AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

ENT213-R2

CLOUD ECONOMICS

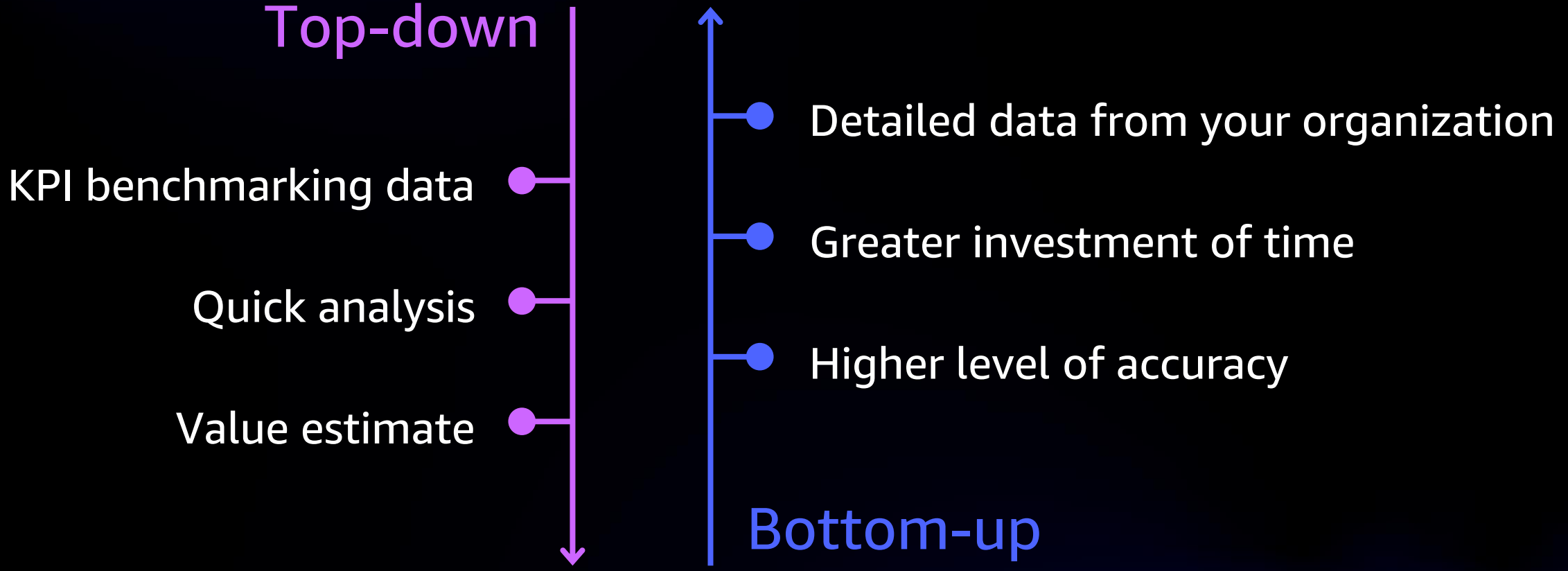
Quantify and maximize your cloud business value

Michael Chu
Head of Value Benchmarking,
Cloud Economics
AWS

Justin Racklin
Sr Business Development Manager,
Cloud Economics
AWS

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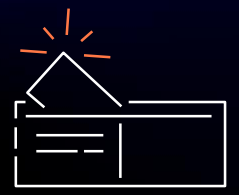
Two approaches for cloud value analysis



aws

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Cloud value framework and benchmarking



Cost savings (TCO)

Infrastructure cost savings/avoidance from moving to the cloud

Example:

50%+ reduction in TCO (GE)

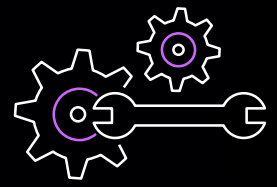


Staff productivity

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

Example:

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

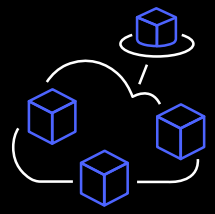


Operational resilience

Benefit of improving SLAs and reducing unplanned outage

Example:

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



Business agility

Deploying new features/ applications faster and reducing errors

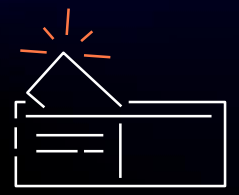
Example:

