

AWS Cloud Economics



Most likely, your organization is not in the business of running data centers, yet a significant amount of time and money is spent doing just that.

What if you could

- Eliminate the undifferentiated heavy lifting
- Reduce costs
- Have access to unlimited IT resources
- Have complete control over your costs

Amazon Web Services provides on-demand delivery of compute power, database, storage, applications, and other IT services, so you only pay for what you consume. This puts more money back into the business, so that you can innovate more, expand faster, and be better positioned to take advantage of new opportunities.

Can you imagine the Possibilities?

- Foster a culture of innovation
- Re-invest in your business
- Spin up 100,000 core super computer for US\$100 per hour
- Align your costs to business needs



Benefits of Cloud Computing

○ Cost Savings

- Ability to match supply and demand, improving utilization
- Elastic cost base driven by usage patterns
- Elimination of hardware refresh and maintenance programs

○ Staff Productivity

- Automation drives maintenance efficiencies
- Elimination of hardware related tasks
- Increased developer productivity

○ Operational Resilience

- Reduced cost of planned and unplanned outages
- Reduced risk profile or cost of risk mitigation
- Improved service level agreement

○ Business Agility

- Reduced time to market
- Increased operational agility (new market penetration, divestiture, acquisition)
- Reduced cost and increased pace of innovation

2018 IDC White Paper, sponsored by Amazon Web Services, indicates that AWS customers achieve important financial benefits that help increase growth, improve business and IT agility, and realize important long-term cost reductions.*

Optimizing Cost of Providing IT Services and AWS Value

62%

More efficient IT
infrastructure staff

51%

Lower 5-year
cost of operations

6

months
To payback

Improved IT and Business Agility

3x ^{nearly}

More new
features
delivered

25%

More productive
application
development teams

90%

Less staff time
to deploy
new storage

Business Operations Impact

94%

Less time lost
to unplanned
downtime

\$36.5_M

Additional revenue
per year per
organization

14%

Average higher
productivity, for 2,808
users per organization

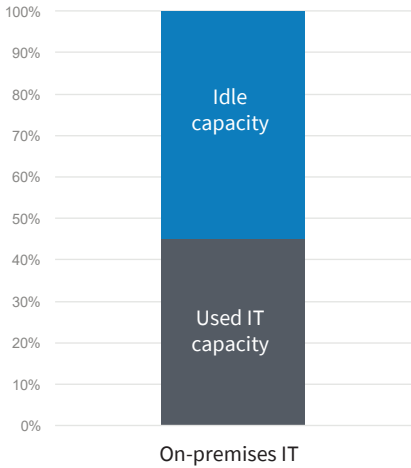
*IDC White Paper, sponsored by Amazon Web Services title "Fostering Business and Organizational Transformation to Generate Business Value with Amazon Web Services". Published February 2018

What is Total Cost of Ownership (TCO)?

Comparative total cost of ownership analysis (acquisition and operating costs) for running an infrastructure environment end-to-end on-premises or in a co-location facility versus AWS. TCO analysis is used by our customers in comparing the costs of running an entire infrastructure environment or specific workload on premises or in a co-location facility versus on AWS and in paralleling an existing AWS workload with an on premises or co-location setup.



Compute capacity



A 2017 Study by IDC stated that typical data centers are 45% utilized.*

This is measured in terms of the amount of idle compute hours and unused storage capacity for provisioned components.

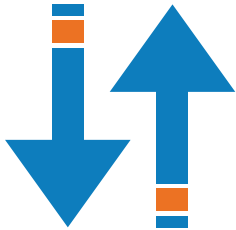
Why comparing TCO is not easy!

