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A Buyer's Guide to

CLOUD COMMUNICATIONS

WHITE PAPER

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ZK Research
A Division of
Kerravala Consulting

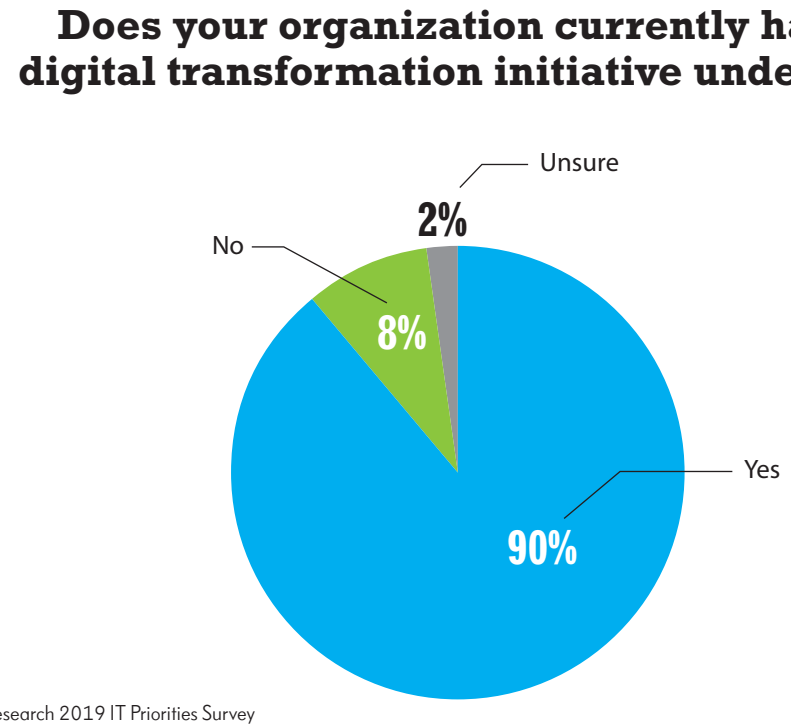
INTRODUCTION: DIGITAL TRANSFORMATION DRIVES COMPANIES TO THE CLOUD

Digital transformation is on everyone's minds these days. In business, it has reached buzzword level and is thrown around in just about every conversation. This has happened for good reason. According to the ZK Research 2019 IT Priorities Study, 90% of organizations have at least one digital initiative underway (Exhibit 1). Digital advancements are creating new product and service opportunities as well as transforming business operations, which enables companies to improve customer service, generate more revenue, lower costs and achieve higher levels of efficiency to leapfrog and stay ahead of competition.

Historically, sustaining market leadership was based on having the best product, the lowest prices or the best people. Today, this is no longer the case. Although these factors are still important, in the digital business era, maintaining a competitive advantage is tied to an organization's ability to recognize shifts in the market and respond quickly. Those that can accomplish this will thrive, while those that can't will quickly fall behind and struggle to survive—and many will fail to exist in a few short years.

The increased speed that determines digital success is fueled by business agility, which requires a highly dynamic and agile IT foundation. This has caused companies to adopt new technologies such as containers, virtualization, flash storage and software-defined networking. However, the one technology that should be considered the foundation for digital transformation is communications,