Launch of new products 75% faster (Unilever)

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Cloud value framework and benchmarking



Cost savings (TCO)

KPI

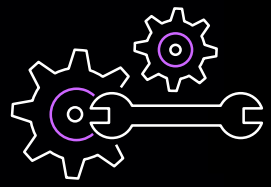
- IT infrastructure spend per user
- IT infrastructure spend as a % of IT spend



Staff productivity

KPI

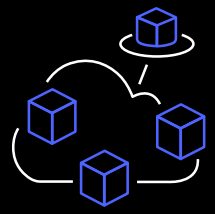
- VMs managed per admin
- TBs managed per admin



Operational resilience

KPI

- Application availability
- Total monthly or critical (P1/P0) incidents
- Security incidents
- Mean-time-to-resolution (MTTR)



Business agility

KPI

- Time to market
- Time to deploy
- Code deployment frequency
- Customer satisfaction
- Employee satisfaction

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“Benchmarking is the practice of being humble enough to admit that someone else is better at something, and being wise enough to learn how to match them and even surpass them at it.”

APQC, 1993 philosophical definition

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Cloud value framework

COST SAVINGS



Cost savings (TCO)

What is it?

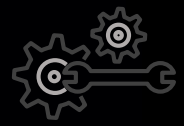
Infrastructure cost savings or avoidance from moving to the cloud



Staff productivity

What is it?

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



Operational resilience

What is it?

Benefit of improving SLAs and reducing unplanned outage



Business agility

What is it?

Deploying new features or applications faster and reducing errors

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Cost savings

Illustrative

TOTAL COST METHODOLOGY

1	Server costs	Hardware: Server, rack chassis PDUs, ToR switches (+maintenance)	Software: OS, virtualization licenses (+maintenance)	**Facilities cost**: Space, Power, Cooling
2	Storage costs	Hardware: Storage disks, SAN/FC switches	Storage software costs (+maintenance)	**Facilities cost**: Space, Power, Cooling
3	Network costs	Network hardware: LAN switches, load balancer	Recurring ISP/ bandwidth costs	**Facilities cost**: Space, Power, Cooling

Diagram doesn't include every cost item; for example, software costs can include database, management, and middle-tier software costs; facilities costs can include costs associated with upgrades, maintenance, building security, taxes, and other items

