
AWS
re:Invent

ENT214

Identifying and realizing the business value of AWS

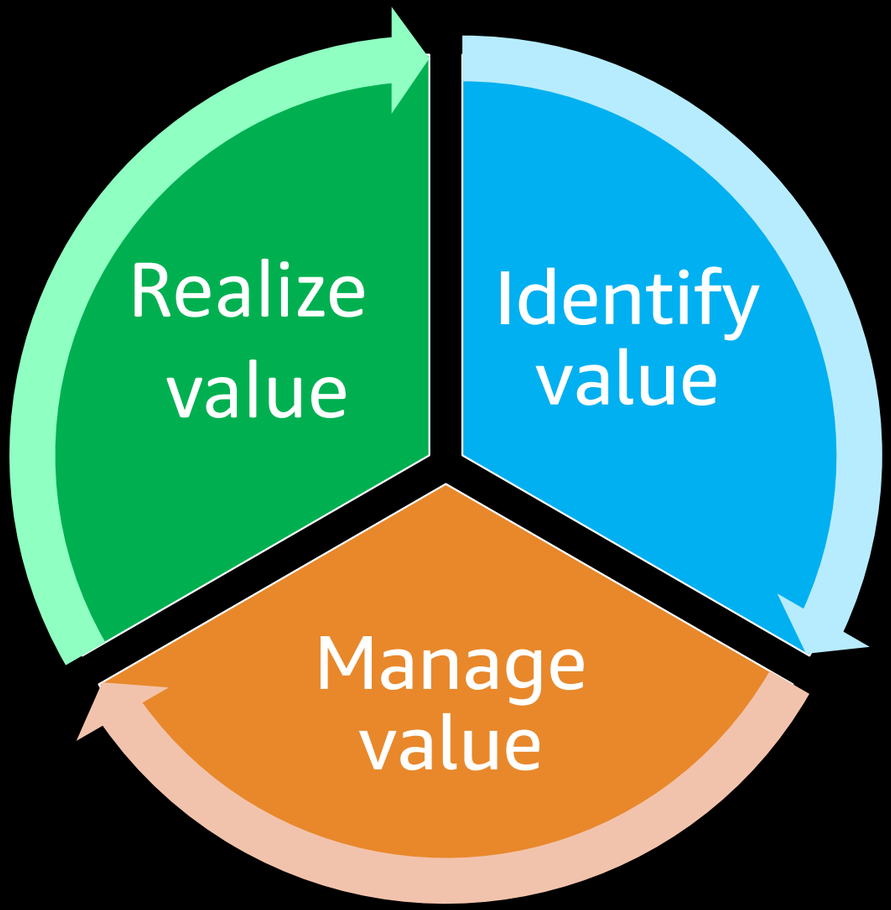
Jim Robertson

Business Development Manager, Cloud Economics
AWS

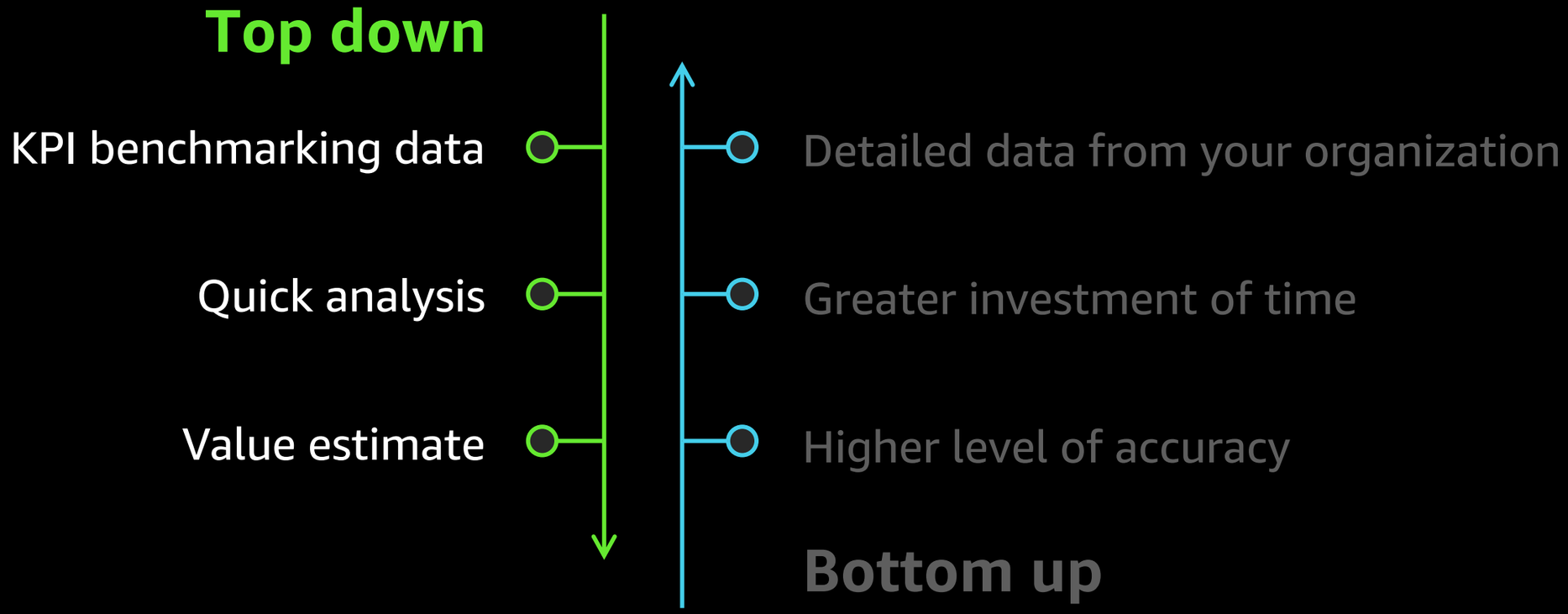
AWS re:Invent

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Identifying and realizing business value with AWS services



2 main approaches to identifying business value



Cloud value framework and benchmarking



Cost savings (TCO)

Infrastructure cost savings or avoidance from moving to the cloud

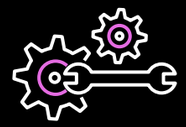
Example: 50%+ reduction in TCO (GE)



Staff productivity

Improve efficiency by function on a task-by-task basis

Example: 500+ hours per year of server configuration time saved (Sage)



Operational resilience

Improve SLAs and reduce unplanned outages

Example: Critical workloads run in multiple Availability Zones and Regions for robust DR (Expedia)



Business agility

Deploy new features and applications faster and reduce errors

Example: 75% faster launch of new products (Unilever)

Cost impact

Value impact

KPIs
- IT spend on application per user
- Total IT infrastructure spend

KPIs
- VMs managed per admin
- TBs managed per admin

KPIs
- Application availability
- Total monthly incidents
- Critical (P1 / P0) incidents
- Security incidents
- Mean time to resolution (MTTR)
- Application resilience rating
- Application security rating

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

Cloud value framework

COST SAVINGS



Cost savings (TCO)

What is it?

