

Optimize Resource Allocation Through Discovery and Guidance

Our multi-cloud and multi-platform discovery of brownfield deployments can gather the data you need to get your cloud house in order.

Add a dose of predictive analytics and remediation to lower costs and gain control of traditional, private, or public clouds and apps running on bare metal, VMs, or containers.

 ANALYTICS

 GOVERNANCE

 AUTOMATION

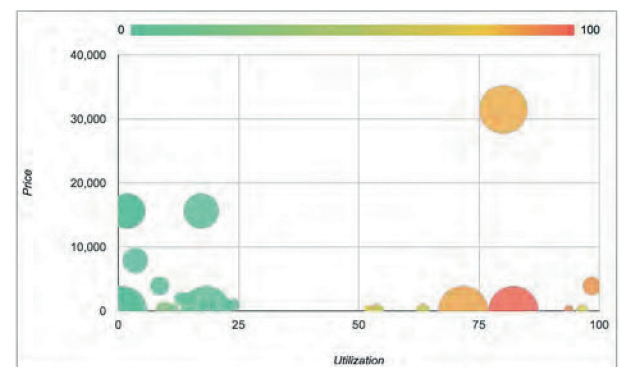
 PRODUCTION

Use analytics to better manage multiple clouds

Uncover diagnostics on usage, utilization, and cost of current infrastructure.

Reduce waste through machine-learning powered rightsizing and power-scheduling.

Leverage aggregated reporting across clouds to track cloud spend by role, group or tenant.



\$28,545

MONTHLY SAVINGS AVAILABLE



SIZING

285

MOVE

32

SHUTDOWN

141

SCHEDULE

65

CREATE INSTANCE

CONFIGURE

DISCOVER

ANALYTICS

AUTOMATION

REVIEW

Configuration Options

VERSION

Tomcat 7 jdk 7

INSTANCE CONFIGURATION

Amazon Tomcat

PLAN

Amazon M3 Medium - 1 Core, 3.75GB Memory

VOLUMES

root 40

NETWORKS

Select Network

SECURITY GROUPS

Select Security Group

PUBLIC IP

Subnet Default

User Config

DNS Options

Advanced Options

Metadata

Environment

CLOUD PRICE COMPARISON

TYPE	REGION	PLAN	PRICE
amazon	US West (N. California)	M3 Medium - 1 Core, 3.75GB Memory	\$61.16
amazon	US West (Oregon)	M3 Medium - 1 Core, 3.75GB Memory	\$53.04
DigitalOcean		Droplet 1 CPU, 3 GB Memory, 20GB Storage	\$15.00
Google	us-west1	n1-standard-1 - 1 vCPU, 3.75GB Memory	\$35.80
Hyper-V		1 Core, 4GB Memory	\$245.86
MacStadium	B99a5af413e80f	Memory: 2GB Storage: 40GB	\$245.92
openstack	e760e2cc46a26f	m1.medium	\$80.00
VMware Fusion		1 Core, 4GB Memory	\$245.86
VMware	492a811afa6411	Memory: 2GB Storage: 40GB	\$245.92
XenServer		4GB Memory	\$245.86

* estimated monthly pricing

PREVIOUS

NEXT

Set, compare, and control hybrid IT costs

Easily assign workloads to the optimal location with visibility and in-line comparison of alternative clouds.

Enable custom costing for on-premises clouds and add markups for IT service chargeback.

REPORT REPRINT

200 words on cloud economics, today and tomorrow

OWEN ROGERS, WILLIAM FELLOWS, JEAN ATELSEK

5 APRIL 2018

The past year in cloud economics has been unprecedented. Price cuts (and increases) still take place but are introduced with far less fanfare than before. New models and economically beneficial features are where providers are hoping to gain credibility and wallet share. But this battleground is temporary.

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In this report, the 451 Research Digital Economics Unit has taken stock of an unprecedented year in cloud economics. Price cuts (and increases) still take place, but they are introduced with far less fanfare than before. New models and economically beneficial features are where providers are hoping to gain credibility and wallet share. Private cloud is fighting back by emulating public cloud's flexibility. The result is choice. For busy enterprise buyers, perhaps too much choice.