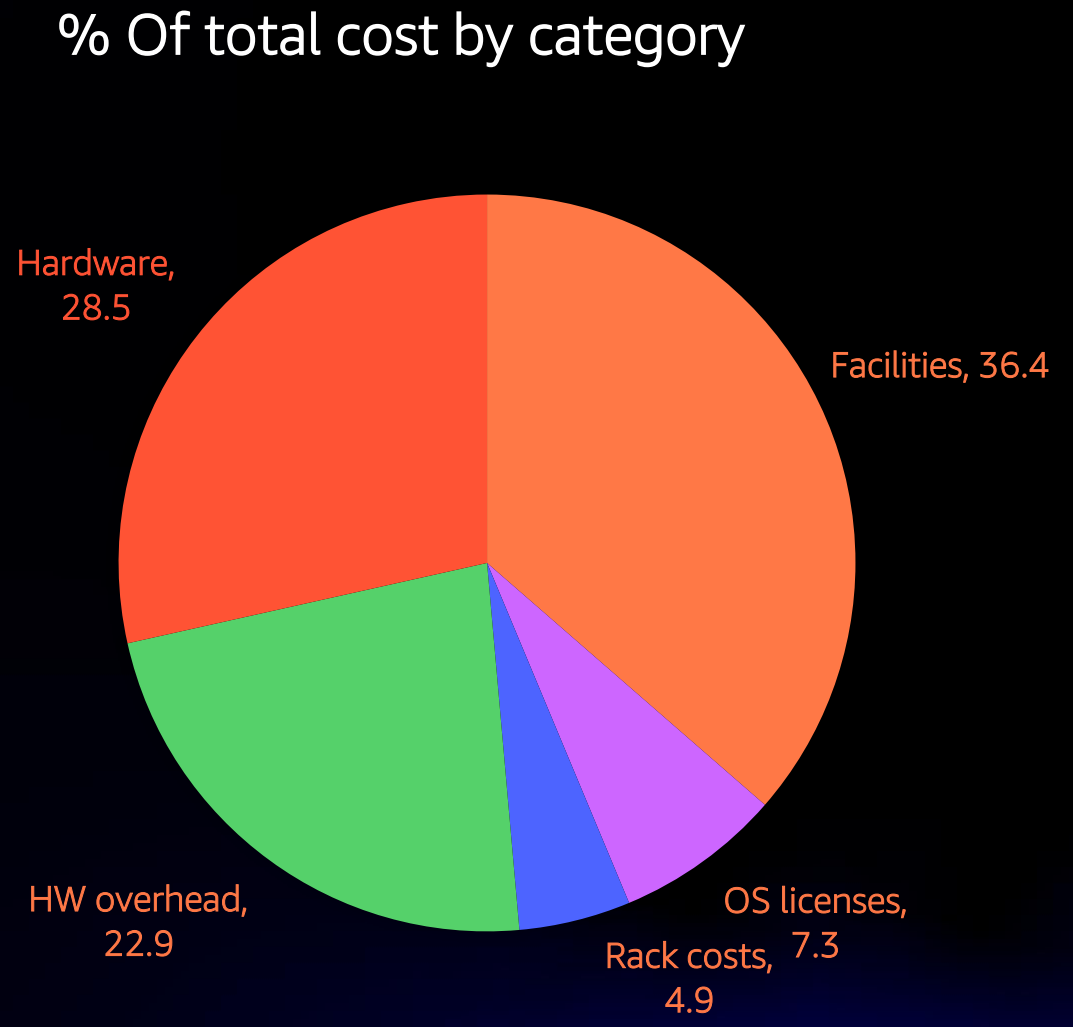
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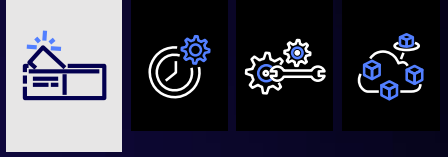
Cost savings

THE COST OF A SERVER IS JUST THE BEGINNING

For an individual server, the 5-year total cost of ownership is 3.5x the cost of the hardware purchased



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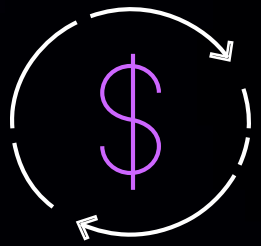
Cost savings: Example

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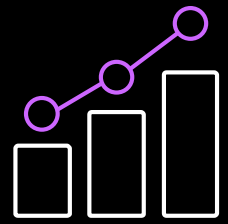
Lower TCO with Graviton2-powered instances



Highest performance in their instance families



20% lower cost versus same-sized comparable instances



Up to 40% better price/performance versus comparable instances

Best price performance within their instance families

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Cost savings

AWS BENCHMARKING INSIGHTS

AWS reduces costs



19.0%

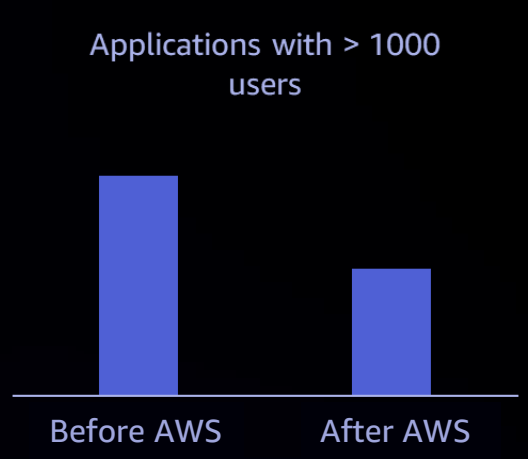
Reduction in overall IT infra spend



27.4%

Reduction in overall spend per user

Cost savings grows with scale



42.4%

Reduction in overall spend per user



12.3%

Lower overall spend per user versus multi-cloud customer

Source: AWS Cloud Economics Benchmarking

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Cloud value framework

STAFF PRODUCTIVITY



Cost savings (TCO)

What is it?