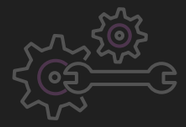
Infrastructure cost savings or avoidance from moving to the cloud



Staff productivity

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Operational resilience

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Improve SLAs and reduce unplanned outages



Business agility

What is it?

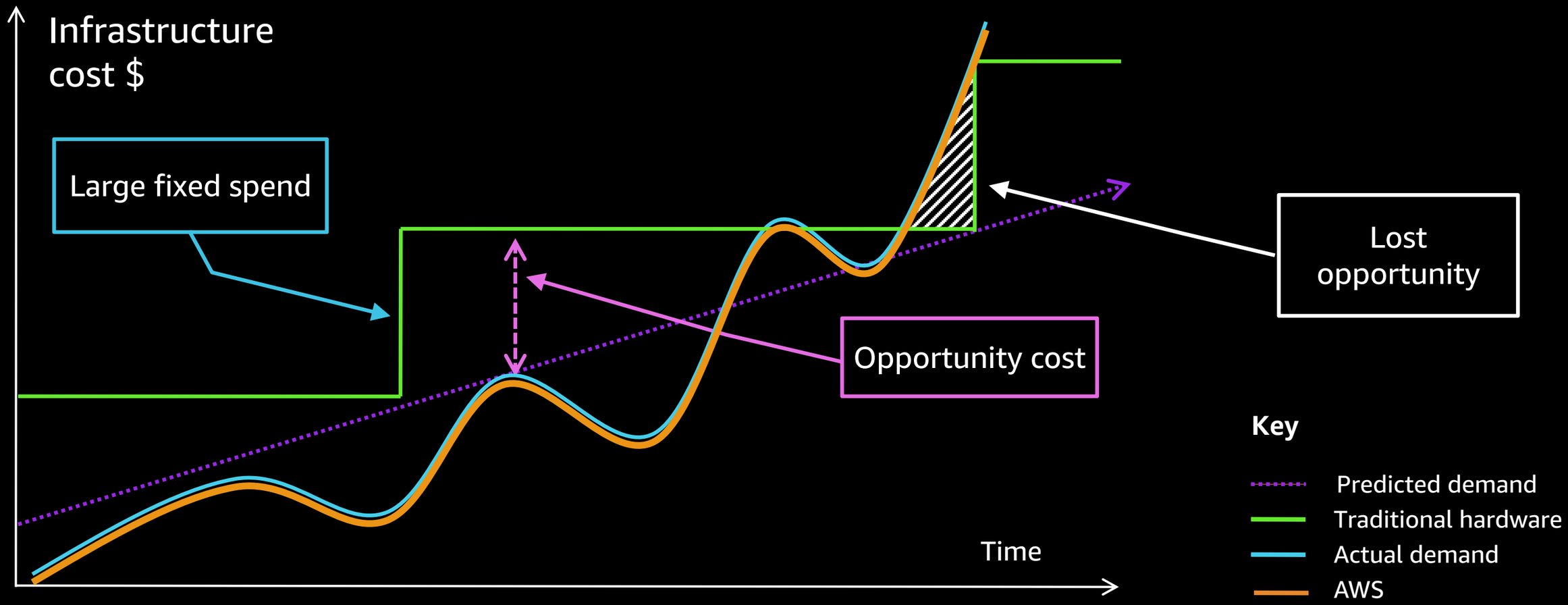
Deploy new features or applications faster and reduce errors

Live Nation — Estimated 18% savings, realized 40% 1 year after migration, and realized 58% after 18 months

Source: Live Nation Case Study, AWS Website, https://d1.awsstatic.com/enterprise-marketing/cloud-economics/whitepaper-live-nation-realizing-business-value-with-aws.pdf

Cost savings

ECONOMICS OF THE CLOUD



Cost savings

AWS BENCHMARKING INSIGHTS

AWS services reduce costs

All users



19.0%

Reduction in overall IT infrastructure spend

All users



27.4%

Reduction in overall spend per user

Cost reduction grows as users mature and scale on AWS services

Applications with >1,000 users



42.4%

Reduction in overall spend per user

All users



12.3%

Lower overall spend per user vs. multicloud user

Source: AWS Cloud Economics Benchmarking

Cloud value framework

STAFF PRODUCTIVITY



Cost savings (TCO)

What is it?

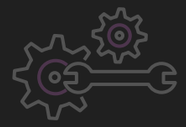
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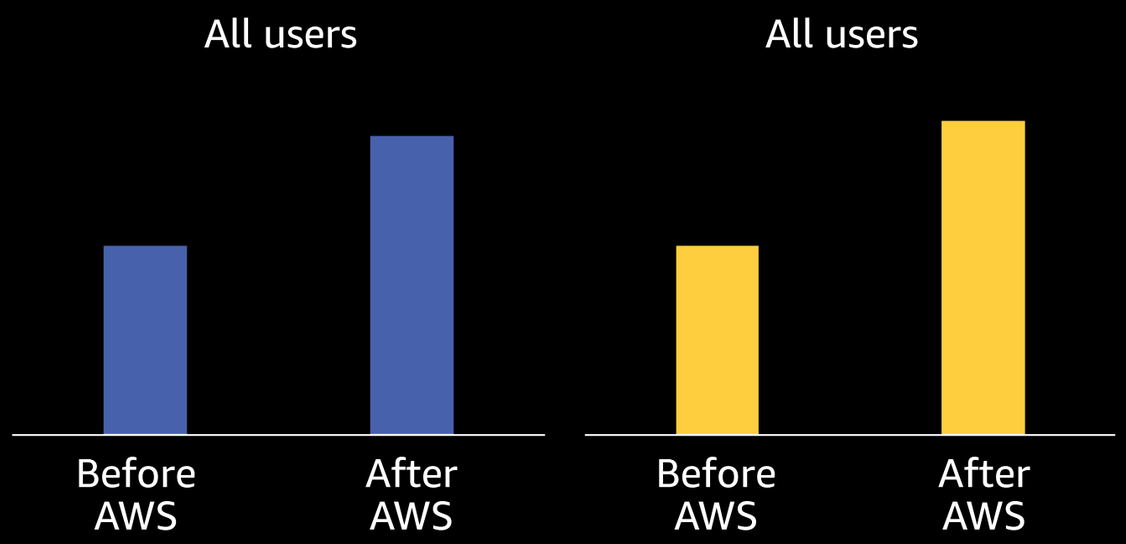
"Building a Hadoop cluster in-house **would have taken us several months, but we were using this solution much faster because of the AWS Cloud**. That was key for us, and it validated our decision to move to the cloud."