Exhibit 1: Digital Transformation Is Well Underway

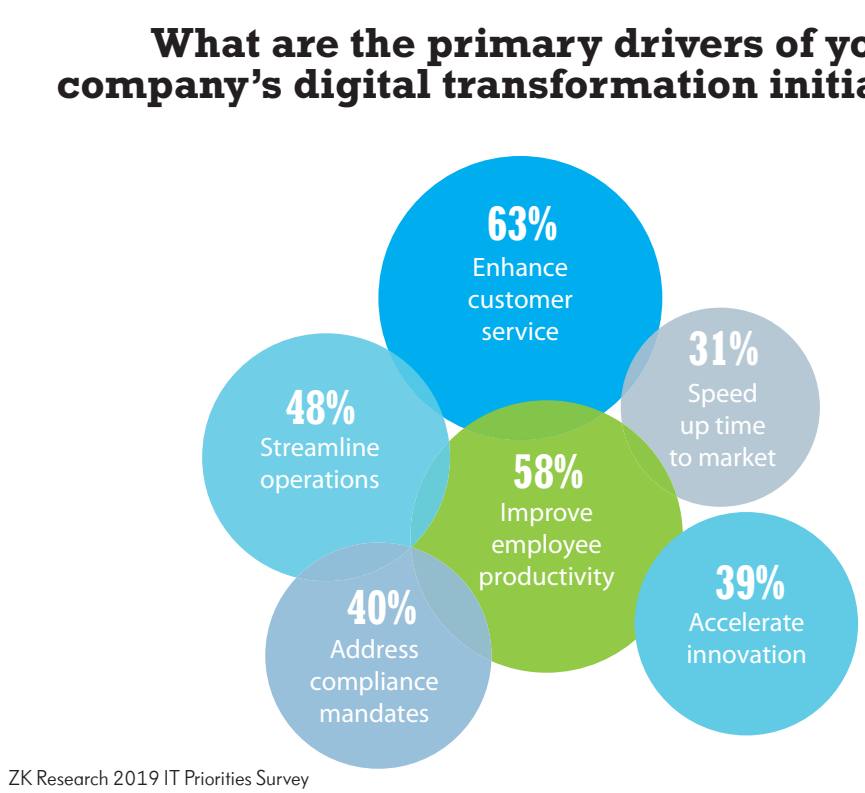


ZK Research 2019 IT Priorities Survey

ABOUT THE AUTHOR

Zeus Kerravala is the founder and principal analyst with ZK Research. Kerravala provides tactical advice and strategic guidance to help his clients in both the current business climate and the long term. He delivers research and insight to the following constituents: end-user IT and network managers; vendors of IT hardware, software and services; and members of the financial community looking to invest in the companies that he covers.

Exhibit 2: Customer Service and Employee Productivity Are Top Digital Initiatives



ZK Research 2019 IT Priorities Survey

as it's at the heart of digital initiatives. Exhibit 2 shows that the top two drivers of digital transformation are enhancing customer service and improving employee productivity—and communications is core to both.

Infusing communications into business processes is not a simple task, as legacy deployment models for unified communications and the contact center are far too rigid to offer the required agility for digital organizations. To achieve success in the digital era, businesses must evolve their communications to a cloud delivery model.

It's critical for business and IT leaders to understand that the term "cloud" is very broad and can mean different things to different businesses. This report highlights the importance of cloud delivery and provides some insight regarding how organizations should think of the various cloud "flavors" to make the best possible decision.

SECTION II: WHY COMMUNICATIONS MUST SHIFT TO THE CLOUD

Business communications falls into the following two categories:

Unified communications (UC) is the convergence of multiple real-time and asynchronous tools. This can include—but isn't limited to—voice communications, video, audio and web

The more advanced the capabilities of a contact center, the more likely the customer will have a positive experience that increases brand loyalty.

conferencing, team messaging, mobility, chat and presence. The goal of UC is to improve worker productivity by streamlining the process of collaborating and communicating with coworkers.

Contact center (CC) is a communications-centric set of applications from which all customer interactions are managed. These can include a wide range of communications channels such as voice, chat, email, text messaging, interactive voice response (IVR) systems and now artificial intelligence (AI)–based applications such as bots and speech interfaces.

Neither can be considered more important than the other, as they have different purposes, but both play a key role in digital transformation. In 2015, consulting firm Walker predicted that the customer experience would overtake price and every other factor and would become the top brand differentiator by 2020. Directionally, this was correct, but the ZK Research 2018 IT Priorities Study found that businesses already viewed the customer experience as the top differentiator in 2018. A proof point of this comes from the same survey, in which 67% of millennials admitted to changing loyalties to a brand because of a bad customer experience. While many factors are to blame for this, the contact center is often the main starting point for customer interactions.

Modernized contact centers are built on a concept known as "omnichannel" communications, where an agent can see information across all channels at once. This means a customer could begin an interaction with an agent via a text message and then switch to chat and then to voice, and the agent would never need to ask the customer to repeat information. Forthcoming AI features will create an experience that can "wow" a customer and further drive brand loyalty, including personalized greetings, speech analytics, natural language processing and real-time translation. The more advanced the capabilities of a contact center, the more likely the customer will have a positive experience that increases brand loyalty. Meanwhile, an older, legacy contact center built only on voice can prompt customers to go elsewhere.

Using UC, workers can collaborate quickly and make the best possible decision in the shortest amount of time regardless of where the people involved are located. Disjointed and siloed communications can cause collaboration to be fragmented and inefficient. UC enables workers to seamlessly move between modes of communications to collaborate wherever they are and whenever they need to do so.