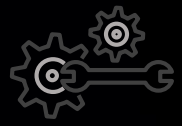
Infrastructure cost savings or avoidance from moving to the cloud



Staff productivity

What is it?

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



Operational resilience

What is it?

Benefit of improving SLAs and reducing unplanned outage



Business agility

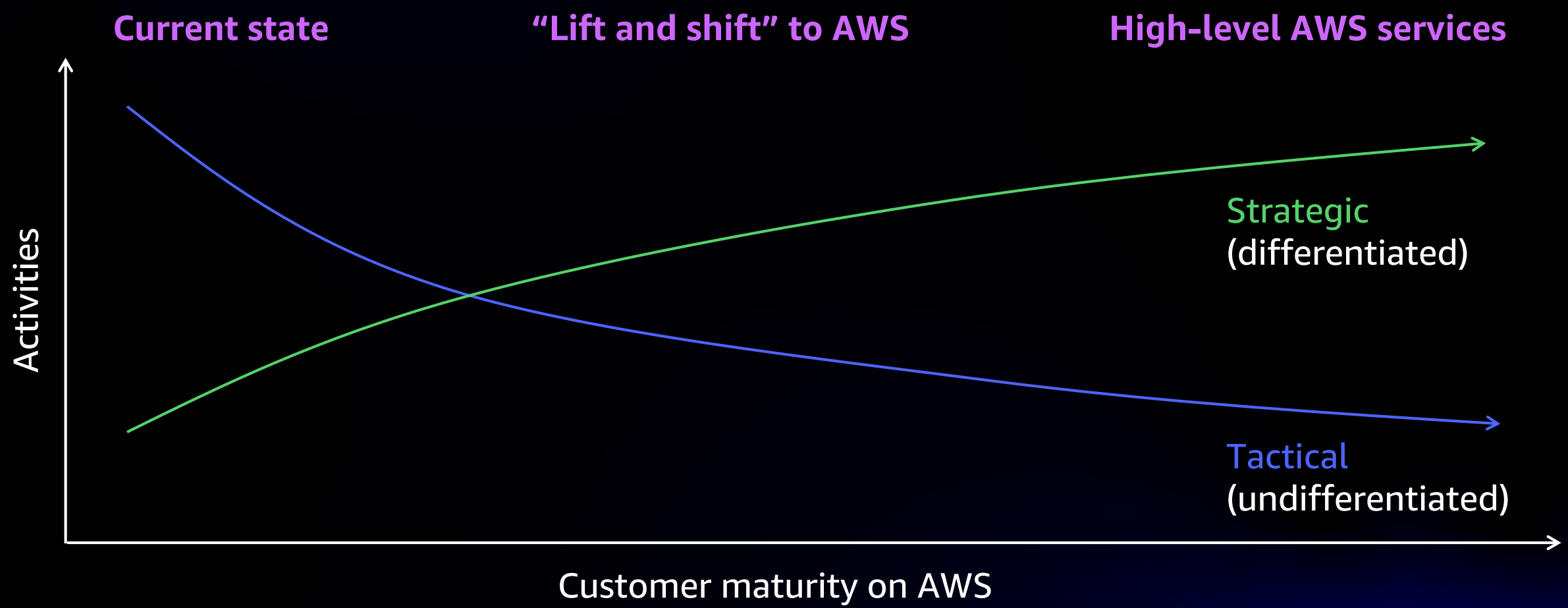
What is it?

Deploying new features or applications faster and reducing errors

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Staff productivity

FOCUS ON VALUE-ADDED WORK



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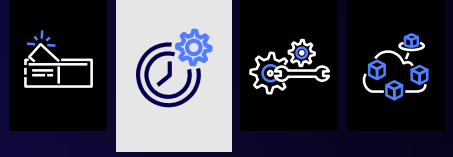
Staff productivity

Illustrative

EXAMPLE

Serve administrative tasks	Typical reduction
Server budgeting and planning	90%
Server purchasing process	75%
Long-term capacity planning	75%
Project budgeting and planning	75%
Prepare detailed implementation plans	75%
Arrange repair for hardware in event of failure	100%
Installing, upgrading and removing software	50%