Pascal Bergeron
Director of Algorithmic Trading
National Bank of Canada

Staff productivity

AWS BENCHMARKING INSIGHTS

Cloud improves efficiency



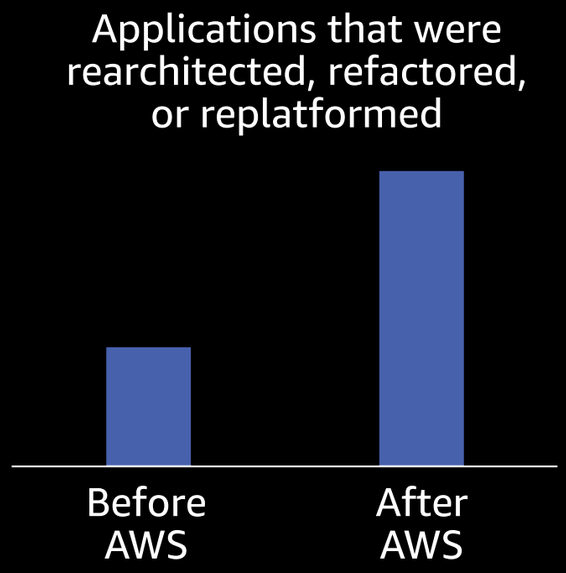
57.9%

Increase in VM managed per admin

67.7%

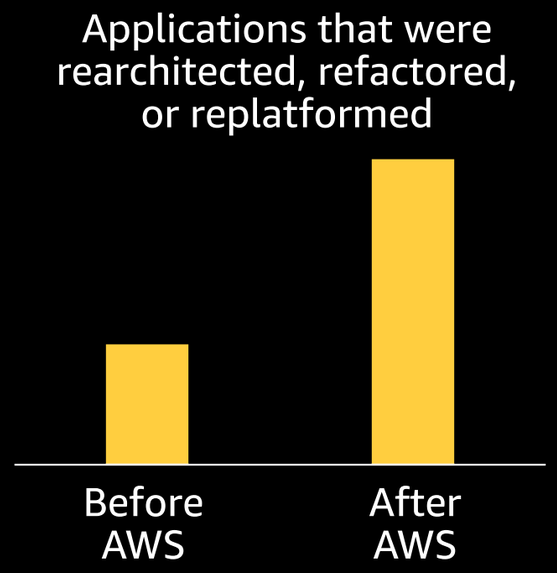
Increase in TB managed per admin

With larger gains for rearchitected applications



147.7%

Increase in VM managed per admin



153.5%

Increase in TB managed per admin

Source: AWS Cloud Economics Benchmarking

Cloud value framework

OPERATIONAL RESILIENCE



Cost savings (TCO)

What is it?

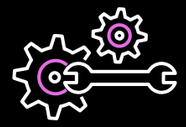
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Business agility

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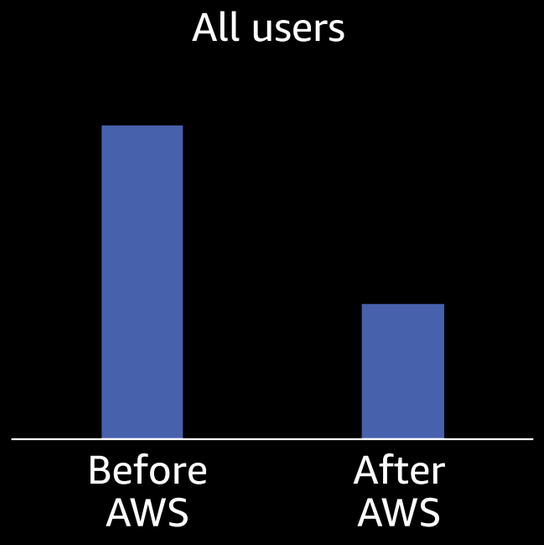
Deploy new features or applications faster and reduce errors

CONDÉ NAST

Condé Nast Russia now experiences uptimes of 99.9%, a 15% increase from the availability in the data center, and if the site does go down, it can be restored in a matter of minutes from a backup system

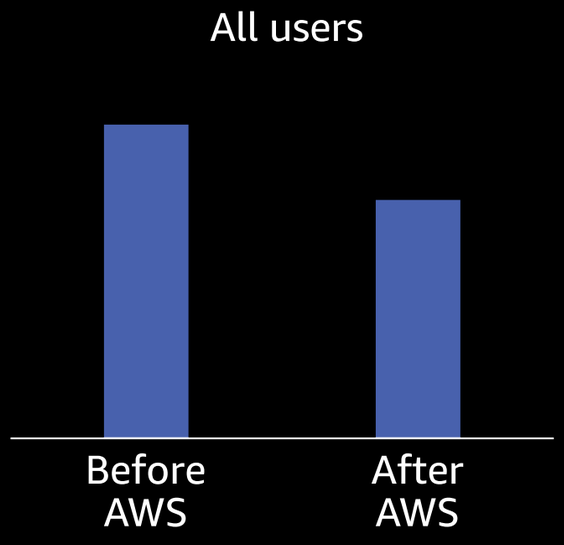
Source: Conde Nast Case Study, AWS Website, https://aws.amazon.com/solutions/case-studies/conde-nast-russia/

