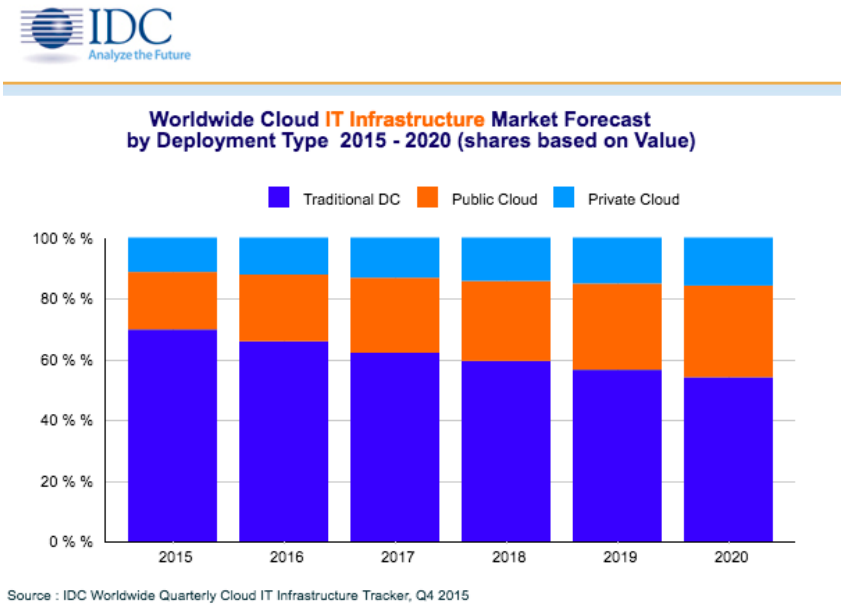
How to Turn Your Cloud into a Rainmaker

Introduction

According to recent IDC research, cloud computing infrastructure will represent almost half of the total expenditure on compute resources by 2020. While its share of the IT budget is growing, spending on physical servers, storage, and networking for traditional and legacy deployments is in decline. IDC predicts investment in cloud infrastructure to grow at an average of 12.5% a year over the next four years. This will take total cloud infrastructure spending to $57.8 billion by 2020, making up nearly half (47.9%) of the total estimated spend on all IT infrastructure.



Balance of IT infrastructure deployments is leaning towards cloud. Source: IDC

The cloud is providing enterprises with substantial business value—by making their operations more efficient and cost-effective, and by better serving their customers with accelerated solution delivery. The potential of the cloud to drive growth is considerable However, can enterprises achieve this just by rehosting their application to the public cloud? And how can private clouds support the IT OPEX model? It's important to understand the value of public as well as private clouds for enterprises. This paper details

the financial opportunities and benefits of the cloud. What's more, it can be used as a guide to cloud adoption and growth decisions.

Calculating the Financial Benefits

In order to make an informative decision on what to migrate to, or create, in the cloud, you should start by making a comparison between running the same workload on-premise with running it in the cloud. When analyzing the financial benefits, you need to consider both IT infrastructure efficiencies and IT workforce productivity.

- ### IT Infrastructure Efficiencies

  According to IDC research, cloud users spend much less than they would to support the same workloads on their own traditional datacenter infrastructure. It also revealed enterprises would have spent on average 63.4% more had they used on-premise datacenter resources or hosting services to handle workloads instead of using their AWS public cloud environments. Public cloud users can leverage both long-term commitments in the form of capacity reservations as well as resources with no SLA, such as AWS Spot instances, to achieve a significant cost reduction per resource.

  In addition, when dealing with CAPEX reduction in a private cloud you should look at software-defined data center solutions such as hyper-converged infrastructure and SDN. These modern private cloud solutions remove traditional silos of resources and provide adaptive rebalancing of workloads which result in an optimal utilization level of commodity resources across the data center. According to research by IDC, savings on the CAPEX side of a private cloud can be 46%, purely because of physical capacity cost savings.

  The cloud enables organizations to limit their CAPEX spending and adopt more OPEX-focused IT models. When dealing with the public cloud, every server or storage volume can be shut down when not needed. And in a private cloud, taking the data center as a whole, you optimize resource utilization which eliminates redundant investment. With the cloud, enterprises can better tie IT infrastructure investments to ongoing business demand for IT services.

- IT Workforce Productivity

Cloud users become more productive with the cloud. The notion of infrastructure as a code is based on the concept that resource provisioning and infrastructure management can be done through scripts running on top of cloud APIs. The result is a significant reduction in the ratio of administrators to servers. If traditionally the common ratio was of the order of a single admin to a few tens of servers, in the world of cloud this can reach one to thousands. In addition, time savings and efficiencies made by enterprise IT teams are driven not only by environment management, but also by fast deployment and agile delivery of services.

Traditionally, IT teams were focused on keeping things afloat whereas today's leaders expect their IT crew to show a flare for innovation. When running on public clouds, hardware deployment and maintenance are obsolete, removing the need for dedicated and costly experts to maintain your physical security or a dedicated NAS device. The cloud allows for a greater level of flexibility, enabling R&D members to redeploy complete application stacks using automated processes quickly and easily. For instance, look at dev/test environment management. Traditionally, the need to build a representative production environment involved not only additional resources which ended up idle (at the time the test was done) but also time taken up by an IT team member to set up a production replica, requiring hours if not days to configure an environment to support developers and QA engineers.