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Staff productivity: Example

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Staff productivity

AWS BENCHMARKING INSIGHTS

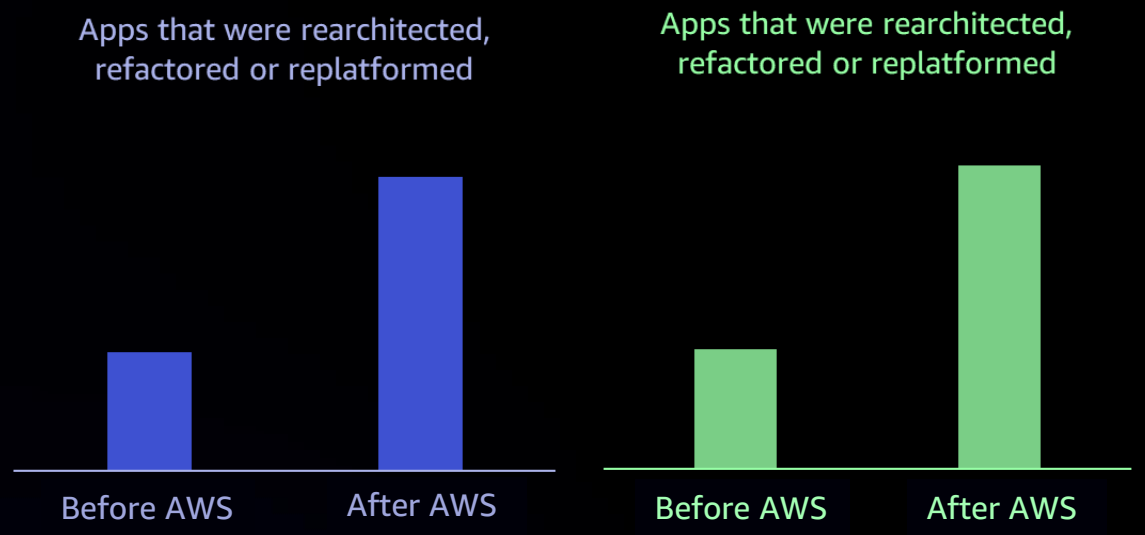
Cloud improves efficiency



57.9%
Increase in VM managed per admin

67.7%
Increase in TB managed per admin

Larger gains for re-architected applications



147.7%
Increase in VM managed per admin

153.5%
Increase in TB managed per admin

Source: AWS Cloud Economics Benchmarking

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Cloud value framework

OPERATIONAL RESILIENCE



Cost savings (TCO)

What is it?

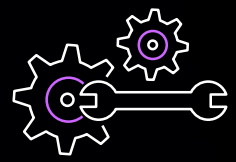
Infrastructure cost savings or avoidance from moving to the cloud



Staff productivity

What is it?

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



Operational resilience

What is it?

Benefit of improving security, SLAs, and reducing unplanned outage



Business agility

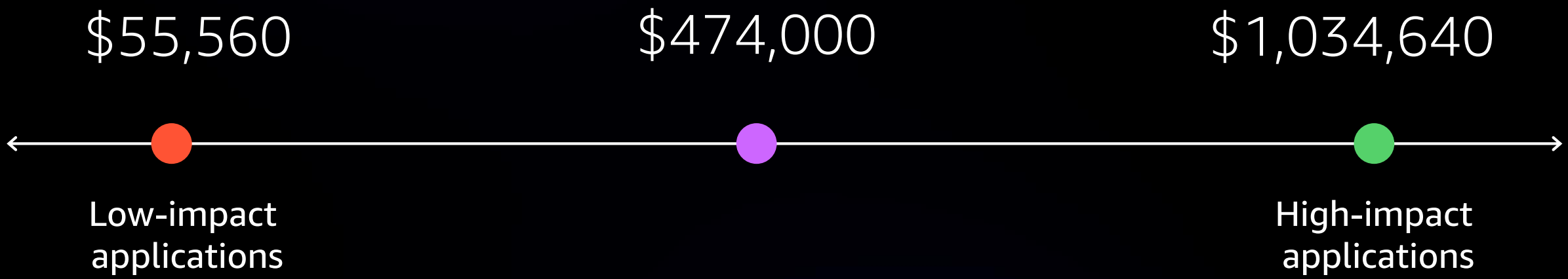
What is it?

