CONTROL AND PROTECT YOUR UNIQUE WORKLOADS IN THE CLOUD.

Take a comparative look at the functionality, security, and cost benefits of Verizon Private Cloud.

With an estimated 65 percent of enterprises using cloud computing today,¹ the conversation isn’t whether to use the cloud or not—it’s how. How to best leverage the cloud to improve business performance, increase operational efficiency, and drive product and services delivery around the world. To determine how to best use the cloud, enterprises should ask these key questions: What type of cloud should we use? And, where should we manage it?

Enterprise leaders can find credible answers to these questions as they consider that their IT leaders are playing an increasingly significant role in directing enterprise cloud deployments. They’re acting more and more as “cloud solutions brokers.”

In this role, enterprise IT directors are continually being called upon to help identify needs, outline technology requirements, and manage the various technologies and service providers they use. And even though, for enterprise IT, the notion of the cloud is mainstream, cloud solutions need to be purpose-built and customized to support key business initiatives, such as improving customer interaction, making operational transformations, and maintaining technology compliance.

Enterprises often hesitate to move to the cloud, as they rarely have the luxury of starting with a clean slate and often have larger, more complex needs that can’t necessarily be satisfied by one-size-fits-all solutions. Plus, they may not be able to adapt their existing organizational, security, procedural, and even cultural realities to public cloud solutions and on-demand pricing models.

This white paper compares enterprise cloud solution needs with how Verizon Private Cloud deployments deliver the power and flexibility of Infrastructure as a Service (IaaS) to satisfy isolation, security, and performance requirements. The paper will outline why large organizations with mission-critical computing and workload demands require a flexible and secure private-cloud deployment option for their IT infrastructures.

ENTERPRISES WANT SOLUTIONS THAT SATISFY THEIR UNIQUE NEEDS.

Cloud is an established delivery platform for application workloads, alongside more-traditional delivery mechanisms such as colocation, managed hosting, and on-premises data centers. Across industries and regions, many organizations are approaching the allocation of workloads with a “cloud first” mindset.

Still, enterprises may find it difficult to adapt to public cloud models that clash with their existing IT practices and corporate policies—making it difficult to realize the increased agility that they seek in moving to the cloud. Enterprises have numerous requirements when it comes to how they will integrate the cloud into their overall IT strategies, including:

• **Make an operational transformation.** Today’s business climate applies enormous pressure on IT to deliver services in an on-demand model. Over the years, many IT environments have become cluttered by a proliferation of technology platforms that are not integrated and place a heavy burden on already-strained IT resources. Unrestricted by traditional resource contention, IT managers can simplify, consolidate, and standardize their operations to control costs and deliver flexible services without compromise—transforming their IT operations from a cost center to a business growth enabler. By executing application and infrastructure rationalization programs, IT organizations can free up often underutilized, capital-intensive infrastructure to provide the flexibility needed for future growth.

• **Support applications across the spectrum.** Although many organizations might initially target cloud platforms for a particular workload, most enterprises utilize multiple workloads with each residing within a particular stage in the life cycle. While certain applications and workloads reside on physically hosted servers, some may be further along in their evolution and are either
Enterprises often face the dilemma of whether to host workloads on a cloud provider's infrastructure or their own premises, with decisions driven by numerous factors, including internal politics and sometimes the fear that IT will lose control. In reality, the cloud should be merely an extension of existing IT no matter where it is located. To determine the best solution, CIOs must assess their business needs and current infrastructure. However, there is a benefit on both sides. With on-premises cloud infrastructure, the business maintains control over all systems and data, and usually relies on dedicated IT personnel for support. When hosting data in a provider's infrastructure, the enterprise can control large upfront costs and turn management over to IT experts, but it does sacrifice some control over data and processes.

