POINT OF VIEW: THE CLOUD

Any location. Any workload.

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THE CLOUD

"The Cloud" means something different to every technologist, line of business leader, and CIO. Some think of private cloud. Some think of public cloud services like AWS and Azure. Others think of a hybrid approach. We firmly believe that **cloud is not a place. Cloud is a set of disciplines™**.

Adopting these disciplines provides the adaptability, resilience, and flexibility required for businesses to survive, compete, and grow in an unpredictable world. Cloud disciplines deliver a consistent experience for end-users; enable a self-service delivery approach; leverage best-of-breed technologies, whether on-prem, off-prem or through a provider; and deliver capabilities in a secure manner.

ON-DEMAND SERVICE

By the end of 2021, at least 30% of organizations will accelerate innovation to support business and operating model reinvention, fast-tracking transformation programs, to future-proof their business.[1] By adopting a cloud philosophy, an organization will have access to the innovation necessary to develop new capabilities and offerings, reduce technical debt, and enable the company to move faster to address competitive pressures.

By leveraging this enhanced approach, an organization can enable a self-service mentality for its technology users, whether they are developers or non-technical employees. An employee should be able to go from an idea—for instance an application that improves her interaction with clients—to development instantly, without the need for assistance from operations staff. Users can innovate more quickly with the ease-of-use, control, and rapid access of a cloud environment.

A cloud-like approach allows users anywhere to connect to and access an application or digital service instantly. The service may need to connect to other services located in disparate environments, perhaps provided by a third-party vendor. All of this complexity is hidden from the user and allows them access to a vast pool of resources to implement their solution. Regardless of the application's underlying resources, and where those resources are distributed, the user experience is seamless.

[1] IDC FutureScape : Worldwide Digital Transformation (DX) 2021 Predictions, 2020   [2] IDC FutureScape: Worldwide Cloud 2021 Predictions, 2020

ON-DEMAND SERVICE *Continued*

Internet service providers deliver the foundational connection services, but this broad access could not be efficiently implemented without utilizing software defined networking. Utilizing a network that can adapt, change, grow, and shrink without regard for the wires and switches supporting it makes this broad access possible. A flexible, adaptable network implementation that also effectively enforces security policy expectations allows innovations built on cloud to reach service consumers. This integrated environment, from the data center to the edge to the public cloud, is critical to ensure data is accessible in the right location at the right time.

CLIENT CASE STUDY

Cloud capability is particularly powerful when experimenting with new ideas. A global equipment manufacturer wanted to offer its clients, who are small business owners, a new capability to improve their operations. Offering this service would both support the manufacturer's core sales and provide a completely novel revenue stream.

In the past, setting up a unique test environment would have taken time and cycles the organization did not have in this situation. In order to test out the web-based solution and ensure their clients were open to the idea, the organization quickly created the service using on-demand public cloud capabilities. Their clients were able to try the offering and provide feedback without requiring the manufacturer to spend months setting up a program to pilot the application. The organization adjusted the offering based on feedback, and ultimately rolled it out in an agile, accelerated fashion.

BROAD NETWORK ACCESS, FROM THE DATA CENTER TO THE EDGE

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By 2024, **25%** of organizations will improve business agility by integrating edge data with applications built on cloud platforms, enabled by partnerships across cloud and communications service providers.[2]

RESOURCE POOLING

A cloud implementation allows pooling of resources into a "platform" that provides multi-tenancy for applications and services. Multiple development groups can work individually in the same environment without interference to other developers or development teams. By pooling resources, organizations maximize their technology investment and avoid over-purchasing capacity by dedicating infrastructure or resources to one area.

Resource pooling promotes an approach to service creation that is flexible and agile. Underlying resources such as data storage, computing power, and network interconnectivity can be leveraged to accommodate the aggregate environment yet optimized for the individual workloads and services.

AVAILABILITY, RESILIENCY AND RAPID ELASTICITY

Scaling up to meet demand is critical, but it is also necessary to immediately trigger scale-down as demand decreases. Scaling up and staying up is inefficient and costly. Availability, resiliency, and rapid scalability are achieved in the cloud by deploying resources across virtual availability zones. This allows for the implementation of the traditional concepts of "High Availability" and "Disaster Recovery" without the traditional sunk cost of additional facilities that an organization must manage.