Deploying new features or applications faster and reducing errors

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Operational resilience

DOWNTIME COSTS



Source: Ponemon Institute

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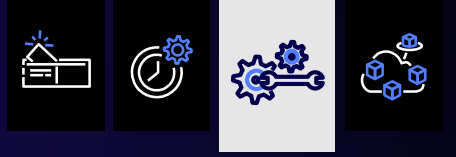
Operational resilience

CATEGORIES OF DOWNTIME COST

Cost category	% of total
Third party	1.3%
Equipment	1.3%
Ex-post activities	1.1%
Recovery	2.9%
Detection	3.6%
IT productivity	8.4%
End-user productivity	18.7%
Lost revenue	28.2
Business disruption	34.6%
Total	**100%**

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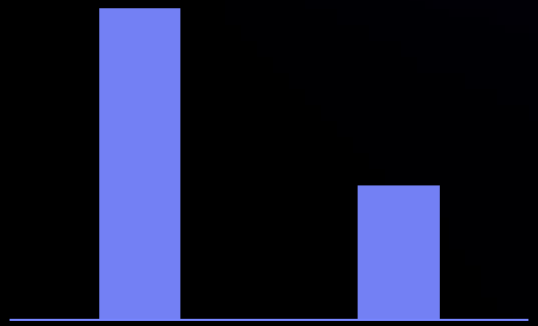
Operational resilience: Example

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Operational resilience

AWS BENCHMARKING INSIGHTS

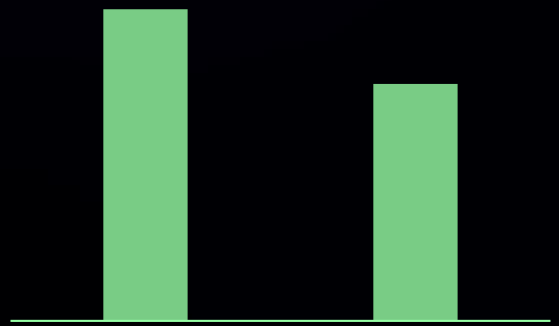
All customers



56.7%

Decrease in downtime

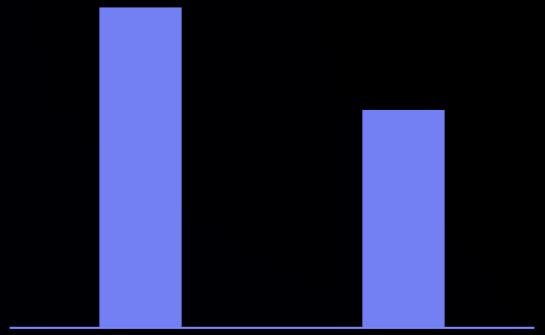
All customers



24.1%

Decrease in total monthly incidents

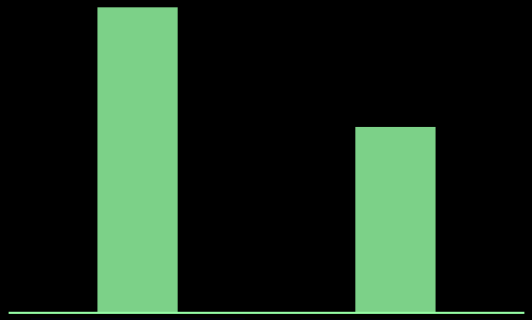
All customers



31.8%

Decrease in critical (P1/P0) incidents

All customers



39.3%

Decrease in mean time to resolution (MTTR)

Source: AWS Cloud Economics Benchmarking

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Cloud value framework

STAFF PRODUCTIVITY



Cost savings (TCO)

What is it?

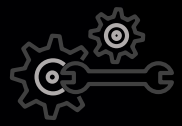
Infrastructure cost savings or avoidance from moving to the cloud



Staff productivity

What is it?

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



Operational resilience

What is it?

Benefit of improving SLAs and reducing unplanned outage



Business agility

What is it?

