



# The Economic Case for Hybrid Cloud

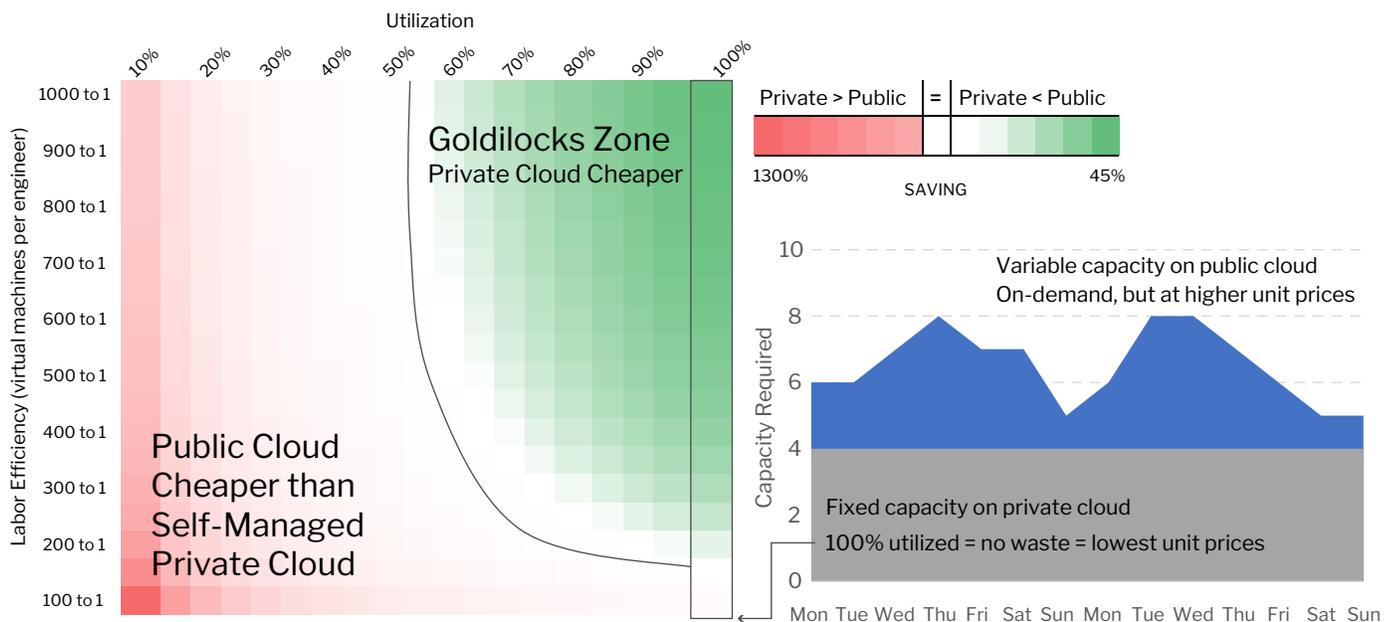
## The 451 Take

Although public cloud is scalable and convenient, it is certainly not always cost-effective. In fact, our research shows that controlling costs is the second highest barrier to enterprise cloud adoption, only surpassed by information security concerns. Cloud Price Index research suggests that private cloud can be cheaper if run efficiently, but making such efficiency gains while retaining scalability and agility is challenging. A hybrid cloud can secure predictable inexpensive capacity as a baseline for most day-to-day requirements, with the freedom of being able to consume on-demand public cloud when required. A unified experience across public and private venues can reduce labor requirements through automation and simpler management. Hybrid cloud can drive benefits beyond cost savings, advancing the organization as a whole through more predictable performance, better customer experience and easier delivery of workloads across different venues.

### Heatmap Comparison of Public Cloud Workload Total Cost of Ownership vs. Private Cloud

Source: 451 Research Cloud Price Index: The Economics of Private Cloud

Green shading shows labor efficiency and utilizations where private cloud beats public cloud; red shading shows vice-versa.