- **Match cloud location to business needs.** Enterprises often face the dilemma of whether to host workloads on a cloud provider's infrastructure or their own premises, with decisions driven by numerous factors, including internal politics and sometimes the fear that IT will lose control. In reality, the cloud should be merely an extension of existing IT no matter where it is located. To determine the best solution, CIOs must assess their business needs and current infrastructure. However, there is a benefit on both sides. With on-premises cloud infrastructure, the business maintains control over all systems and data, and usually relies on dedicated IT personnel for support. When hosting data in a provider's infrastructure, the enterprise can control large upfront costs and turn management over to IT experts, but it does sacrifice some control over data and processes.

- **Enable flexible, global cloud management.** Previously, IT supported data centers and hosted infrastructure in a few, strategically placed locations. In today's reality, customers live and suppliers deliver virtually throughout the world. As businesses are increasingly moving to global cloud deployments, they should consider how much cloud management they can take on and the level of management required for each workload.

Enterprise IT needs a solution that combines computing, storage, and networking capabilities that span the globe, but with the flexibility to determine what levels of management are needed for each workload deployed.

- **Gain visibility into and compatibility with IT processes.** IT is a key function of the enterprise and has long held the responsibility of ensuring that critical components, such as networking and servers, function properly. They are considered responsible when problems arise. And to mitigate any issues, they must have a finger on the pulse of IT operations to ensure smooth functionality and continuity. This requires IT to have visibility into how the cloud functions and to maintain compatibility with their existing processes.

**ENTERPRISES FIND NO SHORTAGE OF CLOUD SOLUTIONS.**

With so many cloud solutions available, enterprises often find it difficult to choose the best cloud solution that matches their unique needs. Enterprise IT wants the cloud to transform their businesses and use it as the platform for an increasingly larger amount of workloads. However, current cloud options can't slow down their deployment progress or require that they dramatically alter their IT processes.

Many cloud solutions are grounded in pure IaaS. These solutions fall short in their ability to offer enterprises with complex workload requirements the key capabilities that enable the cloud to adapt to and complement enterprise IT. They instead force IT to adapt to the cloud.

Internal cloud solutions sound great at first. When enterprises first consider a private cloud, they often consider building out from within their existing IT footprint. This is traditionally what IT has done because of an “us versus them” perception that outside cloud and service providers want to control all aspects of the workload. Some enterprises can manage this enormous investment in
capital, software licenses, and real estate—but most can’t. After crunching the numbers, many realize they simply can’t provide the same level of service and sustainable performance compared with the estimated expenses. They discover it makes more sense to leverage a cloud services provider that can provide them with dedicated compute resources, while at the same time affording them levels of control.

Most cloud solutions focus on horsepower rather than workloads. The market is full of providers and vendors eager to sell hardware and software solutions that allow enterprises to build their own cloud or leverage existing ones. However, what about the most important driver—delivering the workloads quickly to increase overall business agility and realize value? With such a focus on selling tools to build out private cloud solutions, there is a shortage of providing flexible support suited to specific business needs and workload requirements. Solutions with flexible support options enable enterprises to accelerate the onboarding of critical workloads to the cloud and seamlessly tie these workloads to existing IT and external business partners. And what about existing workloads? Who among the available cloud-service providers can provide the levels of assistance that give enterprises a clear roadmap to the cloud, tailored to their specific business needs?

Cloud solutions should adapt to traditional business and IT models. It’s not just about shifting IT to the cloud, it’s about revolutionizing the operational model, increasing global capabilities, and gaining competitive advantage. Enterprises need solutions flexible enough to adapt to their traditional business and IT models, and, at the same time, allow them to transform their operational posture at their pace. For the enterprise, change is not easy. Some available solutions can pose unnecessary barriers to access and control that create resistance to change and encumber IT adoption of the cloud—lessening the overall value of the cloud and potentially erasing its competitive advantage.

**THE VERIZON CLOUD SOLUTION**

Verizon Cloud provides a broad range of cloud infrastructure capabilities to address the diverse needs of the global enterprise. The scalability of Verizon Cloud’s distributed computing platform, combined with our global IP network and top-tier data centers, provides the foundation for reliability in the cloud. Beyond an enterprise cloud platform, we provide infrastructure management and security services delivered by experts, so large organizations can receive the right technology and support to meet your needs, you can seamlessly transition workloads to the cloud and unlock your organization’s true potential.