Deploying new features or applications faster and reducing errors

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Business agility

INNOVATE FASTER WHILE REDUCING FAILURE COSTS

Traditional software delivery lifecycle and average % of time spent at each step*

Requirements and analysis	22%
Design	15%
Build	23%
Integration and test	17%
Deploy	12%
Maintain	11%

*Meta Group/Gartner research

Cloud benefits

Simplify requirement design

Increase speed of build and tests
Lower costs

Eliminate deployment “wait time”
Reduce maintenance cost and simplify operations

aws

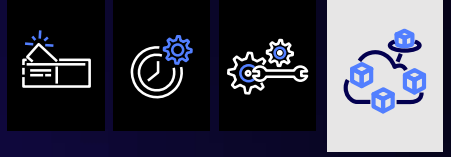
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Business agility

TRACK AND MEASURE KPIs

KPI	
New applications launched per year	Features per release
Time to market	Customer retention (%)
Time to provision (days)	Adoption of new features (%)
Deployment frequency (#/year)	“Value” per release ($ revenue)
Time to deploy to production (weeks)	Employee retention (%)
Total # of incidents/defects	Employee NPS/satisfaction
Percentage of total defects found in test	Customer NPS/satisfaction

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Business agility:
Example

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Business agility

AWS BENCHMARKING INSIGHTS

All customers



37.7%

Decrease in time to market for new features/applications

All customers



39.3%

Decrease in time to deploy to production

All customers



341.5%

Increase in code deployment frequency

Source: AWS Cloud Economics Benchmarking

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Discovery: Linear playout

VALUE REALIZATION CASE STUDY

Profile

220 Countries	1,000 EC2 instances	15 Petabytes content	2016 Migration to AWS

The benefits



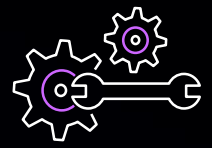
Cost savings (TCO)

- 61% reduction in infrastructure Total Cost of Ownership (TCO)
- 92% decrease in on-premises server footprint (130 to 10)
- Avoided new facility leases in London, UK



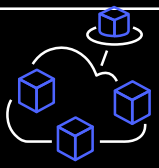
Staff productivity

- 13x improvement in staff productivity
- 40–60 channels monitored by an individual versus 3 channels on-premises
- 30% increase in engineers' time focusing on innovation



Operational resilience

- 99.999% uptime today versus 99.9% on-premises
- Multi-region model of redundancy
- No disruption to customer experience while upgrades and maintenance were deployed automatically