451 Research is a leading information technology research and advisory company focusing on technology innovation and market disruption. More than 100 analysts and consultants provide essential insight to more than 1,000 client organizations globally through a combination of syndicated research and data, advisory and go-to-market services, and live events. Founded in 2000, 451 Research is a part of S&P Global Market Intelligence.



## Business Impact

**LABOR EFFICIENCY AND UTILIZATION ARE KEY VARIABLES.** The total cost of ownership (TCO) of private cloud is impacted by two key variables: labor efficiency (how well it is managed) and utilization (how much of it is used). Enterprises that improve these variables can reduce TCO – optimize these, and private cloud can beat public cloud on cost. But private cloud usually comes with a compromise: minimizing labor and maximizing capacity means planning accurately well in advance. Hyperconverged infrastructure can help through a building-block approach to scaling capacity, but it still requires an element of forethought. Much of the attraction of public cloud is the ability to scale on demand, spontaneously, so opportunities can be taken as soon as they present themselves. As COVID-19 has shown, enterprises need to be able to scale on demand to deal with the unexpected. Hybrid cloud has a specific economic advantage in that it allows enterprises to squeeze the cost of day-to-day capacity through high utilization and automation of tasks while still allowing them to take advantage of the rapid scalability of public cloud.

**PRIVATE CLOUD PROVIDES BASELINE CAPACITY WITH PREDICTABLE LEVELS OF PERFORMANCE, AND OPERATES AT A HIGH LEVEL OF UTILIZATION.** As shown in the example profile above, the baseline level of private cloud capacity has been chosen so that it is utilized all the time, with no unused capacity across the period. As shown in our comparison heatmap, at 100% utilization, we are firmly in the Goldilocks Zone where our unit costs on private cloud are likely to be lower than public cloud. Even with a relatively low level of labor efficiency of 300-400 virtual machines per engineer, our savings per cloud resource could be as much as 45%. But the problem with running our private cloud at 100% utilization is that there is no room for additional workloads if required.

**HYBRID CLOUD OFFERS THE BEST OF BOTH WORLDS.** A hybrid model allows deployment without the need for advanced capacity planning. Public cloud might not be as cheap per resource as on the highly utilized private cloud, but this flexibility means applications can scale beyond the confines of the fixed capacity. For those applications that can't burst beyond the confines within a venue, hybrid cloud allows other applications to be moved and resources to be load-balanced across venues so performance can be dynamically ensured. It also gives enterprises the flexibility to choose where workloads live, perhaps using public cloud as a development environment with on-prem being used for secure and compliant production workloads. In a business continuity plan, the ability to consume resources on demand with no capacity reservation is critical.

## Looking Ahead

The ability to move and load-balance applications and resources should add up to a better experience for customers, partners and employees. Ultimately, these benefits can drive revenue and help the business meet its strategic objectives. If a surge in demand outstrips private cloud capacity, bursting into public cloud ensures this constant performance, so new markets, product opportunities and trends are better exploited. Even if bursting isn't achievable by a particular application, hybrid cloud can enable the flexibility to move workloads between venues and rebalance resources such that performance can be maximized. The use of multiple venues doesn't just have to be for on-demand scalability: enterprises can determine which venue is best for each workload to address requirements for cost, performance and jurisdiction. A unified management experience across environments allows the best venue for workloads to be chosen as circumstances change. Unified is the key term here, implying visibility across public and private cloud venues so more informed decisions can be made, and resultant actions automated using an easy-to-use, single control pane.



VMware Cloud Foundation is a Hybrid Cloud Platform that accelerates adoption of modern applications by automating the deployment and lifecycle management of Kubernetes container orchestration alongside virtual machines running mission-critical applications. VMware Cloud Foundation can be deployed on-premises through a range of OEMs or consumed as a service from a number of public cloud providers, including VMware Cloud on AWS, Azure VMware Solutions, Google Cloud and many more. Learn more at <https://www.vmware.com/products/cloud-foundation.html>.