



451 Research Finds OpenStack and Commercial Private Clouds Can Beat Public Cloud on Cost – But Only at Scale

LONDON and NEW YORK, October 17, 2016 — In the latest [Cloud Price Index, 451 Research](#) analyzes the costs associated with using various cloud options to determine when it becomes better value to use a self-managed private cloud instead of public or managed cloud services. Now, for the first time, cloud buyers and vendors have transparency into a complex pricing model that takes into consideration the major factors impacting total cost of ownership (TCO), including salaries and workload requirements.

451 Research finds that because of the prevalence of suitably qualified administrators, commercial private cloud offerings such as VMware and Microsoft currently offer a lower TCO when labor efficiency is below 400 virtual machines managed per engineer. But where labor efficiency is greater than this, OpenStack becomes more financially attractive. In fact, past this tipping point, all private cloud options are cheaper than both public cloud and managed private cloud options.

The Cloud Price Index (CPI) also indicates that OpenStack distribution offers a TCO benefit compared with a DIY approach. In general, if an OpenStack distribution increases the number of virtual machines an engineer can manage by just 5%, then it offers better value for money than the DIY approach. 451 Research analysts believe the easier installation and management afforded by distributions make this small improvement in efficiency easy to achieve.

"Salaries and labor efficiency have a disproportionately large impact on pricing, so our analysis provides a true picture of total cost of ownership, beyond the technology costs," said Dr. Owen Rogers, Research Director of the Digital Economics Unit at 451 Research. "But as with any IT purchasing decision, cloud buyers need to look beyond the pricing and evaluate all the risks, such as the impact of vendor lock-in over the long term.

"While the CPI provides a basis for assessing options, we suggest buyers consider a hybrid or multi-cloud strategy so they can determine the best execution venue for each workload based on cost, management, technology and location requirements."

When evaluating utilization of the infrastructure over its lifetime, analysts note that public clouds are the least wasteful option because on-demand provisioning means that no capacity or investment is needed by the end user. But private cloud is more challenging – plan too much capacity, and resources will lay idle; plan too little, and

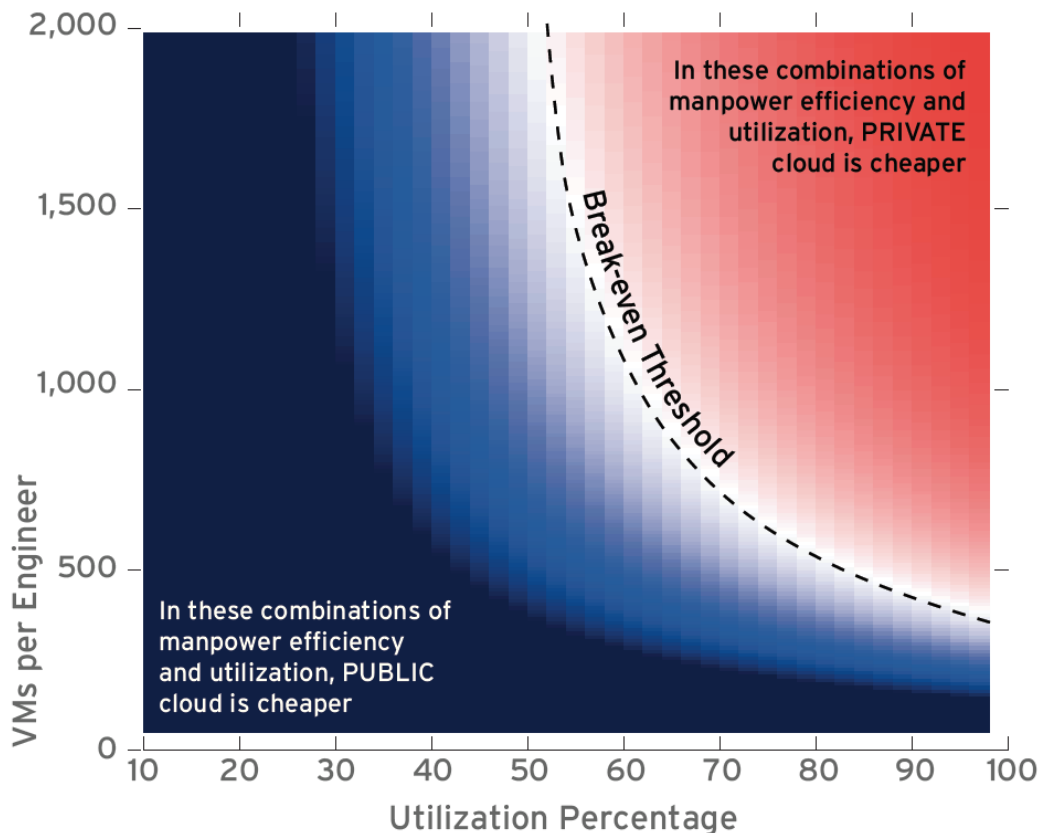
there might not be enough resources to meet demand. Organizations that fail to meet utilization and labor efficiency thresholds can quickly reach a point where they are wasting thousands of dollars each month compared with a public cloud solution.

Although the CPI finds that average cloud administrator salaries have risen around 10% over the past 18 months, showing increased demand for cloud-skilled resources, there is an expectation that more qualified OpenStack engineers will enter the market over the next year or so as a result of the OpenStack Foundation's certification program. This is likely to impact average salaries of OpenStack administrators, making it easier to achieve low TCO on OpenStack.

The report notes that TCO is just one factor in the decision to choose a particular cloud model. Often, the security and control inherent in private clouds outweigh any financial considerations when managing mission-critical applications. Buyers also need to consider their long-term strategy, the features they require, enterprise readiness and the availability of specialist administrators.

Graphic: *The breakeven point for private vs. public cloud pricing varies based on labor efficiencies and utilization. A more intense red represents a greater benefit in using private cloud; a more intense blue represents a greater benefit in using public cloud.*

Source: 451 Research, 2016



About the CPI and Methodology

The Cloud Price Index is the industry's the most rigorous analysis of the cost of cloud computing. It explores the external costs associated with ownership of public and private cloud, including colocation, hardware and software. It provides benchmark indicators for the costs of deploying and operating private cloud infrastructure to help end users assess and compare their procurement options, and to help service providers appropriately price their services.

The CPI uses a transparent 'basket of goods' approach to track price, services and economic data on the cloud market, covering 30 private and public cloud services from 60 providers, and representing 90% of global IaaS revenue. While public cloud has openly available pricing and is billed based on consumption, private cloud is still procured like traditional IT, with pricing, design and payment terms specified on a per-customer basis.

451 Research provides end users with scenario-based benchmarks of TCO, which can be used to plan, budget and make choices for the move to cloud. Service providers can use these benchmarks to understand and improve their respective value propositions.

About 451 Research

451 Research is a preeminent information technology research and advisory company. With a core focus on technology innovation and market disruption, we provide essential insight for leaders of the digital economy. More than 100 analysts and consultants deliver that insight via syndicated research, advisory services and live events to more than 1,000 client organizations in North America, Europe and around the world. Founded in 2000 and headquartered in New York, 451 Research is a division of The 451 Group.

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