
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

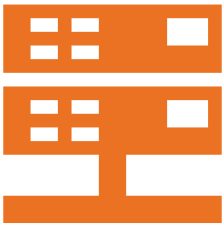
$36.5M
Additional revenue per year per organization

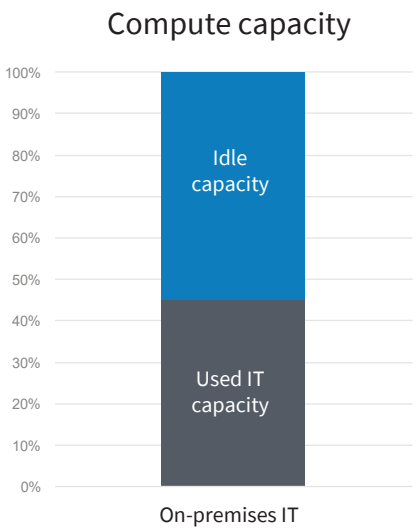
14%
Average higher productivity, for 2,808 users per organization

*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.





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.

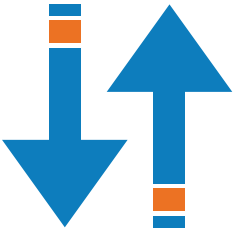
Why comparing TCO is not easy!

Server costs	Hardware – Server, Rack Chassis PDUs, ToR Switches (+Maintenance)	Software - OS, Virtualization Licenses (+Maintenance)	**Facilities Cost**: Space, Power, Cooling	**Business Value:** Cost of delays, Risk premium, Competitive abilities, Governance, Etc.
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			

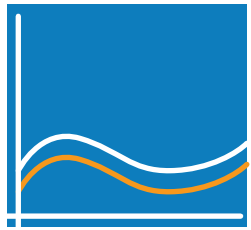
*IDC White Paper, sponsored by Hewlett Packard Enterprise, Quantifying Datacenter Inefficiency: Making the Case for Composable Infrastructure, Published March 2017

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

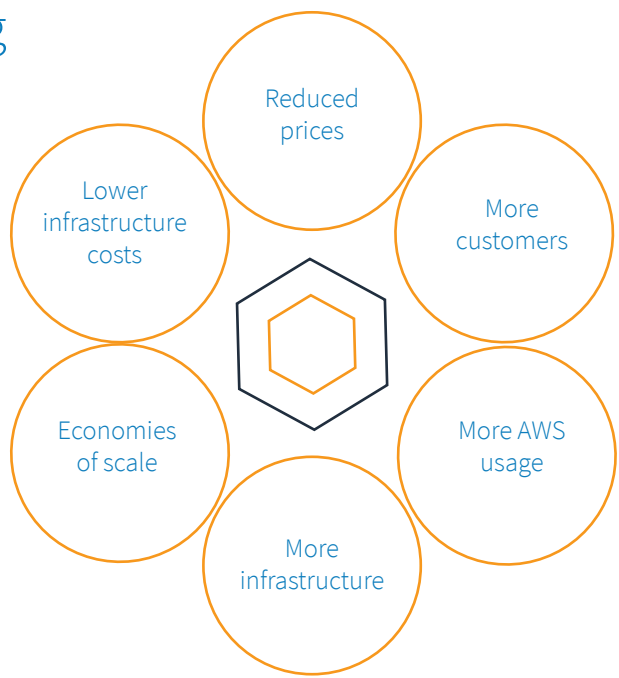
Ecosystem

Global footprint

New features

New services

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

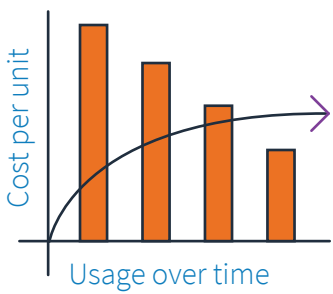


Cloud Value Framework

	Cost Savings (TCO)	Staff Productivity	Operational Resilience	Business Agility
What is it?	Infrastructure cost savings/avoidance from moving to the cloud	Efficiency improvement by function on a task-by-task basis	Benefit of improving SLAs and reducing unplanned outages	Deploying new features/apps faster and reducing errors
Examples	50%+ reduction in TCO (GE)	Over 500 hours per year of server configuration time saved (Sage)	Critical workloads run in multiple AZs and Regions for robust DR (Expedia)	Launch of new products 75% faster (Unilever)

Typical Focus

Most Compelling Cloud Benefits

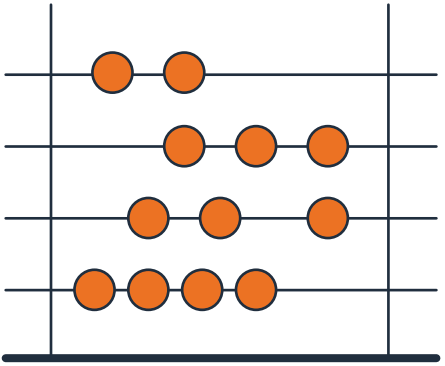


Cost optimization– moving from "pay for what you use" to "pay for what you need"

5 Pillars of cost optimization

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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