Operational resilience: AWS benchmarking insights



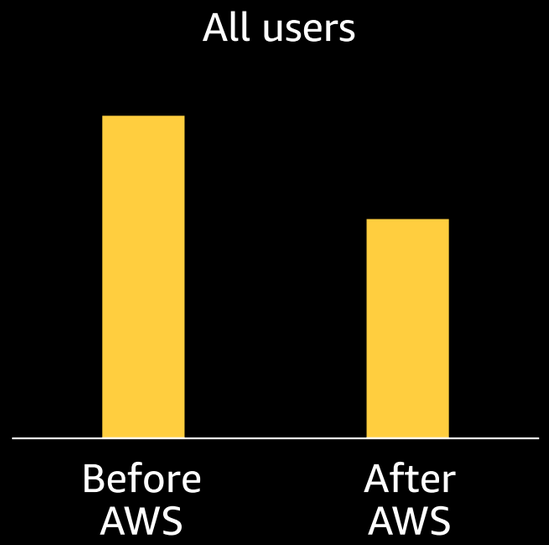
56.7%

Decrease in downtime



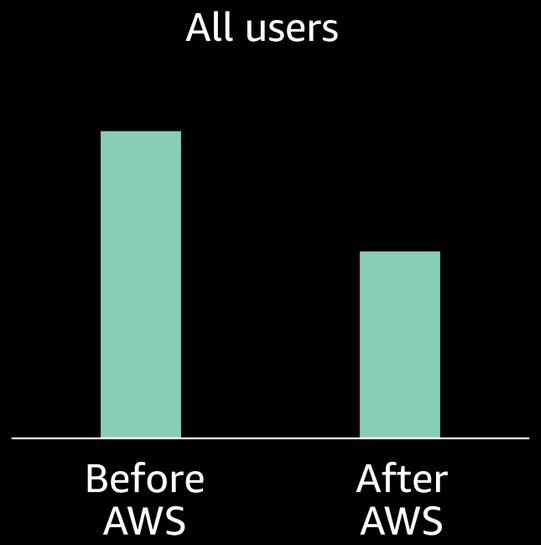
24.1%

Decrease in total monthly incidents



31.8%

Decrease in critical (P1 / P0) incidents



39.3%

Decrease in MTTR

Source: AWS Cloud Economics Benchmarking

Cloud value framework

BUSINESS AGILITY



Cost savings (TCO)

What is it?

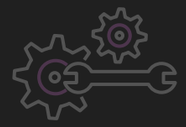
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Operational resilience

What is it?

Improve SLAs and reduce unplanned outages



Business agility

What is it?

Deploy new features or applications faster and reduce errors

"Using AWS helps Dow Jones to be more agile in developing revenue-generating products. Thanks to AWS, we now build more products and spend less time running a data center. **Our overall product development velocity has increased by at least 30 percent**."

Stephen Orban
CIO and Global Head of Technology
Dow Jones

Business agility

AWS BENCHMARKING INSIGHTS

All users



37.7%

Decrease in time to market for new features and applications

All users



39.3%

Decrease in time to deploy to production

All users



341.5%

Increase in code deployment frequency

Source: AWS Cloud Economics Benchmarking

Building the top-down business case



Cost savings (TCO)

Infrastructure cost savings or avoidance from moving to the cloud

Average on-premises cost/ VM (1)	4,600
- Average improvement on AWS	19%
= Net cost improvement/ VM	874
x # VM's managed	10,000
= Cost savings/ year $M	8.74

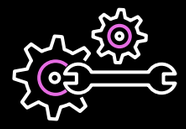
(1) Costs include hardware + maintenance + HW spares + racks + facilities + OS + virtualization manager



Staff productivity

Improve efficiency by function on a task-by-task basis

# VM's managed	10,000
Improvement on AWS	58%
# Server admins	8
x 58% = # admins focusing on higher value added activities	5
# TB of storage managed	2,000
Improvement on AWS	68%
# storage/ database admins	6
x 68% = # admins focusing on higher value added activities	4
Total repurposed FTEs	**9**



Operational resilience

Improve SLAs and reduce unplanned outages

Hours of unplanned downtime/ year	9
x Improvement on AWS	57%
= Reduced hours of downtime/ year	5.0
x Cost/ minute of downtime	$ 17,244
= Reduced downtime costs ($M)	**$ 5.1**