A big challenge for most businesses is the fact that legacy UC and CC systems are old and lack the capabilities that a digital business needs. For example, most older CC solutions are voice only, although some are multichannel capable. Traditional systems are hardware centric and can take months to upgrade to have omnichannel capabilities. The long upgrade cycles were not a problem a decade ago, when market transitions took a long time. But in today's software-centric, digital world, innovation can happen much faster. A cloud model is designed for rapid innovation to meet the needs of a business that is highly dynamic.

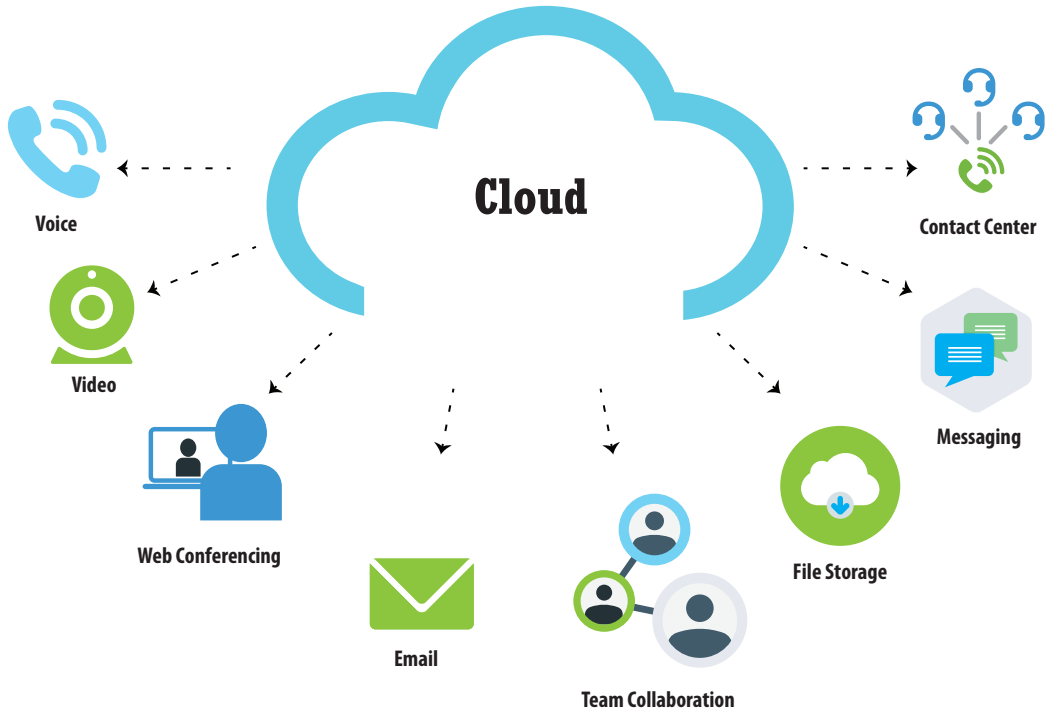
The same is true for UC systems, as unified communications continues to evolve at a torrid pace. The past few years have seen the introduction of team messaging, web-based video, integrated mobile solutions and other new capabilities. Consequently, it's extremely challenging for businesses to constantly update their hardware-centric systems to keep up. A cloud model is much more agile and enables companies to adopt the tools they need, when they need them.

A few years ago, businesses were reluctant to adopt cloud-based UC and CC because the systems lacked the reliability or feature breadth of traditional systems. This is no longer true. Modernized cloud solutions can be designed with high reliability in mind and are at feature parity with on-premises solutions (Exhibit 3).

However, if cloud UC and CC were simply at parity with on-premises solutions, the uptake would track—at best—along the replacement cycle of the existing solutions. The ZK Research 2019 Global UC Forecast shows that cloud UC is growing at a 14% compound annual growth rate, which is seven times the growth rate of on-premises solutions. This demonstrates that customers believe the cloud model is superior to a traditional one (Exhibit 4).