Server costs	Hardware – Server, Rack Chassis PDUs, ToR Switches (+Maintenance)	Software - OS, Virtualization Licenses (+Maintenance)	Facilities Cost			Business Value: Cost of delays Risk premium Competitive abilities Governance Etc.
			Space	Power	Cooling	
Storage costs	Hardware – Storage Disks, SAN/FC Switches	Software - Backup	Facilities Cost			
			Space	Power	Cooling	
Network costs	Network Hardware – LAN Switches, Load Balancer Bandwidth costs	Software – Network Monitoring	Facilities Cost			
			Space	Power	Cooling	
IT labor costs	Server Admin, Virtualization Admin, Storage Admin, Network Admin, Support Team					
Extras	Project planning, Advisors, Legal, Contractors, Managed Services, Training, Cost of capital					

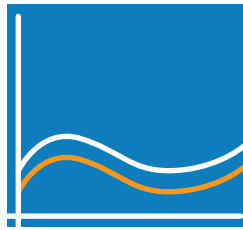
*IDC White Paper, sponsored by Hewlett Packard Enterprise, Quantifying Datacenter Inefficiency: Making the Case for Composable Infrastructure, Published March 2017

How should you calculate your TCO?

What levers are available to drive down costs?



Matching supply and demand
Right-sizing



Matching supply and demand
Elasticity



Lowering unit price
Reserved and spot instance

AWS TCO methodology

Factoring on-premises or co-location cost that would include:

	On-premises / Co-location	AWS
Server / Compute	Purchase cost + annual maintenance fee	EC2
Storage	Purchase software and hardware + annual maintenance fee	EBS/S3/Glacier
Networking	Purchase + annual maintenance	Direct connect + data transfer
Software	OS + Virtualization solution - licensing + support	Not required / included in EC2
Application	Application licensing and support	Application licensing and support
Management	Manpower + managed services	Manpower + managed services

AWS customers who lowered their TCO

News Corp

“Three years on, we’ve saved over \$100 million in avoided capital and are about 65% in the cloud.”

- Dominic Shine, CIO News Corp

Read more: <http://bit.ly/awsnewscorp>

“We’ve been able to seamlessly scale our infrastructure, better serve our customers across the globe, & reduce our fixed costs by 75% & operational costs by 83%.”

- Valentino Volonghi, CTO, AdRoll

Read More: <http://bit.ly/awsadroll>

AdRoll



GE Oil & Gas

We’ve realized a 52 percent reduction in TCO. That stems from a number of factors... [a push for self-service, dynamic storage, using lower cost VMs] Ultimately these savings are a byproduct of doing the right thing.

- Ben Cabanas, CTO, GE Transportation

Read more: <http://bit.ly/awsgetco>

Continually lowering prices for customers is in our DNA

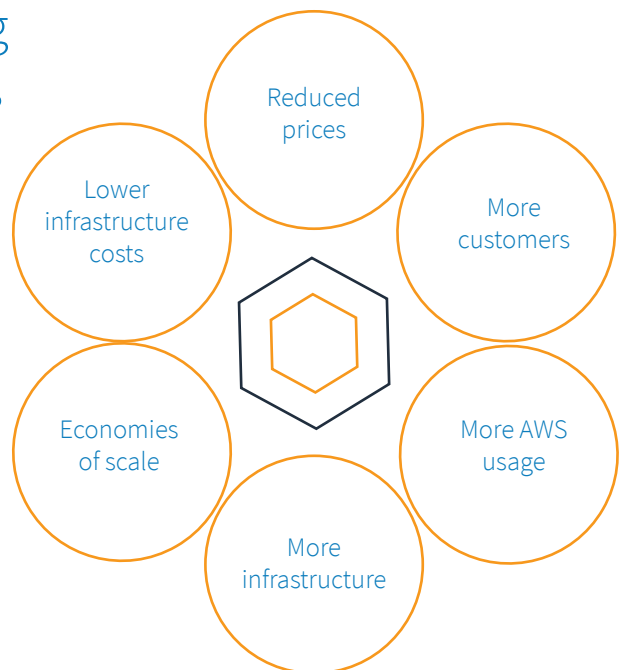
Infrastructure innovation

Ecosystem

Global footprint

New features

New services



We continue to find ways to provide better value, and deliver price reductions to customers.