By contrast, through new cloud provisioning mechanisms, IT organizations can use DevOps methodologies to orchestrate resources quickly and easily, without having to manually allocate physical resources and deploy workloads. This can significantly reduce the number of team members required for integration and delivery processes as well as the time needed for each release.

Comparing the TCO

Calculating IT TCO was never a simple task and the cloud doesn't make it any easier. The move between different IT infrastructure types requires understanding the investment in migrating and managing workloads. For example, moving VMware-based workloads to the public cloud may not show any direct benefits when making a calculation based purely on the infrastructure costs. What also needs to be considered is the indirect financial benefits of moving to a new platform, such as powerful new features and services. And, on the other side of the coin, whether the cost of migration can justify these benefits.

In 2015, we ran our own TCO analysis and found running a typical three-tier web application might be more economical using an on-premise VMware environment. However, in your own specific case, you might find moving to AWS offers great benefits. Comparing on-premise with the public cloud is like comparing apples with oranges, despite their similarities.

You may be able to relate to the example above if your user demand and stack configuration are relatively static, in which case there is no need to invest in extending your on-premises environment. However, if these are dynamic and your online service needs can scale according to demand, you can efficiently, horizontally scale using the public cloud

To take the next step in determining your TCO, use each cloud vendor's TCO calculator. In our analysis above, you'd use the VMware TCO Comparison Calculator and the AWS TCO calculator. Next take sample workloads you'd consider as independent, such as your company website, in order to run a technical POC. This step is important to make sure the financial aspects are "piloted" in order to learn how much it'll cost you to run your specific workloads on the cloud.

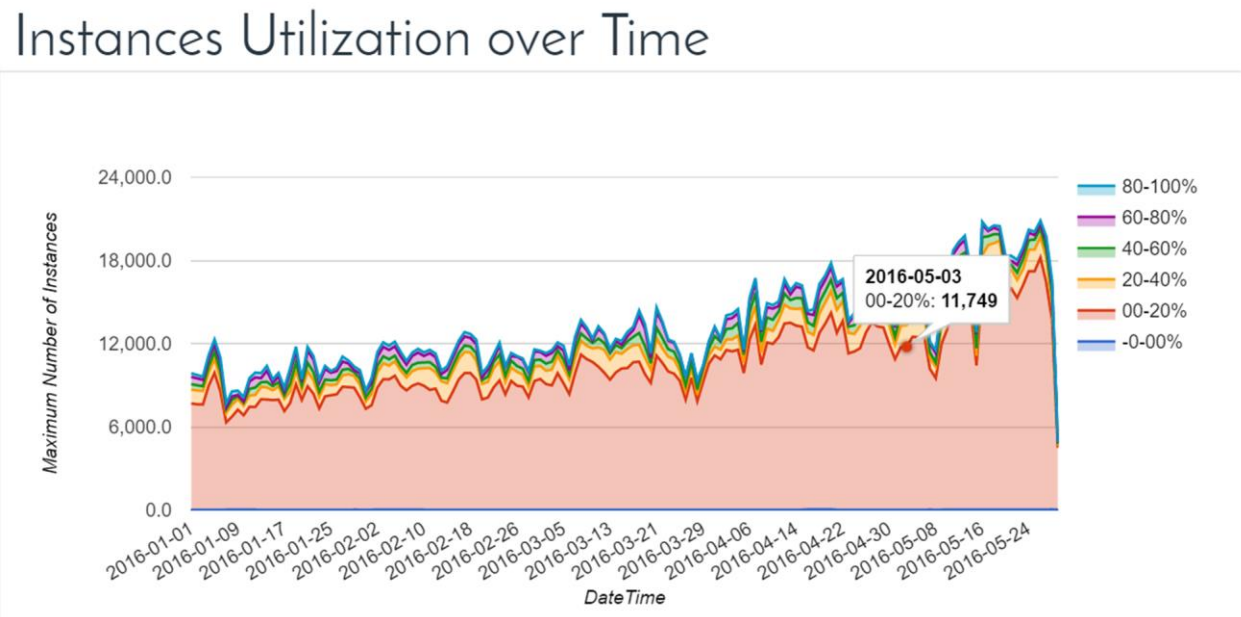
Getting Maximum Return on Investment

There are a number of ways to keep costs down and maximize return on your investment in the cloud. But it's important to balance savings in comparison with the on-premise option with the need to maintain a healthy and efficient cloud environment.

In order to really make your cloud rain, make sure you implement the following five steps:

1. Mitigate cloud sprawl

Because the cloud makes it so easy to order computer services on demand, monthly cloud costs across your organization can quickly spiral out of control. So your number one challenge is to implement the transparency and control you need to take immediate action such as shutting down unused capacity, and scaling down low utilization resources.



