

# The Cost-Squeezing Effect of Hybrid Cloud Economics

## The 451 Take

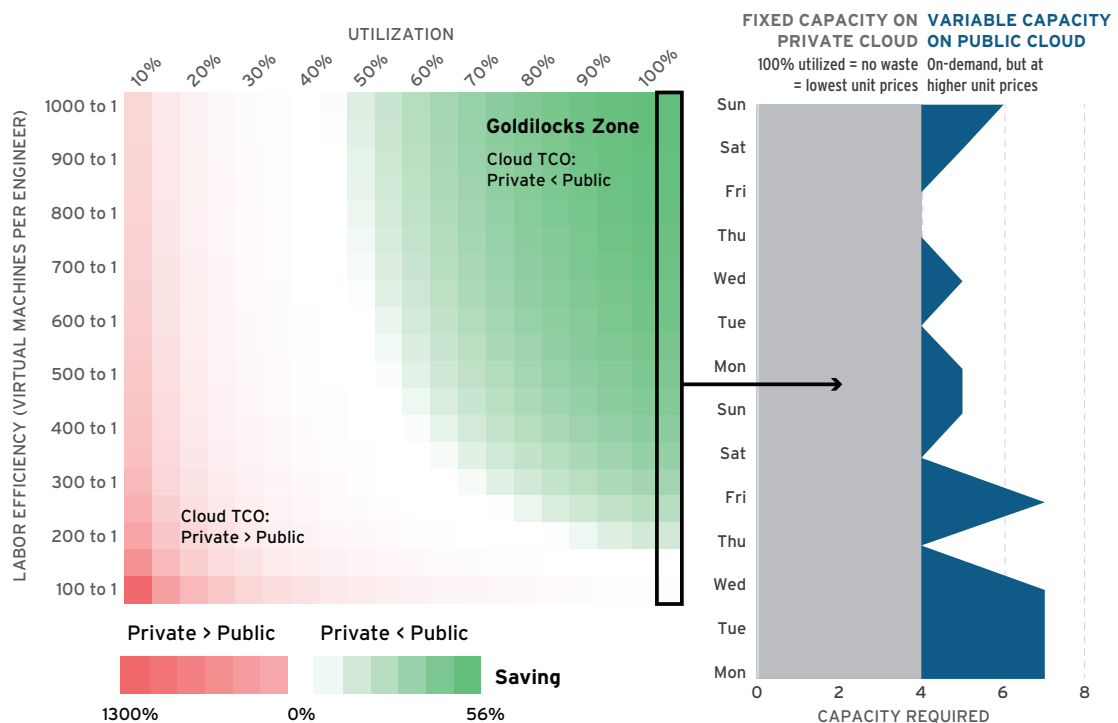
Few would argue that public cloud doesn't represent a revolution in IT procurement. But while it is scalable and convenient, it is not always cheap. In fact, 22% of enterprise decision-makers surveyed in 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Workloads and Key Projects 2018 study have moved some data from public cloud back to private cloud. Nearly a quarter of those did so because of spiraling costs. A combination of both public and private cloud in a hybrid model can reduce costs while enabling scalability.

451 Cloud Price Index research suggests that private cloud can be cheaper if run efficiently (see figure below), but this can sometimes come at the expense of on-demand scalability. On the other hand, public cloud enables incredible scalability – for those that need it – but often at the expense of predictability, performance and low total cost. A unified hybrid cloud can achieve this 'best of both worlds' by securing 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 demand grows beyond capacity. Economically, this provides benefits, not just in terms of cost savings but also through the business value of more predictable performance, a better customer experience and seamless delivery of workloads across different venues.

The graphic below shows how high utilization can be achieved across variable demand profiles. 451 Research modeled the relative costs of private cloud against public cloud using Cloud Price Index data. Using a Monte Carlo simulation, we evaluated which option is cheapest for different configurations of server utilization and labor efficiency. Green shades show labor efficiency and utilization levels where private cloud beats public cloud, while red shades show levels where public cloud wins out.

## Heatmap Comparison of Public Cloud Workload TCO vs. Private Cloud

Source: 451 Research



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## Business Impact

**THE TCO OF PRIVATE CLOUD IS IMPACTED BY TWO KEY VARIABLES:** labor efficiency (how well is it managed) and utilization (how much of it is used). Improve these, and you reduce TCO; optimize these, and private cloud can beat public cloud on cost. But private cloud usually comes with a compromise – minimizing labor and capacity waste means accurately planning well in advance. But much of the attraction of public cloud is the ability to scale on-demand, spontaneously, so opportunities can be seized as soon as they present themselves. No enterprise would want performance to degrade when Black Friday hits. So how do you lock in price and performance characteristics, while enabling scalability?

**HYBRID CLOUD HAS A SPECIFIC ECONOMIC ADVANTAGE** in that it can squeeze costs on day-to-day fixed capacity, while still allowing an organization to take advantage of the rapid scalability of public cloud resources.

**PRIVATE CLOUD PROVIDES BASELINE CAPACITY, WITH KNOWN AND PREDICTABLE PERFORMANCE LEVELS, THAT 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. And 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 low level of labor efficiency, our savings per cloud resource could be as much as 56%. But the problem with running our private cloud at 100% utilization is that there is no room for additional workloads if required. A hybrid model resolves this problem by allowing deployment into the public cloud through a unified DevOps experience. 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 with the ability to move apps between venues.

## Looking Ahead

Why does the ability to scale matter? The performance of the private-cloud-located apps should be relatively stable compared with public cloud, as a result of granular control on the whole infrastructure. This should add up to a better experience for customers, partners and employees, which ultimately drives revenue and the successful delivery of business 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. Performance improvements are the number one reason enterprises move away from a public-cloud-only model, as cited by 26% of enterprise decision-makers. The use of multiple venues doesn't just have to be for on-demand scalability – enterprises can determine which venue is ideal for each workload to best address requirements for cost, performance and jurisdiction.

The key for success is to constantly reassess the situation. A unified management experience across environments allows the best venue for workloads to be chosen as circumstances change. Flexible procurement programs that allow private cloud capacity to change over time can help ensure that more overall capacity is consumed via cost-optimized private cloud resources. Often, outsourcing some of this management can further optimize costs via improved labor efficiency. And of course not every company has the capital to invest up front for large capacity requirements – consider flexible payment alternatives as needs change. Consider all the options, and don't assume public cloud is always the most cost-effective solution.



**Hewlett Packard  
Enterprise**

Hewlett-Packard Enterprise has developed a service to specifically address this space, [HPE GreenLake](#). It's best to start with finding the right venue for each workload, using the [HPE Right Mix Advisor](#). HPE GreenLake can help manage the hybrid experience for cost, performance, privacy, compliance and utilization. And HPE GreenLake brings true IT consumption to the on-premises environment, to drive high utilization and extra capacity for scalability, with usage-based payment and management services.