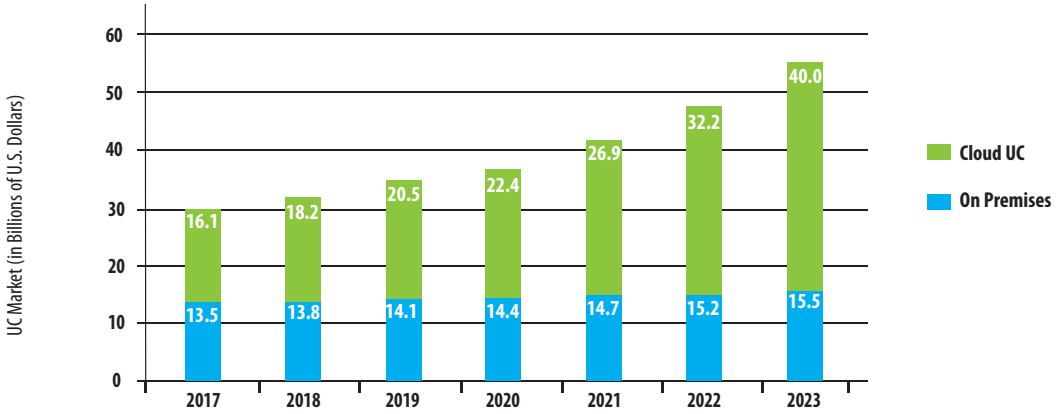
The cloud's primary value proposition has historically been wrapped around cost, as small and midsize businesses adopted UC as a service (UCaaS) and CC as a service (CCaaS) from public cloud vendors. Over the last few years, cloud services have evolved. As cloud communications

Exhibit 3: Businesses Can Now Leverage the Cloud for All Their UC and CC Needs



ZK Research, 2019

Exhibit 4: Cloud UC Explodes



ZK Research 2019 Global UC Forecast

moves into its next wave of existence, it's important that IT leaders understand its benefits aside from cost. By moving UC to the cloud, businesses will realize the following benefits:

Location independence: Customers can access any feature from anywhere on any device, and the need to go to a physical office is virtually eliminated.

Faster innovation: Customers can use new features as soon as they are available instead of having to wait months or even years to go through the testing and refresh process.

Economic efficiency: Businesses can provision what they need now and then add resources when required.

Advanced features built on artificial intelligence: UC and CC vendors have been using AI to create advanced capabilities. Legacy systems don't have the processing capability to perform AI at the scale necessary to deliver advanced services such as facial recognition and analytics.

Rapid deployment of services leading to faster time to market: Digital transformation requires speed, and legacy communications are the antithesis of speed. Cloud-delivered services can be rolled out as fast as an organization is comfortable doing so.

Many IT and business leaders consider shifting communications to the cloud to be risky. The reality is that not moving to the cloud is riskier and will cause companies to fall behind. The time for cloud communications is now, but it's imperative that decision makers choose the best cloud model for their business.

"Cloud" is a broad term with multiple definitions.

SECTION III: UNDERSTANDING CLOUD COMMUNICATION DEPLOYMENT MODELS

"Cloud" is a broad term with multiple definitions. This new computing model can be categorized into the three following types.

Public Cloud

"Public cloud" refers to a cloud computing model in which services are delivered over the internet. They are typically charged on a subscription basis or may be offered as a "freemium" service. The cloud provider deploys, manages and maintains the pool of computing resources required to deliver applications to multiple clients. The crucial features of public clouds are elastic services, a multi-tenant architecture and a pay-per-use model. In the area of UC and CC, public cloud services have had high appeal with small businesses.

Advantages of public clouds include the following:

- Low up-front investment
- High scalability and flexibility to meet hard-to-predict demands
- Reduced complexity
- Flexible pricing models

Disadvantages of public clouds include the following:

- High utilization, which leads to high costs
- Lack of customization
- Low control of security
- Poor visibility into the control of infrastructure
- Data sovereignty concerns

Private Clouds

Private clouds are cloud solutions in which the infrastructure is dedicated to a single organization. The resources can be located in the organization's data center or operated by a third party such as a UC vendor, reseller or telecommunications provider. With a private cloud, the infrastructure and data are isolated and delivered over a private network. Private clouds are also customizable and able to meet the business and security needs of any organization, including those in highly regulated industries. Historically, private clouds have appealed to very large, global enterprises.

Advantages of private clouds include the following:

- Dedicated and secure infrastructure
- Customizable solution
- High scalability

When deciding between public, private and hybrid clouds, there is no "best" solution.