THE 451 TAKE

Our 200 words: Public cloud providers are expanding their portfolios to meet enterprise needs. This includes committed pricing models, additional instance sizes, smaller time increments, better reporting and improved regional price competitiveness. Although the price of cloud is falling, it's by single digits – just 4% in the US – and price changes now occur with far less fanfare than 18 months ago. Instead of a lower price tag, providers are differentiating on flexibility, in procurement and product choices. Unsurprisingly, this menu expansion is driving additional complexity. Cloud service providers have responded with improved reporting capabilities for their own services. Consequently, the market for cost reporting has consolidated, but the market for cloud optimization – including cost, governance and control – is growing as these tools become a pre-condition for being in cloud. Private cloud options are expanding too: pay-as-you-go and build-transfer-operate approaches offer greater flexibility, allowing buyers to consume and be metered and billed in the manner they prescribe. We expect the next headline-grabbing pricing battleground will be beyond compute – it will be on serverless computing, AI, IoT or big data. The sea change will take place when hyperscalers start resolving their own complexity and third parties start optimizing across multiple clouds, both public and private.

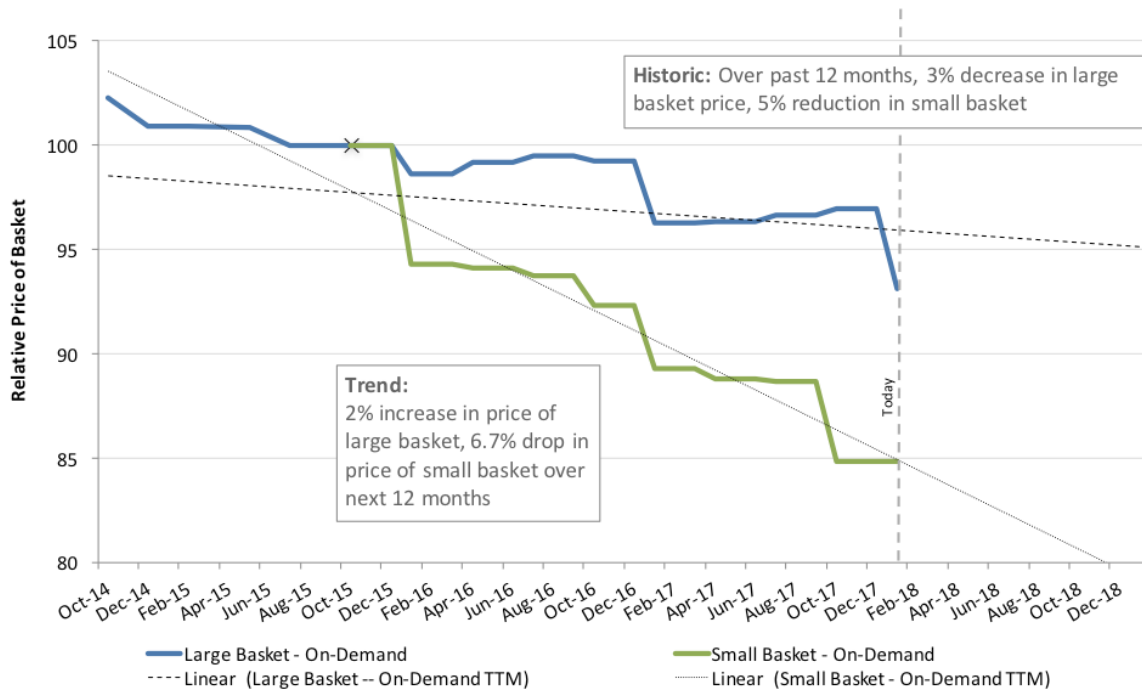
THE STATE OF PRICE CUTS

The Cloud Price Index evaluates two baskets of goods using pricing data sourced from providers, APIs and other sources – a small basket of just compute, storage and bandwidth, and a large basket that adds databases and other services. Using market share information from our Market Monitor service, we derive a real average price per basket in each region. This chart shows the indexed values of those averages; for example, an index of 85 shows a 15% reduction since December 15 (when the index was 100).

Despite all the headlines, cloud isn't declining as much as one might think. Our US small basket has only come down 5% in the past 12 months. However, our US large basket has come down just 3%. In general, the small basket comes down roughly twice as fast as our large one – in other words, to avoid price erosion, build more value-added services and integrate them into your commodity services. The data supports the value of investing in new services, but price your offerings sensibly, considering the new world of IT procurement we now live in.