We believe that no two businesses use the cloud the same way. By offering cloud services and support to meet your needs, you can seamlessly transition workloads to the cloud and unlock your organization’s true potential.

Verizon Cloud lets you deploy your workloads where they make sense and easily manage them from a single user interface. Verizon Cloud solutions deliver easy access, performance, and control with the confidence of our trusted network, support, and security. We cover the full spectrum of use cases: public and private capabilities, end-to-end security features, scalable and durable object storage, and multiple levels of managed services.

Both public and virtual private clouds satisfy a great number of workloads and use cases. However, enterprises need private cloud deployments to solve their unique business and workload requirements. Verizon Private Cloud is ideal for large enterprises for several reasons, including:

- **Security.** Most large enterprises overwhelmingly see site security as one of the top reasons to use a private cloud. Many of these organizations have been using their IT infrastructure for years. Reasons for this may be philosophical, but there may be very specific reasons, including data sovereignty—which means organizations would like to keep their business-critical data internally and not necessarily expose it to the outside world—and unique needs related to specific industry requirements and government regulations.
- **Agility.** In today’s business environment, enterprises need to be efficient and agile and are looking for private cloud solutions to transform the way that they operate their IT. For example, many enterprises leverage servers for development and workload testing, which can take a large amount of server capacity and compute resources. This process can make resource management a problem for internal departments that compete for IT resources. Private clouds help lines of business avoid waiting for IT to provision servers and instead allow developers access to on-demand capacity. New initiatives can spring up, new ideas can be tested, and new services can be released with reduced contention for IT resources. In short, business can occur faster in a dedicated, private environment.
• **Managed services.** It’s not all about having access to IT resources and it’s not all about security. It’s about having the managed services and support that enterprises need to make the most use of a private cloud. There are many vendors that can provide the building blocks for a private cloud. But it can be difficult to find a cloud solution provider that can put it all together, accelerate migration to the cloud, and keep an enterprise running efficiently with flexible support options that can match its individual workload requirements.

**GAIN GREATER FLEXIBILITY TO REAP THE BENEFITS OF THE CLOUD.**

Verizon Private Cloud builds on the success and scalability of our flexible cloud architecture, adding the additional levels of control, isolation, and security that enterprise workloads may require.

**Use dedicated resources with low upfront costs.** Take advantage of the many economic advantages of the cloud. With Private Cloud deployments delivered as a service, you can deploy workloads quickly while avoiding large capital budget expenditures. This cost-effective cloud solution helps you remove organizational silos that come with dedicated servers and networks, which can increase costs and reduce resource use. And you can achieve the benefits of cloud computing without having to compromise your specific security policies or flexibility needs.

**Maintain control with simplified cloud management.** Manage your IT infrastructure with an easy-to-use, web-based management interface. Our Private Cloud’s robust application programming interface (API) provides command and control over cloud-based resources built on our enterprise computing architecture. Using the cloud management interface, you have the precise and dynamic ability to allocate your computing resources when and where they are needed.

Verizon Private Cloud is based on our proven utility-computing platforms and diverse network connectivity, so it has the scale, performance, and security to meet your cloud management needs.

**Deploy on your premises or ours for increased computing agility with dynamic allocation of computing resources.**

**Deliver IT resources efficiently wherever you host the cloud.** Provide precise and dynamic allocation of computing resources from your premises or ours. You can embed Private Cloud within your existing data center and let us build and manage your “internal cloud.” Or we can host your Private Cloud in our facilities and you can benefit from our expansive service delivery strategy and interconnected, cloud-enabled data centers around the globe.

**Consolidate existing workloads and deploy new services.** Provision a cloud space (a logical grouping of resources) based on your unique workload—factoring in the performance, network, and security requirements you need to fulfill. This will allow you to manage each as a separate project and view usage on a per-project basis. With our Cloud Console, which brings together all your cloud spaces under a single user experience, you can provision one cloud space or as many as needed to support varying computing project demands.