- Flexible to transform based on business needs
- Control and visibility for IT organization

Disadvantages of private clouds include the following:

- High up-front cost
- High cost of ownership when utilization is low
- Sometimes longer deployment times than public cloud alternatives

Hybrid Clouds

Hybrid clouds follow a model that mixes both public and private cloud solutions. The resources should be orchestrated to look like a single environment where applications and resources can be shared between the public and private cloud environments. How the hybrid cloud is deployed varies based on the needs of the organization. For example, a business with a voice-only contact center that has not been fully depreciated may choose to leave the on-premises solution in place and then augment that with a public cloud solution for additional functionality. Another scenario to consider is using a private cloud implementation for UC for the organization's headquarters and then using a UCaaS service for branches and remote workers. The flexibility gained from using hybrid clouds makes them appealing to midsize to large enterprises.

Advantages of hybrid clouds include the following:

- Deployment flexibility
- High reliability, as services are distributed across data centers
- Public cloud scale with private cloud–level security
- Not locked into one particular architecture

Disadvantages of hybrid clouds include the following:

- Orchestration challenges
- Difficulty calculating costs
- Complexity of tying two environments together

When deciding between public, private and hybrid clouds, there is no "best" solution. Rather, the right decision will be the one that fits the organization's business model best. Smaller organizations with overburdened or small IT teams may prefer to offload everything to a CCaaS or UCaaS provider. Very large companies that need to meet strict compliance mandates will likely seek to deploy a private cloud. The bulk of companies will want the best of both worlds and take a hybrid approach. To help companies make this decision, ZK Research created a public/private/hybrid decision chart (Exhibit 5).

Rethinking Hybrid Clouds

Most people think of a hybrid cloud as a combination of on-premises private clouds and third-party, public cloud services, where there is orchestration between the two platforms. In this case, the same services are available in both the public environment and the private environment, and then services and data are orchestrated between the two. This might enable a business to run a specific workload in a private cloud and then access the public cloud when necessary.

Although this model would certainly work with communications, the term "hybrid" has a much broader definition in this industry. UC and CC are not like single-service workloads, such as data backup. Instead, they are composed of numerous functions that work together. This gives businesses the ability to use a hybrid cloud to deploy what they want, where they want, for multiple reasons. Some examples are below:

Investment protection
A business may have a UC or CC voice product that is only a few years old. The company wants to preserve this investment but still move to a cloud model. Moving to a public cloud model would necessitate a complete "rip and replace," where the voice system is removed. A hybrid model would enable the company to keep the voice system in place but leverage the cloud for new functions. For example, in a contact center, call control could remain in the data center, but complementary services such as chat, messaging and analytics could be accessed from the cloud.

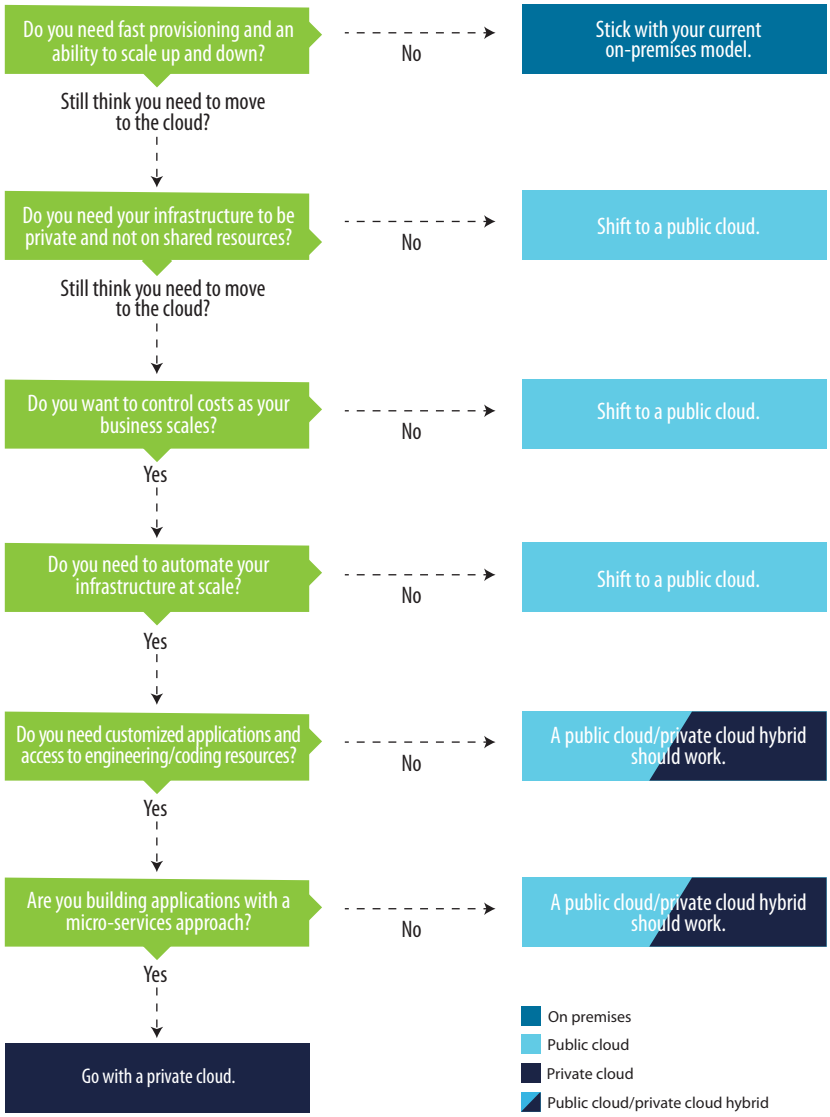
Deployment flexibility
A hybrid cloud enables businesses to use both cloud models simultaneously to address the needs of different locations. A large company with multiple branch offices could choose a private cloud for the headquarters and regional hubs, and then use a public cloud for branch offices and mobile workers, where there is no local IT staff available. If public and private clouds are purchased from the same vendor, workers will have an identical experience at the company headquarters, in a branch office or at home.