MEASURED SERVICE

A cloud shows which group is utilizing which resources, allowing an organization to charge-back, or show-back, an accurate reflection of users' operational usage. These statistics help predict future resource use and growth over time.

Accurate, detailed measurement of services support the other components of a cloud ecosystem. Measurement allows for an organization to get the maximum advantages from resource pooling. It provides the framework to appropriately allocate costs and therefore plan investments and consumption approaches. The more granular this measurement, the more effectively costs can be allocated.

For example, one service may consume significant computing resources, but has minimal requirements for storage performance; another may have minimal compute requirements but require large amounts of network bandwidth. Understanding which services consume what resources provides the fundamental information to make decisions on what platform is best suited to an individual service.

> "Cloud is not a place.
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CLOUD CONSIDERATIONS

In addition to the foundational characteristics required to deliver and operate a cloud environment, there are best practices that all organizations should take into consideration. These principles represent methodologies that maximize the value of a cloud and ensure the promised value of what a cloud offers are realized.

Align development and operations to deliver products, not projects

A product-based approach to developing services provides agility and flexibility. The cloud is defined by continuous delivery and continuous improvement, both for applications and infrastructure. The traditional concepts of time-bound delivery and defined projects do not exist with the cloud. The focus in the cloud shifts from traditional, completion-driven "deadline" projects to zero-day projects—deliverables that go from concept to delivery in a matter of hours.

A cloud helps avoid developing solutions based on capabilities available in only one environment. The cloud allows service creators to think and develop more broadly—develop everything so it can work anywhere, in any environment. This design principle provides maximum portability and flexibility when creating new tools and technology.

Evaluate valuate costs and technical capabilities of differing cloud environments

Any feature or capability in the cloud can be tied to billing or usage metrics. As mentioned above, this is one of the benefits of the Measured Service core cloud capability. As an operational practice, decision trees can be created for adding new capabilities. For instance, ensuring characteristics such as memory usage or bandwidth required are closely aligned with the requirements of a service. Contrast this with adding the capability then waiting to see what happens (good or bad) after deployment.

Over time, an organization can build approval gateways and parameters based on usage to ensure access to the right resources at the right time. These gateways can seamlessly direct workflow to the right resources at the right time based on demand. This ability to direct workflow permits cost optimization without impacting performance and availability of a service. It allows for aligning the cost-of-service delivery with business value.

CLOUD CONSIDERATIONS
Continued

Leverage a Hybrid Cloud environment when it makes sense

Most organizations have existing technology investments that support their core business. Often, it's not feasible to simply rip and replace these environments. But the technical debt accrued in this scenario can inhibit an organization to rapidly deploy new capabilities to support changes in the business. It may make sense for organizations facing these challenges to deploy a hybrid cloud model. The organization can leverage its existing technology assets and investments, while combining them with additional capabilities from public cloud providers or as-a-service vendors.

Key components of a hybrid cloud environment include:

• Connecting a company's on-premises infrastructure, private cloud services, and public cloud offerings into a single flexible infrastructure for running the organization's applications and workloads.

• Creating an IT architecture that incorporates a degree of workload portability, orchestration, and management across two or more environments.

• Ability to move data to the appropriate place at the appropriate time, enabling agility to support business priorities.

• Enabling a cloud-centric operating model that breaks down internal silos, bridges the development and operations teams, and speeds delivery of new capabilities.

By 2023, over **55%** of enterprises will replace outdated operational models with cloud-centric models that facilitate, rather than inhibit, organizational collaboration, resulting in better business outcomes.[3]

3   IDC FutureScape: Worldwide Cloud 2021 Predictions, 2020

ACTION
RECOMMENDATIONS

- Evaluate your organization's cloud strategy to ensure the five defining characteristics (on-demand service, broad network access, resource pooling, rapid elasticity, and measured service) are in place and develop a plan to implement those that are missing.

- Map each characteristic to the unique value provided to your business.

- Identify applications and services that would most benefit from a "product approach", assign a product owner, and align the appropriate cloud capabilities.

- Ensure products benefit from the best aligned cost structure and cloud services, depending on their business impact and value.

Contact hybridcloud@evolvingsol.com for more information