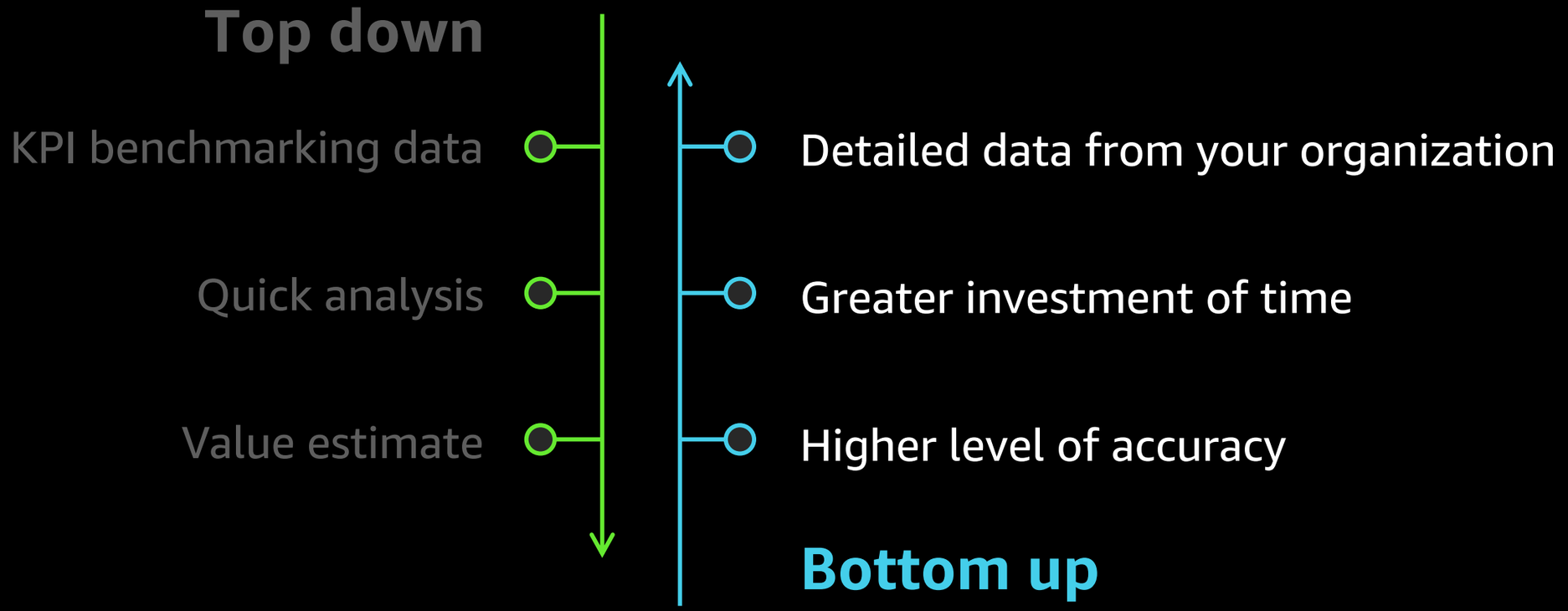
Business agility

Deploy new features or applications faster and reduce errors

Time to market for new applications (days)	90
x Improvement on AWS	38%
= Days improvement	34
x Applications launched/ year	3
= Total days improvement	102
Revenue/ application/ year ($M)	10
/ 365 = $M revenue/ day	0.03
x Total days improvement =	
= Additional revenue ($M)	**2.8**
x Profitability	25%
= Additional profit	**0.7**

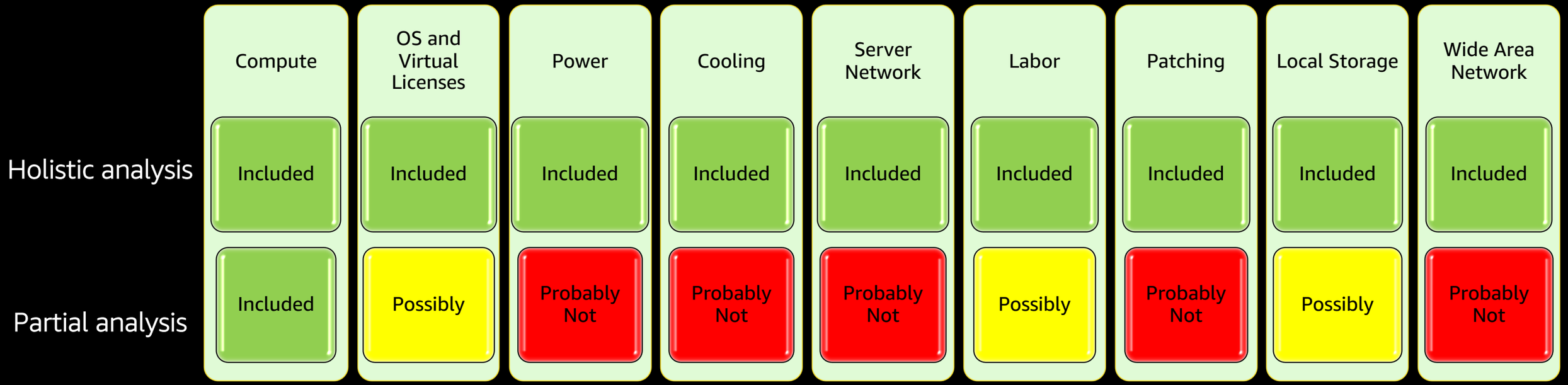
Total annual value = $14.5M + 9 repurposed FTEs

2 main approaches to identifying business value



Modeling on-premises costs

- Compares the costs of running an infrastructure environment on premises or in a co-location facility over a hardware refresh cycle to AWS.
- AWS pricing includes all of these items, so a true comparison should include all of these cost buckets in the on-premises or colo site costs.



AWS Migration Evaluator aids in making faster and smarter migration decisions

1

On premises

Understand compute and storage – how they are used and the costs to operate

2

Provisioning

Identify overprovisioning and where AWS services can meet or exceed needs at a lower cost

3

Licensing

Model which Microsoft licenses can move, where they can move, and compare BYOL vs. license-included options

4

Rightsized

Help users identify the optimally sized, lowest cost AWS option for each workload based on utilization

Business case example

- User wanted to know if there was value to migrate to AWS services
- Invited Migration Evaluator team to assist in the analysis
- Scope of migration identified after scanning the environment for 12 days

Scope

1,220 OS instances observed

- 1,123 virtualized servers
- 97 bare-metal servers

371.4 TB of attached storage

Collection period

June 15 to Jul 26, 2020

Method

Agentless Collector

Licensing

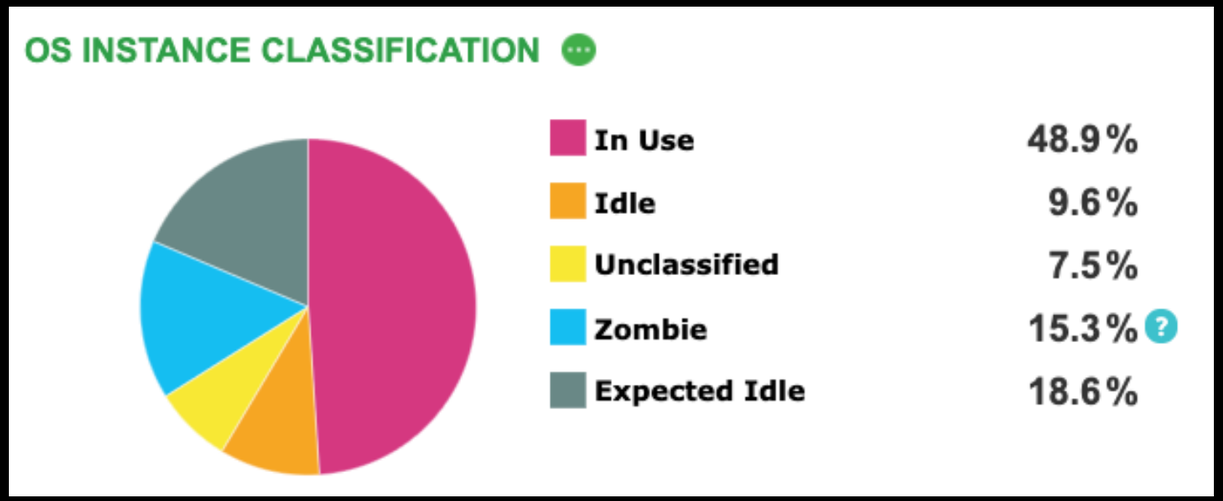
SQL tagging

- Tagging completed via auto-discovery from Migration Evaluator



Data overview

PERCENTAGE OF TIME SERVERS WERE USED, ENVIRONMENT INSIGHTS, AND LICENSING DETAILS



Environment and Licensing	
Zombies	15% (305 servers removed from future state modeling)
SQL Enterprise	59
SQL Standard	21
Windows servers	647
Linux servers	573