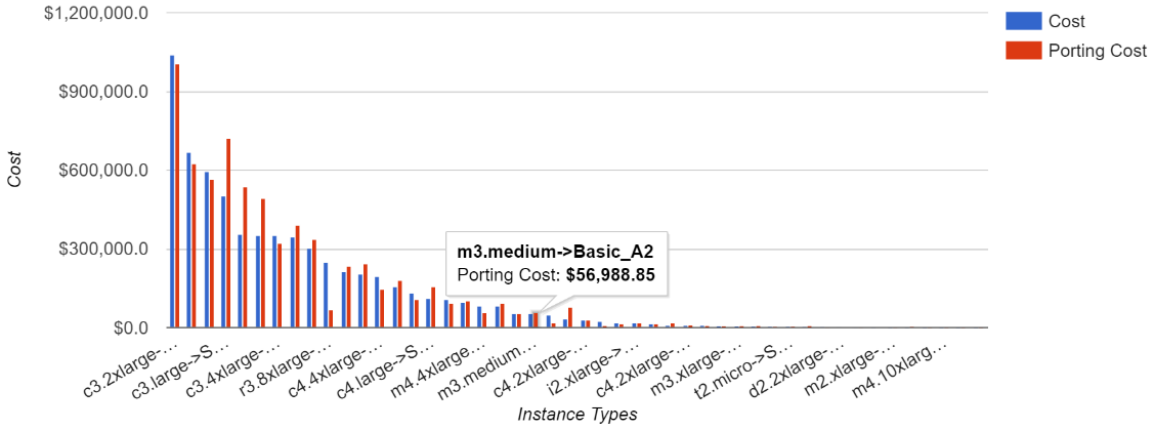
Majority of deployments, as in the above image, are heavily underutilized. The vast majority of instances are running on 0% – 20% CPU utilization

2. Maintain a healthy balance between cost and performance

Make sure you have a clear and transparent link between a resource and its purpose. Continually analyze the usage and utilization of your resources to make sure they're not under-provisioned and can potentially harm your system performance, as well as not running in low utilization.

3. Switch between clouds fast

To take full advantage of the range of various cloud offerings, ideally you should look to a multi-cloud environment approach. That way, you can avoid the common pitfalls of vendor lock-in and have the flexibility to switch between platforms as operational and financial requirements dictate.



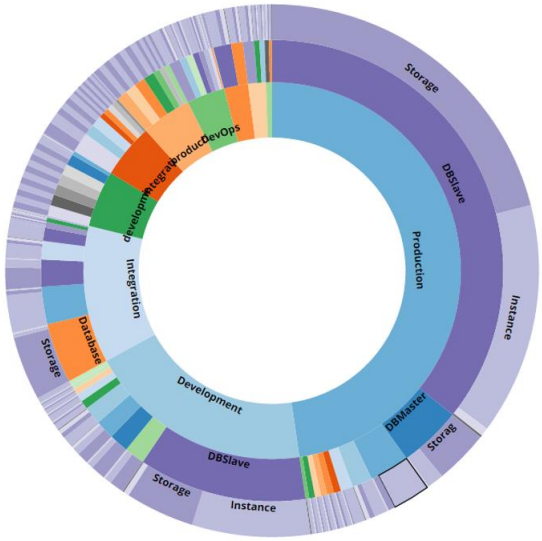
Comparing your deployment on different cloud platforms

4. Make cost and usage projections

In the rapidly changing world of the cloud, you should keep your finger on your financial pulse. Continuous analysis of historical usage, correlated with strategic business targets, will help you see future trends. Implement systems that help you balance capacity with current demand and that can provide forecasts, at least three months ahead.

5. Allocate costs

Every cloud platform today allows users to tag resources. In order to allocate costs, first make sure you implement your own resource tagging policy. Once you have a clear and transparent link between groups of resources and their purpose (such as a specific application or business unit) you'll be able, for example, to maintain fair and accurate chargeback processes and make business owners accountable.



Summary: The Fast Pace of IT Change

Business processes are quickly made obsolete by technology that evolves with continuous improvement. As a result, a business that fails to take advantage of technological innovation can struggle to maintain its competitive edge. But, by benefitting from what the cloud has to offer, a business can increase agility while reducing cost and risk at the same time.

Today's CEO faces the complex task of digitally transforming the entire organization, and the pace of change is greater than ever. However, private cloud maturity, the arrival of public infrastructure as a service (IaaS) and increased automation is helping corporations make the successful transition. Without the headaches of the traditional procurement process, they can keep up with the rapid pace of IT innovation.

COMPANY OVERVIEW

Founded in 2011, Cloudyn is the leader in cloud monitoring and optimization. The company's industry award-winning SaaS solution delivers unprecedented insights into usage, performance, and cost, coupled with custom prescriptive actions for enhancing performance and reducing cloud spend .With more than 10,000,000 virtual instances monitored Cloudyn helps businesses select the right mix of cloud vendors, increase operational performance, reduce cloud costs to bring them under optimum control, and capitalize on customer choice. More than 2,400 customers use Cloudyn's technology worldwide including F500 industry leaders in aerospace, infrastructure, consumer online travel services, IT management consulting, and manufacturing . For more information, interested parties may visit **www.cloudyn.com.**