So where are price cuts happening? The big dip in February was a result of Microsoft Azure slashing its support cost from \$300 to \$100, but we primarily see small price cuts (or improved sizing) on virtual machines, with some cuts across our other benchmarks. However, the past nine months for VM cuts have been relatively stable compared to a few years ago – have we reached the bottom? No, we don't think so – there is still room for more cuts, but we expect them to take place on other services and in other ways. We track 50 cloud providers representing about 85% of IaaS revenue, so we can view the industry beyond the hyperscalers.

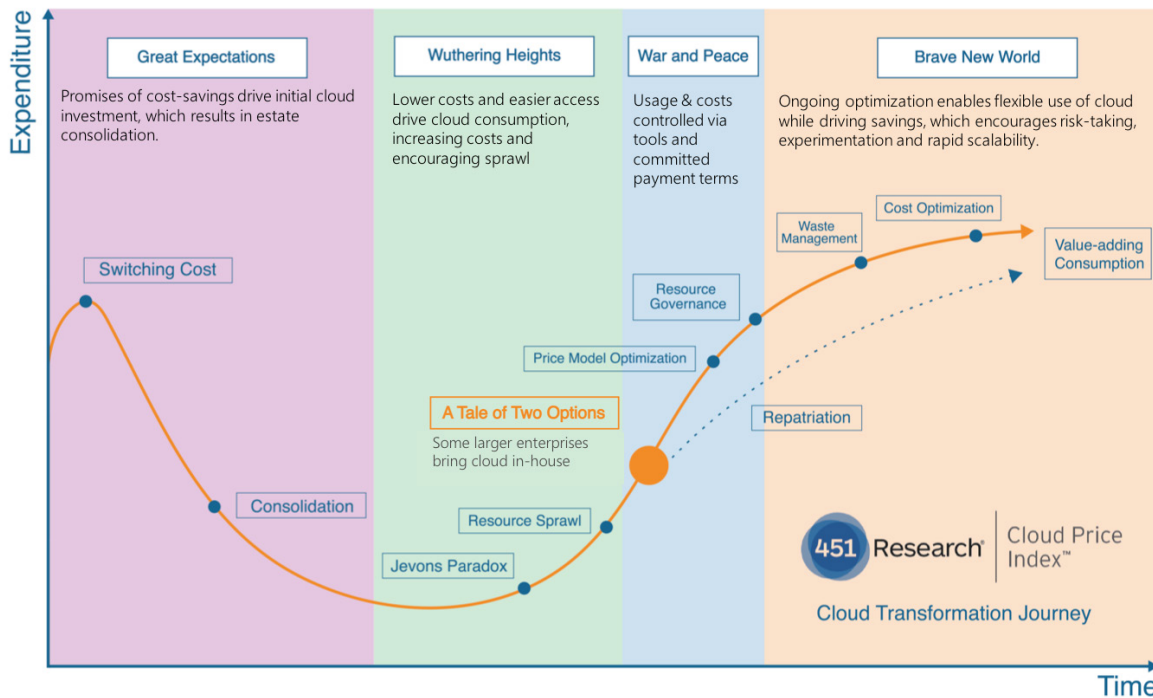
We see a similar pattern across all the regions we cover. Generally, the US is the slowest market for price erosion. Europe and Asia-Pacific have been eroding roughly twice as fast as the US over the past few years, probably as a result of a maturing market in these regions, with greater local competition (think OVH and Alibaba), and improved cost bases. However, Europe and Asia-Pacific are still 10% and 25%, respectively, more expensive than the US for our large basket application. Our Latin America basket has come down 12% since October 16, faster than any other region, but it is still a whopping 50% more expensive than the US. A maturing market and the addition of the likes of Google to the region is encouraging price competitiveness, especially in Brazil.



MAJOR CHANGES

Every quarter we see some changes, but about once a year, we see a major event. In 2016, the major event was a round of object storage price cutting from Google, Microsoft Azure, IBM and AWS, which lowered our benchmark roughly 15% in the space of three weeks (shown above in late 2016). At the back end of 2017, we saw another major change: a huge growth in loyalty rewards, specifically from Google, Microsoft and Oracle; our average discount jumped from 29% to 38%. New features were introduced, as a way of saying 'Use us, and we'll always try to give you best value,' namely per-second billing (AWS and Google), cancelable reserved instances (Microsoft), spot instances (AWS, Microsoft and Google), serverless computing, commitment discounts (Google and Oracle) and improved reporting (Microsoft through Cloudyn acquisition).