Cloud Value Framework



Cost Savings (TCO)

Infrastructure cost savings/avoidance from moving to the cloud

50%+ reduction in TCO (GE)



Staff Productivity

Efficiency improvement by function on a task-by-task basis

Over 500 hours per year of server configuration time saved (Sage)



Operational Resilience

Benefit of improving SLAs and reducing unplanned outages

Critical workloads run in multiple AZs and Regions for robust DR (Expedia)



Business Agility

Deploying new features/apps faster and reducing errors

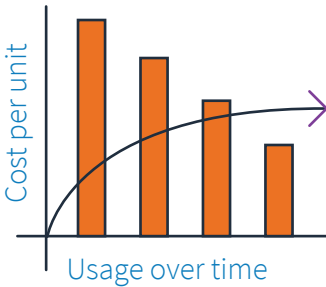
Launch of new products 75% faster (Unilever)

Typical Focus

Most Compelling Cloud Benefits

What is it?

Examples



Cost optimization— moving from “pay for what you use” to “pay for what you need”

5

Pillars of cost optimization



Right-sizing your instances



Increase elasticity



Pick the right pricing model



Match storage type to need



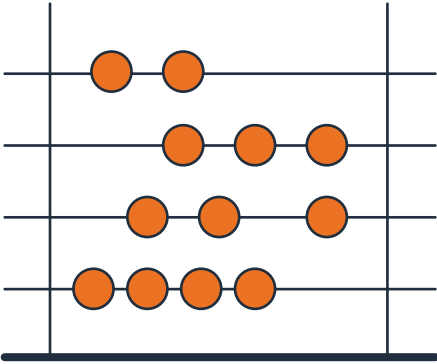
Designing for cost



Mechanisms for optimisation



Try AWS Total Cost of Ownership (TCO) Calculator



Use AWS Total Cost of Ownership (TCO) Calculator to compare the cost of running your applications in an on-premises or colocation environment to AWS. Describe your on-premises or colocation configuration to produce a detailed cost comparison with AWS. You can switch between the basic and advanced views to provide additional configuration details.

Visit: <https://awstcocalculator.com/>

Other useful resources



Optimizing Costs as You Scale on AWS
<https://youtu.be/iOWNZqG0RN4>



Cost Optimising Your Architecture:
Practical Design Steps For Savings.
http://bit.ly/co17_video2



Driving AWS Cost Efficiency at
Your Company
<https://youtu.be/D3uRBcb81uE>



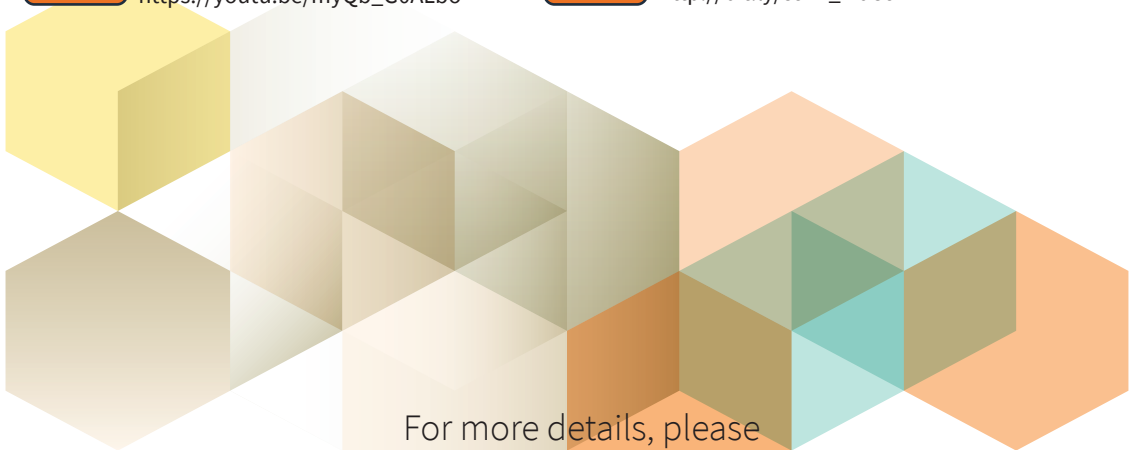
Cost Optimization at Scale
<https://youtu.be/JA64Eeucw0k>



Achieving Your Cloud Efficiency Goals
with Metric-Driven Cost Op
https://youtu.be/myQb_G0ALbo



Efficient Innovation: High-Velocity Cost
Management at Netflix
http://bit.ly/co17_video4



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