPS) division. It has more than 50 qualified security assessors (QSAs) and a security operations center (SOC) to address clients' security needs such as testing, incident management, breach analysis and forensic investigation.

Enterprises should look beyond the commodity and find a provider that can best address their current and future requirements. Flexential is focused on offering high quality data center as-a-service to enterprises and hyperscalers and will continue to invest in building a nationwide network of high-tech data centers of the future. The company operates in 20 different prominent markets with 40 data centers across the U.S. These facilities are in markets where there is a demand for an edge data center environment. This allows data to be as close as possible to the user in order to provide a low latency experience. Flexential has also invested heavily in next-generation networking capabilities such as software-defined networking along with next-generation content delivery networks. The company is also in discussion with several major carriers to bring 5G technology into the mix.

Flexential fabric delivers high-capacity, low latency and secure connectivity from the data center and cloud to the edge.

Know your provider

It is crucial for an enterprise to understand what capabilities beyond colocation a provider brings to the table. Apart from space and power, the ability to finance a client's digital expansion, meet capital expenditure (CAPEX) reduction requirements, and TCV (total contract value) are all important. When choosing a colocation provider for any outsourcing engagement, enterprises must also be aware of the provider's affiliations in the market. This information will help the enterprise to analyze the provider's capability in offering high-quality, advanced technological solutions.



Two distinct client markets

ISG has observed two categories of customers for colocation services — hyperscalers and enterprise clients. Although both customer types are consuming a similar product, they have different business models with significantly distinct needs and demands. Hyperscalers are mostly concerned about availability, while enterprise clients are mainly focused on optionality, reliability, flexibility, and costs. They are also demanding a more holistic solution, such as DCaaS which includes add-on services such as network-as-a-service, disaster recovery-as-a-service (DRaaS), managed services and more which are more appealing than just the provision for a facility or real estate.

Many colocation providers prefer catering to hyperscalers and have switched their focus away from enterprise customers. This is because their company valuations are tied up with addressing the requirements of hyperscalers that bring in considerable business. These providers generally lease out their entire data centers with power consumption of 10megawatts and higher per quarter to hyperscalers and prefer not to invest in the services part of the business. Most often, enterprise clients do not have such large capacity requirements. They want a provider

that understands their needs and offers a custom colocation solution, along with hosted private cloud, professional public cloud capabilities, managed infrastructure, and security services to eliminate the burden of managing their own data centers.

Enterprise call to action

In a global crisis such as the current pandemic, enterprises should check whether a colocation provider can scale up and down and provide the necessary additional capacity following the sudden increase in demand for infrastructure resources. Flexential's core differentiator is its large network of 40 data centers that are placed strategically across the U.S., allowing enterprise clients to select the data center site according to their requirements. Apart from site selection, enterprises should check whether the provider offers robust network services, because quick connectivity to the hyperscalers is crucial. They also need to look into the type and availability of additional on-demand services such as BaaS, DRaaS, private dedicated cloud and DCaaS.

In addition to the significant financial costs incurred, unexpected downtime can have other serious impacts to even a well-established company. Relying purely on the public cloud leaves companies exposed to outages, rendering them helpless and without any alternatives. Flexential has the versatility to cater to all types of customer segments. It is one of the few providers that can engage with large wholesale deals as well as

small, medium and large enterprise customers, providing them with a plethora of managed and on-demand services. When compared to other large colocation providers, only a few firms offer such capabilities. Enterprises seeking colocation, cloud, disaster recovery, managed and professional services should consider Flexential when in need of a partner with a strong portfolio of services that understands one size does not fit all.

"Flexential acts as a one stop shop for any infrastructure needs. Its DCaaS offering is a right fit for enterprises that are seeking to future proof their businesses."

Shashank Rajmane, Lead Analyst and Author, ISG

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Lead Analyst

Shashank Rajmane has more than a decade of extensive research experience and has led the ISG Provider Lens™ studies — Public Cloud Consulting & Transformation and Private/Hybrid Cloud & Data Center Outsourcing Services. He leads the efforts for the U.S. geography and global geography reports. Apart from authoring these reports, Shashank has been part of many consulting engagements and helps ISG's enterprise clients select the right service providers and vendors based on their IT buying requirements. He is also responsible for authoring thought leadership papers, briefing notes, blogs and service provider intelligence reports, especially in the next-generation cloud and infrastructure services domain. He has also authored several research papers on best practices for choosing cloud vendors and cloud management platforms, along with writing a few whitepapers on the cloud industry.



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Mr. Aase brings extensive experience in the implementation and research of service integration and management of both IT and business processes. With over 35 years of experience, he is highly skilled at analyzing vendor governance trends and methodologies, identifying inefficiencies in current processes, and advising the industry. Jan Erik has experience on all four sides of the sourcing and vendor governance lifecycle - as a client, an industry analyst, a service provider and an advisor. Now as a research director, principal analyst and global head of ISG Provider Lens™, he is very well positioned to assess and report on the state of the industry and make recommendations for both enterprises and service provider clients.

ISG Provider Lens™ | September 2020

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