We think cloud optimization will be a huge growth area (as shown in our Cloud Transformation Journey below), with opportunities for adding value to customer deployments, with M&A likely too. Why? Because cloud is driving consumption, but enterprises aren't yet ready to handle it. Over the past few years, we've seen the consolidation of the cloud cost reporting market as providers have gotten better at this task; cloud cost optimization is a new market opportunity.



MINOR CHANGES

We regularly scan nearly 500,000 SKUs from the websites of a range of cloud providers including AWS, Microsoft and Google, aiming to detect changes in price and capability across all regions and all services. When we started this effort, we assumed things would be relatively static – how wrong we were! The SKUs we track have grown from about 350,000 to half a million in just four months, as a result of new regions, as well as new virtual machine sizes and pricing models. These additions are targeting flexibility – giving buyers the products and services in the sizes and configurations they desire. It is interesting that companies aren't promoting price cuts in blogs and headlines as they used to. Recent changes include:

- Substantial ongoing cuts to AWS's Mumbai region
- Refactoring of Google's AI pricing model
- Increase in many of Microsoft Azure's object archiving tier as a result of its full launch
- A 90% cut in some load balancing pricing at Google

PRIVATE CLOUD

We've seen a rise in interest in pay-as-you-go private clouds, including AzureStack, HPE, Nutanix and a host of others, plus build-operate-transfer models. We think the cloud market in general is becoming more flexible, with public cloud providers now offering commitment discounts while, conversely, private cloud providers are offering pay-as-you go consumption. When it comes to hosted private cloud, we have found a two-tier market – some managed private clouds are priced at a small premium, and are differentiated purely by the nature of being single-tenancy. Other managed private clouds are charged at a much higher premium, with bells and whistles such as monitoring and SLAs included. It appears enterprises want a choice of best execution venue, which is driving a need for different variations of public and private cloud. Longer term, we think optimization across these multiple venues could be an opportunity. There are no signs private cloud is facing an existential crisis.

WHAT NEXT?

Cloud price changes are incremental right now, and – more importantly – no provider is shouting about them, instead focusing on representing TCO reductions through better pricing models. But we think this is just one phase of the cloud price war, and more big cuts are inevitable. Virtual machines continue to become cheaper, drip by drip, as do most of the other services we track. Soon, however, once pricing model flexibility is so ubiquitous no single provider can stand out based on that, one of the hyperscalers will cut again. Virtual machines and storage are nowhere near the ‘bottom’ yet, but we don’t think cuts on these services will grab headlines. It is more likely that a hyperscaler will focus on newer, sexier services such as AI, serverless computing, IoT or big-data analytics, which will send the message ‘this technology isn’t just cool; it’s inexpensive too!’ Our hunch is that these higher-stack services derive greater margins than the basics, but have far, far less volume – the cash cow is still the basics. Price cuts on these higher-stack services could drive greater volume plus more stickiness for providers.

A step change will take place when hyperscalers start optimizing consumption on their customers’ behalf, the ultimate value-add of a guaranteed lowest price. We think this is a few years away yet, but it is just a matter of time – most of the hyperscalers can recommend best consumption already. AWS’s Trusted Advisor can already recommend when a Reserved Instance is best value, and Microsoft produces documents that suggest the best enterprise agreement or license for a company’s demands. Turning these recommendations into action is a minor step technically but would be a sea change for enterprise consumption – no need to manually tune and tweak buying decisions; the provider would do this on your behalf. Just as consumers consume domestic gas and electricity in a simple pay-as-you-go manner while the vast complexity of energy exchanges, international law and the transmission network are abstracted away, enterprises would have the simple IT utility that cloud has been promising for some time.

But of course, the hyperscalers don’t want to resolve this complexity beyond their four walls. Enterprises will want the right mix of public and private clouds to address different workload requirements. Up steps the third-party cost optimizer, which balances cost with requirements to deliver the ongoing lowest price for a combination of best execution venues. If a single trusted partner can do this automated optimization across multiple and private clouds, then cost becomes less important compared to the realization of value. This is the Brave New World of our transformation journey.