Communications resilience
Organizations can create communications resilience by using the public cloud as a backup to the private cloud. In this case, the private cloud would be the active system workers connect to on a daily basis. But in the event of an outage or other issue, the public cloud can be used as a backup. If the system was designed correctly, workers would have no knowledge of which system was being used, as the experience would be identical.

Burst capabilities
One challenge with communications is trying to size it correctly. This is particularly problematic for companies with seasonal peaks. A good example of this is the retail industry, which receives far more customer service calls in contact centers between Thanksgiving and Christmas than during the rest of the year. Typically, a retailer would need to purchase based on its peak capacity and, consequently, have the system sit idle much of the year. A hybrid environment would enable such companies to use the private cloud during normal operations and then burst to the public cloud when extra capacity is needed.

None of the above scenarios are "better," per se. Rather, they are different options that businesses can use to leverage hybrid clouds. IT leaders should choose the scenario that makes the most sense for their organization.

Exhibit 5: It's Critical to Choose the Cloud That Meets the Business's Needs



ZK Research, 2019

To make the best decision, companies must understand the status of their current communications technology and chart the path that is right for them. This requires using a cloud partner that can deliver cloud in any form.

SECTION IV: AVAYA IS A COMPLETE CLOUD COMMUNICATIONS PROVIDER

Silicon Valley–based Avaya has been a leader in communications technology for more than 100 years. The company has over 120,000 customers, which includes the industry's largest UC and CC installed bases. Its massive installed base includes 90% of the Fortune 100, the top 10

airlines and 19 of the top 20 global banks. Avaya's long history of serving these demanding customers has given it a wealth of experience on how to deliver the best possible CC and UC services.

In the area of cloud, Avaya offers the broadest selection of cloud options across every segment.

Public Cloud Solutions

Avaya Cloud Unified Communications is designed to enable businesses to create a seamless engagement experience for an organization's customers and employees. The UCaaS offering is a complete solution that includes phones, apps, messaging, conference, video and team messaging in a single, flexible platform.

The solution's capabilities include the following:

- Flexible purchasing, as customers can purchase only what they need, when they need it (Users can be added or removed quickly, and new functions can be added at a pace with which the business is comfortable.)
- Scalable service, which supports anywhere from two to thousands of users in a single location or multiple locations, making it ideal for small and midsize organizations
- Rich unified communications regardless of device and location
- Security integrated into the solution to minimize complexity
- Mobility that has been simplified, as each staff member has just one number for customers to reach them
- Business application integration enabling Avaya UC capabilities to be embedded directly into mainstream business applications such as Google Apps, Office 365 and Salesforce
- Team meeting space included in the service, enabling workers to collaborate and keep in touch anywhere

Avaya offers three levels of service for its Cloud Unified Communications. Essential provides voice services and team messaging. Business adds in many UC features including a mobile client and soft phone. Power is the ultimate package that brings video and application integration to users.