**Deploy dedicated compute resources with a standardized solution.** Use cloud-computing resources in an environment similar to other Verizon Cloud deployments. Private Cloud leverages the same technology that we use in our public and virtual private cloud options with consistent user experiences through our Cloud Console and API. Access to management interfaces is also consistent with our other deployment options. And our API support helps you move applications quickly or build new applications based on industry standards.

**Control access in a dedicated infrastructure.** Allow authorized personnel to have access to critical business applications and systems with defined, documented, and managed design access control policies. Private Cloud policies take into account classification, business requirements, relevant security considerations, and any contractual obligations regarding the protection of access to data or services. We use the principle of least privilege (PoLP) to grant users the minimum level of access necessary for their job function. Privileged access to network, system, or application functions in production systems is controlled and restricted by the operationally feasible number of employees required and is allocated on a need-to-know or event-by-event basis. Each user is assigned a unique ID for accountability of their actions. And authorization review and aging processes alert administrators of status changes, so access rights may be immediately retired or revoked when an employee no longer requires access or is no longer employed by you or Verizon.
Keep security top of mind. Maintain the confidentiality, integrity, and availability of critical information. Our multilayer approach to delivering security services enables you to purchase appropriate services to achieve a desired state of protection at all levels within your Private Cloud environment. Our layered security approach helps to defend your websites, applications, and data from malicious attacks by combining advanced tools, services, and instrumentation—all managed by a team of highly experienced, certified security professionals.

Get easy-to-understand packaging and configurations. Gain Private Cloud pricing that is based on existing cloud components and available in multiple packages to fit your workload profile. With no upfront capital required, you can select the appropriate deployment size that provides the right amount of processor, disk, memory, and storage resources that can expand over time.

Increase your agility to allocate resources. Initiate new projects faster and improve resource use with Private Cloud resources that are dedicated only to you to allocate as needed. Consider development and test environments. Since these resources are always there, you can deallocate and reallocate resources as projects wind down and new ones are created, without internal organizations feeling the need to monopolize capacity.

Reduce complexity with end-to-end solution management. Deploy Private Cloud, either on premises or off premises, with help from a Verizon authorized contractor where we procure and track all components. Depending upon the type and size of the configuration, Private Cloud on-premises deployments are delivered with a spare kit, letting your data center operations personnel make necessary repairs with Verizon support coordination. If you foresee particular growth patterns that might affect your upgrade path to Private Cloud, we can size your deployment appropriately with expansion increments that account for your anticipated growth.

Smooth your transition with flexible support options. Realize a fast time to value with upfront planning, migration tools, and professional services to help simplify your cloud adoption. We offer Cloud Onboarding and Professional Services to ease your transition to our Private Cloud solution. These flat-rate cloud migration services and customized professional services can help you quickly realize your desired benefits, drive your security policies, implement proven performance best practices, and help you control capital and operating expenses. Rely on our cloud experts and align our support levels to your specific workload demands with our Cloud Service Tiers. You can lead with a self-service approach or receive guidance from our cloud services team. We provide flexible support options to fit your business, budget, and technology needs.

SUMMARY
As enterprises seek cloud solutions for increased agility, they often hesitate because of security concerns. Our Private Cloud solution helps mitigate these concerns by combining the power and flexibility of IaaS with the isolation, security, and performance that enterprises demand from the cloud. And there’s no need to compromise your proprietary security policies.

Using our leading, flexible cloud architecture, Private Cloud deployments are delivered as a service and add the secure controls and separation required by unique enterprise workloads. We can help you deploy your workloads quickly, eliminate network operational silos, improve IT resource use, and avoid large capital expenditures.

LEARN MORE
Find out how we can help you plan, implement, and manage a successful Private Cloud strategy today. Visit cloud.verizon.com/cloud-portfolio/cloud-storage-solutions/private-cloud-deployment-options/ for more information and to chat with a Verizon Cloud consultant.