- **In use** – Estimated percentage of time servers delivered business value by being on with CPU utilization > 5% or > 300 MHz
- **Idle** – Estimated percentage of time servers were on but did not deliver business value with CPU utilization < 5% or < 300 MHz
- **Unclassified** – Estimated percentage of time servers were on but had no metrics available to determine whether they were idle or in use
- **Zombie** – Estimated percentage of servers that were expected to deliver business value but were not powered on; these are candidates for retiring and not migrating to AWS
- **Expected idle** – Estimated percentage of servers expected not to be in use but deliver business value in different ways; examples include templates or disaster recovery

Executive summary

	On premises *(annual)*	AWS *(annual)*
Compute	$1,529,586	$1,069,397
Storage	$727,917	$318,611
Total	**$2,252,503**	**$1,388,008**
38% savings via AWS Migration Evaluator		



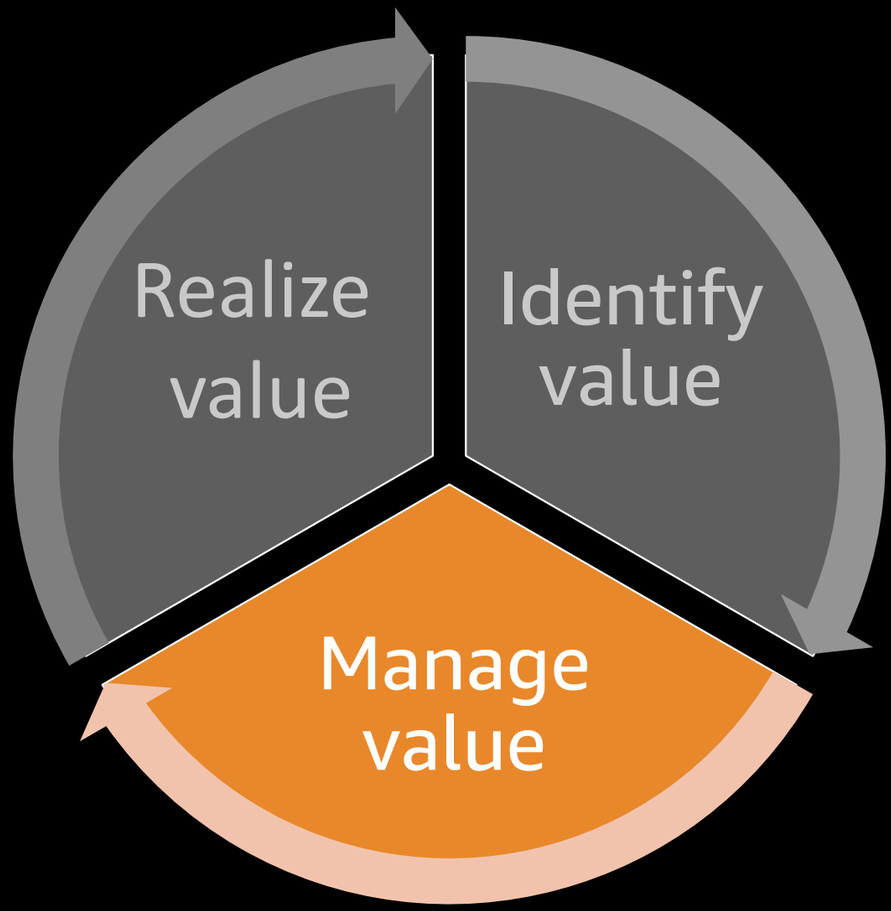
Modeling

- 3-year standard RI / instance savings; all upfront payment
- Storage modeled to EBS
- SQL licensing costs excluded
- Costs in USD
- US East (North Virginia)

Potential refinement

- Further confirmation on license mobility for SQL servers will allow for more accuracy in AWS modeling
- Using environment tagging to target servers for on-demand modeling (dev / test workloads)

Managing business value on AWS



Managing business value

CLOUD FINANCIAL MANAGEMENT (CFM)