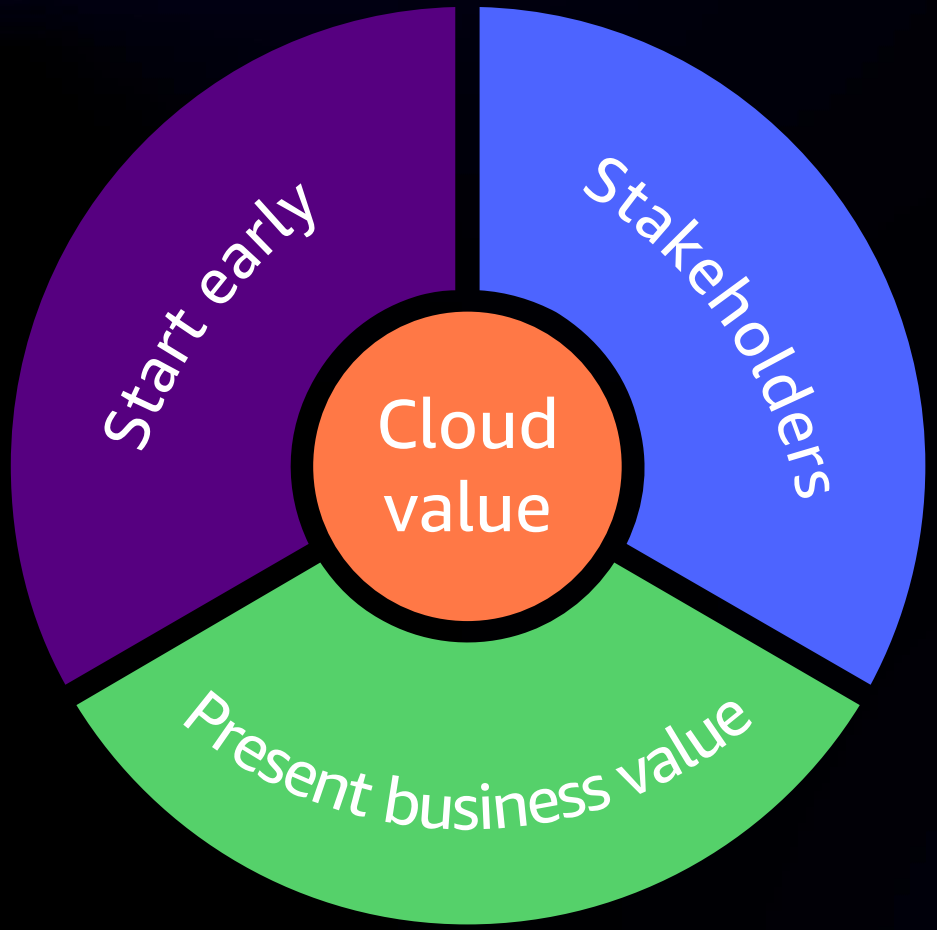
Business agility

- 50% faster time to market for new service launch
- 5 months to integrate Scripps Networks Interactive after acquisition deal closed
- Seamlessly stood up a parallel configuration and switched over from UK to Amsterdam following Brexit

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Best practices for communicating cloud value



Start the business case process **early in the decision-making process**

Involve the **right stakeholders** (Finance, Procurement, IT, Engineering, Business) and build the case in multiple iterations

Assign value to hard areas to quantify, like business agility; present the overall value, not just TCO

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Before you go

RESOURCES TO LEARN, CONNECT, AND ROLL UP YOUR SLEEVES

Connect!

Peer Connect

aws.amazon.com/aws-cost-management/cfm-peer-connect/

CFM Kiosk

Expo Hall

CFM Blog

https://aws.amazon.com/blogs/aws-cloud-financial-management/

Learn !

Cost control and governance at scale

[COP203] Monday, November 29 @ 6:15 pm

Build your own customizable cost reporting dashboards

[COP311] Tuesday, November 30 @ 11:45 am (Workshop)

Unit metrics in practice

[ENT216] Tuesday, November 30 @ 3:30 pm

Strategic IT planning and evaluation

[ENT214] Wednesday, December 1 @ 7:00 pm

8 Ways to control and manage AWS costs

[COP204] Friday, December 3 @ 8:30 am

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Appendix

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Resources

Cloud Economics homepage

https://aws.amazon.com/economics/

Value realization case studies

TrueBlue (https://pages.awscloud.com/rs/112-TZM-766/images/AWS-CVF_ValueRealization_TrueBlue_DesignedWhitepaper_082421.pdf)
Discovery (https://pages.awscloud.com/rs/112-TZM-766/images/Discovery%20Linear%20Playout%20Value%20Realization%20Study.pdf)
Live Nation (https://aws.amazon.com/executive-insights/content/how-live-nation-realized-business-value-with-aws/)

Value Benchmarking Whitepaper

https://pages.awscloud.com/CVFWhitepaper_eBook.html

Cloud Economics Business Case Support

Contact your AWS account representative

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TrueBlue

VALUE REALIZATION CASE STUDY

Profile

Provider of specialized workforce solutions

490,000 people connected to work

2018 migration to AWS

100% of US-based mission critical apps on AWS

The benefits



Cost savings (TCO)

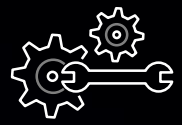
- 15% reduction in annual IT costs
- 95% savings in creating a new automated call center solution
- 30% reduction in hardware and database costs
- $5M savings reinvested in new product development

AWS Cloud Economics



Staff productivity

- 40% improvement in IT staff productivity
- 10x increase in software changes deployed with the same number of developers
- 50% less time to develop a new customer quoting engine
- 50% faster response time for frontline employees



Operational resilience

- 40% reduction in cyber-attack surface area
- $300K eliminated in disaster recovery support costs
- Faster security approval (1 day versus weeks)
- Improved availability with multiple Availability Zones



Business agility

- 119x more new software features deployed
- Days versus months to build new analytics platform
- 15 minutes ETL process versus 12 hours previously
- 4–6 weeks faster to create machine-learning models

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Thank you!

Michael Chu
micchu@amazon.com

Justin Racklin
racklin@amazon.com



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