# The Simplification of Hybrid Cloud Environments by Brokering Connectivity

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The fundamental shift to hybrid work forces organizations to redefine their digital transformation in ways that inherently support work-from-anywhere. Integrating the public cloud with an organization's existing business IT assets is one of the clearest methods for satisfying the needs of a dispersed work force.

The business advantages of a distributed workforce are substantial and multifaceted. Unrestricted by geographical boundaries, it vastly expands the talent pool from which one can recruit, allowing organizations to source the best minds and skills from around the globe. This fosters a more a diverse and innovative workforce, which is much more challenging with a traditional office-based setup. In addition, this kind of flexibility can significantly improve employee satisfaction and retention as it caters to the varying lifestyles and personal commitments of our employees.

Because there are also operational costs associated with maintaining physical office spaces, distributed IT environments can significantly free up resources that can then be redirected into growth-driving initiatives. The flexible nature of distributed teams also allows a company to quickly

scale operations up or down according to business needs, promoting agility and resilience. Also, in a world increasingly conscious about environmental sustainability, having a distributed workforce minimizes the carbon footprint associated with commuting and office energy consumption. Thus, from talent acquisition to cost savings and sustainability, a distributed workforce can be a strategic advantage in today's rapidly evolving business landscape.

While there are distinct advantages to a remote workforce, there are also unique challenges to consider. Implementing a hybrid cloud Desktop as a Service (DaaS) infrastructure can present technology hurdles, most notably managing the integration between public and private cloud environments. The technical complexities of merging different cloud services can be daunting. It demands a deep understanding of different cloud architectures, network configurations, and security protocols. Managing disparate data formats and integrating different systems and applications into a

cohesive, unified system also requires substantial effort and technical expertise. There's also the issue of latency when transferring data between the public and private cloud, which could negatively affect performance and user experience.

In this area of IT, there is also a need to maintain stringent security standards. Given that data and applications are spread across public and private environments, a potential breach could have significant implications. There is an ever present challenge with adhering to various regulatory standards across different environments, especially when dealing with data privacy, that's important to address. Therefore, a sophisticated security strategy, involving encryption, access control, network security, and regular audits, is crucial when deploying a hybrid cloud DaaS environment that ensures data integrity and cyber protection.

Despite these challenges, hybrid cloud DaaS brings substantial value to the IT equation. Of primary significance is the ability to scale quickly to meet changing corporate demands. This elasticity allows organizations to add or remove desktop instances as needed, facilitating an efficient use of resources. There is also the benefit of location independence, as users can access their desktops from anywhere, enhancing productivity in the most cost-effective way possible as organizations can optimize expenditure by only paying for the resources they use. Coupled with the security and control provided by the private cloud for sensitive data and critical applications, this gives organizations the best of both worlds.

Leveraging the public cloud allows organizations to present users with computers, storage, and applications that are physically located closest to them, to improve performance. The flexible nature of the public cloud means organizations can dynamically size their computing environment to meet their changing needs, without investing in hardware that later may sit idle. It can also eliminate complications related to supply chain issues, staff requirements, and capital expense limitations, by providing hourly, on-demand resources that can be easily terminated and reprovisioned as requirements change.

The benefits of the public cloud, however, must be balanced with the complications of building, managing, and accessing a hybrid IT environment. In order to successfully incorporate the public cloud into a hybrid cloud desktops-as-a-service (DaaS) solution for remote users, organizations must equip IT with brokering tools that simplify user authentication, on-boarding, access, and monitoring.

# Simplifying User Authentication

Access to any corporate environment, on-premises or in the cloud, must be safeguarded with secure authentication, including multi-factor authentication. Brokering solutions implement the authentication rules put in place by IT and act as the gatekeeper to an organization's hybrid cloud DaaS environment. To simplify authentication, the brokering solution must integrate with an organization's corporate Identity Provider (IdP). This allows IT to manage a single truth about the user's identity, and provides a familiar login experience for end users.

Providing a familiar and seamless method for users to access their hybrid cloud DaaS workspace is key to ensuring user adoption, satisfaction, and ultimately, performance. It also leads to fewer tickets submitted to IT, further simplifying IT's task of maintaining the hybrid cloud DaaS environment.

# Managing User On-Boarding and Access

The comprehensive access control rules implemented by a brokering solution further simplify ITs task of managing hybrid cloud DaaS environments. Without a brokering solution, for each on-boarding, IT must manually provision a new workspace, associate it with the new user, and educate the user on how to access their workspace.

Any task that requires manual intervention is inherently non-optimized, consuming resources both in time and money. Brokering solutions alleviate these shortcomings by automating tasks at each of the previously mentioned points in a user's on-boarding process.

First, brokering solutions automate capacity for hybrid cloud DaaS environments by launching and terminating instances in a public cloud or on-premises virtualization environment based on demand. Instead of purchasing and configuring hardware for a new employee or manually creating a virtual desktop, the brokering solution automatically builds a workspace for new users based on pre-configured images and rules that indicate which image to use and where that workspace should be created.

Second, brokering solutions automatically assign users to an appropriate workspace based on the access control rules that IT defines for groups of users, based on their tasks, requirements, and locations. Well-crafted access control rules implemented by a brokering solution allow IT to "set it and forget it" with regards to user access to corporate resources, while still maintaining control over and visibility into resource usage.

Finally, as previously mentioned, brokering solutions are the gatekeeper to an organization's hybrid cloud DaaS environment. As such, the brokering solution presents the front-end user interface where users log in to access their hosted workspace, no matter where that resource is located. The brokering solution automatically connects the user to their appropriate desktop, using the appropriate display protocol as preconfigured by IT, relieving the user from the unnecessary task of installing and understanding different software clients or remembering desktop IP addresses.

# Monitoring Hybrid Environments

The process of managing a hybrid cloud DaaS environment extends beyond user-onboarding. IT requires constant visibility into who is logging in, from where, and to what they are connecting. Detailed audit logs of the user's session allow organizations to ensure security by maintaining records that can be referenced in the event of a breach and monitoring for outliers in end-user behavior that may indicate a potential compromise.

A brokering solution that manages hybrid cloud DaaS gathers access logs across every platform in the hybrid environment, simplifying IT's task of tracking user access. IT can also leverage this information to manage day-to-day tasks in a hybrid cloud DaaS environment. For example, brokering solutions

that monitor for idle users allow IT to automate tasks to log those users out and power down their workspace in the cloud, lowering the costs associated with that user's desktop.

At a higher level, brokering solutions monitor the overall load on an organization's hybrid cloud DaaS environment. Graphical dashboards make it easy to digest that information so IT can review cloud usage, resource requirements, and costs. Ultimately, the benefit of introducing a brokering solution to manage hybrid cloud DaaS is seen at the corporate level, with a lower bottom line for cloud costs.

IT and organizations can gain technical and operational advantages by leveraging a combination of hosting platforms and display protocols to best meet different users' needs in a DaaS environment. This do-it-yourself approach to building a hybrid cloud DaaS solution is made manageable by incorporating a brokering solution that works across all environments, simplifying user on-boarding and IT day-to-day maintenance and monitoring, as well as controlling cloud costs.