Measurement and accountability

Account and tagging strategy

Cost reporting and monitoring processes

Cost show / chargeback

Efficiency / value KPIs



Cost optimization

Cost-aware architecture, design, and service selection

Match capacity with demand

Choose the right pricing model

Identify resource waste



Planning and forecasting

Budgeting and forecasting variable cloud usage

POC-based cost estimation

Business case / value articulation

Strategic fit



Cloud financial operations

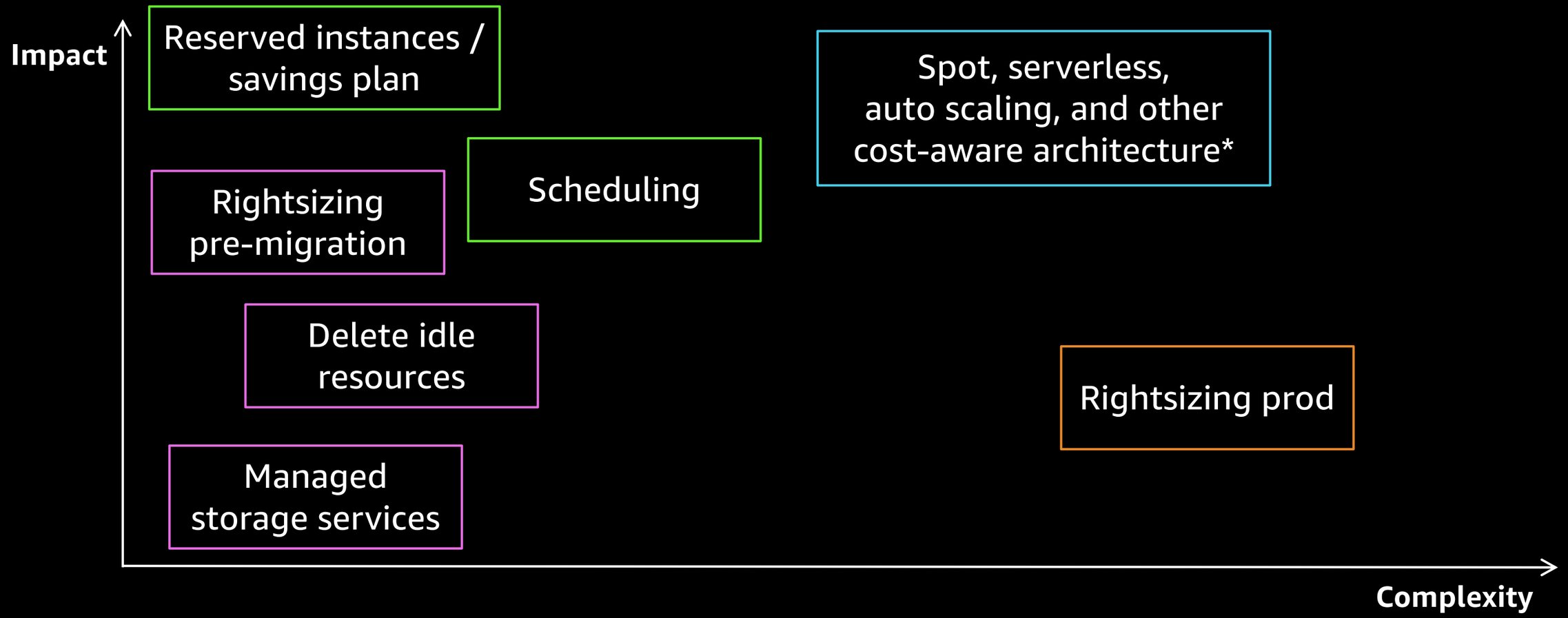
Secure executive sponsorship

Partnership between Finance and Technology organizations

Invest in people, governance, and tools

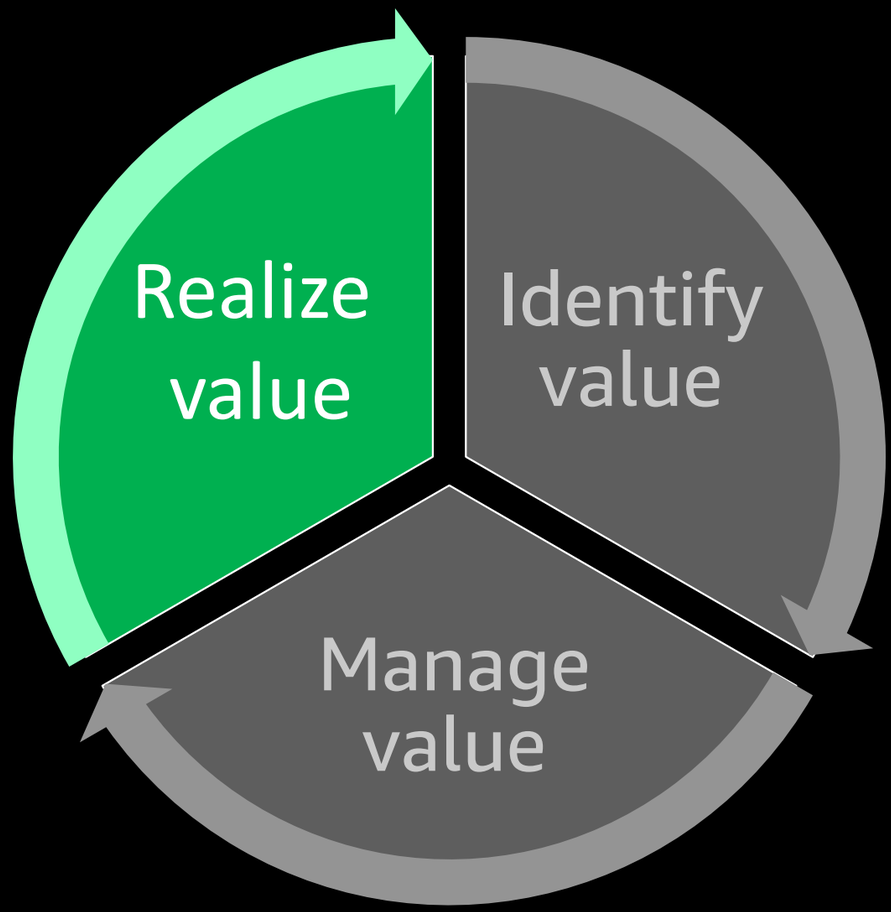
Celebrate accomplishments

Understand where the low-hanging fruit is in your case



*Typically needs upfront design investment or management support if done reactively

Realizing business value on AWS



Value realization study: Intuit Mint

Cost savings	Staff productivity	Operational resilience	Business agility
• 25% cost reduction	• 15% improvement in DBA productivity using Amazon Relational Database Service (Amazon RDS) • Automating dev processes to accelerate dev efficiency	• Failover scenarios that took 30 minutes now take 1 minute with Amazon RDS for MySQL • Run mint.com across three AZs, increasing application availability	• 200% traffic increase at the beginning of the year • Hours vs. weeks to spin up a new service