Avaya Cloud Unified Communications is an ideal public cloud solution for small to midsize business seeking an affordable, flexible and powerful choice for business communications.

Avaya Cloud Contact Center is a CCaaS solution designed for companies of any size as well as business process outsourcers (BPOs). It is built on an open architecture with scalable and secure analytics across the customer journey that is delivered in a simplified and flexible cloud experience. Avaya Cloud Contact Center provides a fast and easy path to the cloud without having to compromise on features.

Avaya Cloud Contact Center is a full-featured solution that is on par with an on-premises offering and includes the following services:

- Full Avaya Elite functionality including automated call distribution (ACD) and skills-based routing

- Multi-tenancy for flexibility and cost effectiveness
- 100% browser based for access from anywhere
- Enhanced security to safeguard customer data
- Deployment flexibility to enable customers to transition to the cloud at a pace with which they are comfortable
- Usage-based pricing to align spend with seasonal trends
- Call recording to eliminate third-party recording fees
- Intelligent voice response to improve containment rate and opt-outs
- Speech analytics to help digital companies make better decisions
- Workforce optimization and performance management abilities to elevate agent performance
- Post-call surveys to measure agent effectiveness

Avaya Cloud Contact Center is suited for companies that want to migrate fully to the cloud or those that want to leverage the flexibility of the cloud for extra capacity.

Avaya Communications Platform as a Service (CPaaS) is a rich development platform that enables developers to quickly build UC-enabled applications by embedding communications functions into applications. Using cloud-based application programming interfaces (APIs) available from Avaya CPaaS, software developers can quickly add a range of communications functions to apps including messaging, voice, carrier services and phone numbers.

Private Cloud Solutions

Avaya OneCloud ReadyNow is a fit-for-purpose, next-generation, enterprise-grade private cloud solution for UC and CC that is offered at near–public cloud pricing. This gives customers the best of both worlds, as they no longer must choose between the control and security of a private cloud and the cost effectiveness of a public cloud—they can have both. Avaya OneCloud was designed around the following features:

- Maintenance of existing workflows and user experience while minimizing the impact to workers and the business
- Risk-mitigated path to deployment through the ability to conduct proofs of concept and move to production on the same instance
- Fast and agile solution through a simplified deployment model
- Global support to provide standardized, consistent services for UC and CC regardless of region

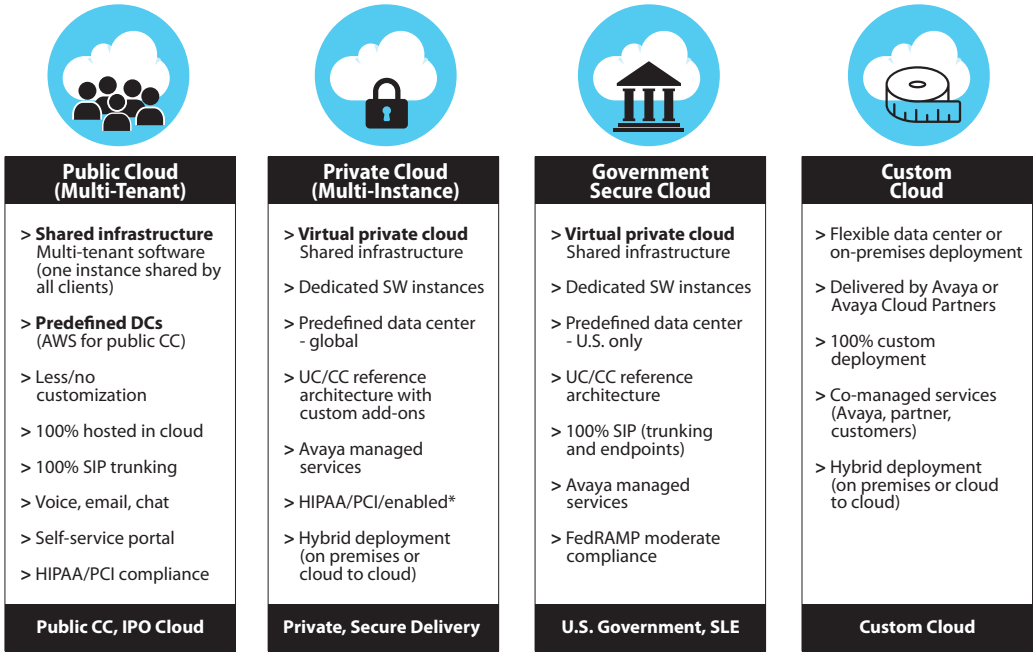
Avaya OneCloud is built on a single global delivery model using prebuilt virtual cloud infrastructure in globally deployed data centers. The solution eliminates many weaknesses of traditional private cloud solutions by using a highly automated reference architecture to speed builds and deployments

with high levels of accuracy. For example, one of the biggest inhibitors to a private cloud is that it can often take weeks or even months to perform a proof of concept. The automation and standardization of Avaya OneCloud enables a proof of concept to be done in as little as two days with a standardized configuration. Even with customization, proof of concept times are reduced to as little as two weeks.

Avaya offers a standardized set of UC and CC rate-carded solutions designed to meet a wide range of customer needs. Exhibit 6 presents a variety of use cases for Avaya OneCloud. The product is built so each customer has its own dedicated software instance, giving it the ability to be customized and scale up and down as required. Avaya OneCloud is built on the latest security tools and processes to secure data centers, virtualization, storage, the network and the application stack. In 2019, the solution will be compliant with the General Data Protection Regulation (GDPR), Health Insurance Portability and Accountability Act (HIPAA) and Payment Card Industry Data Security Standard (PCI-DSS) standards.

Another area where Avaya has removed one of the traditional barriers to private cloud is cost. As mentioned earlier, private cloud deployments often carry a hefty up-front cost. Upgrades generally require additional spend, causing lumpiness in spending. Avaya OneCloud provides investment protection by offering a credit for existing perpetual licenses and no penalty for terminating existing Avaya contracts. Also, unlike most cloud services, Avaya OneCloud does not require new phones to be purchased, as most Avaya phones and gateways can be repurposed to the Avaya solution.

Exhibit 6: Avaya OneCloud Addresses Many Use Cases



Avaya and ZK Research, 2019

Communications is foundational to digital success.

The benefits of Avaya OneCloud are summarized below:

- Full UC and CC solutions offered as a private cloud at near–public cloud pricing, flexibility and speed
- Customizable to maintain current user experience and workflows
- Single delivery model, globally
- Automation, which enables fast onboarding
- Frictionless transition from legacy systems

One important note regarding the Avaya cloud offerings: Unlike traditional, over-the-top UCaaS and CCaaS providers that rely on third-party phones, Avaya has a broad set of phones to meet the needs of any type of worker. While Avaya cloud solutions support generic phones, the Avaya phones can provide an enhanced "cloud to handset" experience. For example, Avaya Vantage phones make video calling from the cloud as easy as placing a traditional phone call.

SECTION V: CONCLUSION AND RECOMMENDATIONS

The ability to quickly respond to change is key to survival in the business world. Sustainable leadership in the digital era is based on an organization's ability to be agile and adapt to market transitions. Those that can do this will lead their industries, while those that cannot will fall behind and struggle to survive.

Communications is foundational to digital success, as it enables workers to collaborate with one another more efficiently, allowing organizations to make better decisions faster. Also, through the contact center, communications can transform the way businesses interact with customers. This is key today, as the customer experience is now the top brand differentiator.

UC and CC are now critical enablers of workforce and customer service transformation, and therefore evolving to a modernized, cloud-centric system must be top of mind for IT and business leaders. The cloud has become the new operating model for digital businesses, but the term "cloud" is broad and solutions can vary widely from vendor to vendor. Decision makers must ensure they are using the solution that fits their organization's workflows best.

ZK Research offers the following recommendations to IT leaders who are currently looking to shift their company's communications to the cloud:

Evaluate the range of cloud options before making a decision. No two cloud providers are the same. Cloud options include everything from multi-tenant, over-the-top services to robust private cloud solutions. Look at the pros and cons of each, and choose the one that makes the most sense for the company. Many organizations may prefer a hybrid model in which a combination of different types of clouds are used.

Invest in the traditional systems where it makes sense to do so. Although the trend is toward the cloud, it may make sense to continue to invest in on-premises systems. For example, a company may choose to keep its current call control solution in place and to use the cloud for online meetings and team collaboration.

Choose a solution provider that offers a range of options. Don't be force-fed a certain type of cloud solution because it's all a cloud provider offers. Seek out a solution provider, like Avaya, that has a wide range of cloud options to meet the unique needs of your company.

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