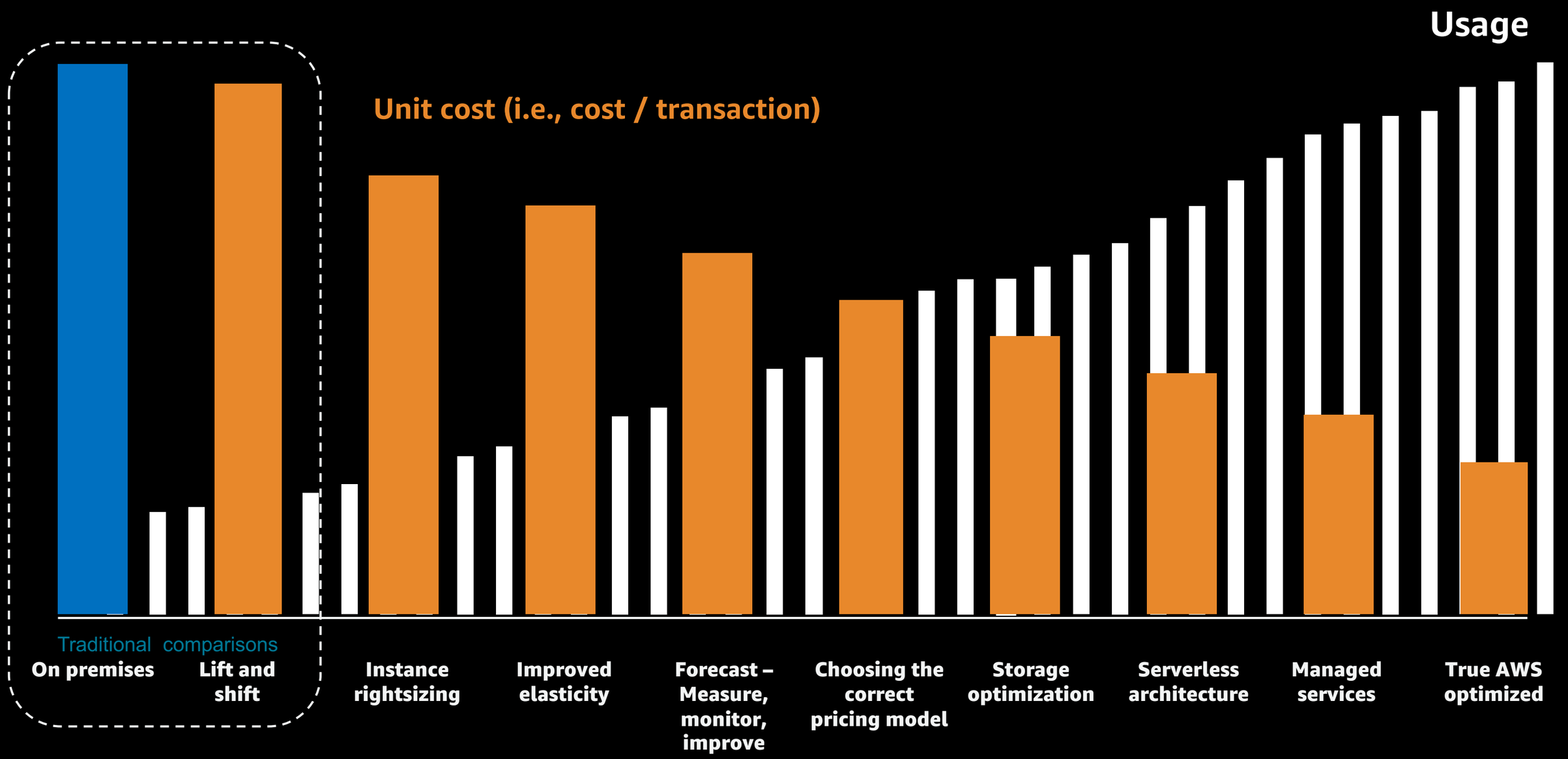
"We wanted to focus more on delivering exceptional financial-management products and less on managing the backend IT environment."

"We saw that moving to AWS would give us a more highly available architecture at a better price. In addition, AWS' security posture gave us a lot of confidence."

Sean McCluskey
Director of Application Development and Cloud Operations
Intuit Mint

Source: Intuit Mint Case Study, AWS Website, https://aws.amazon.com/solutions/case-studies/intuit-mint/

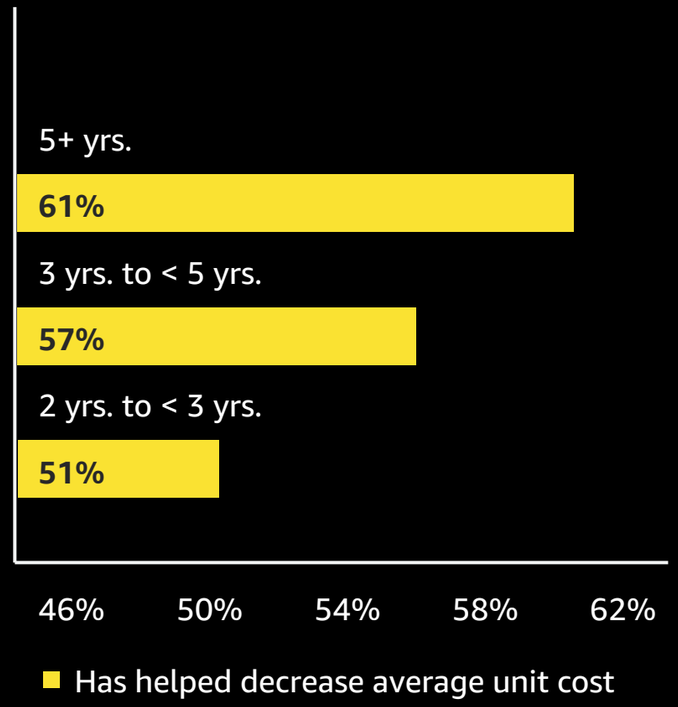
What good looks like



Business value realized

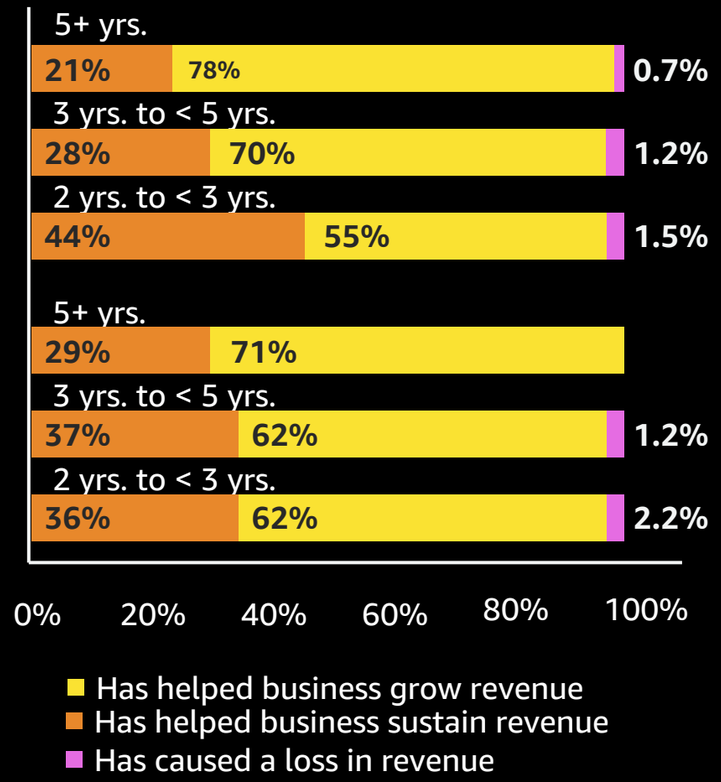
Cloud spend

Average unit cost savings, by maturity



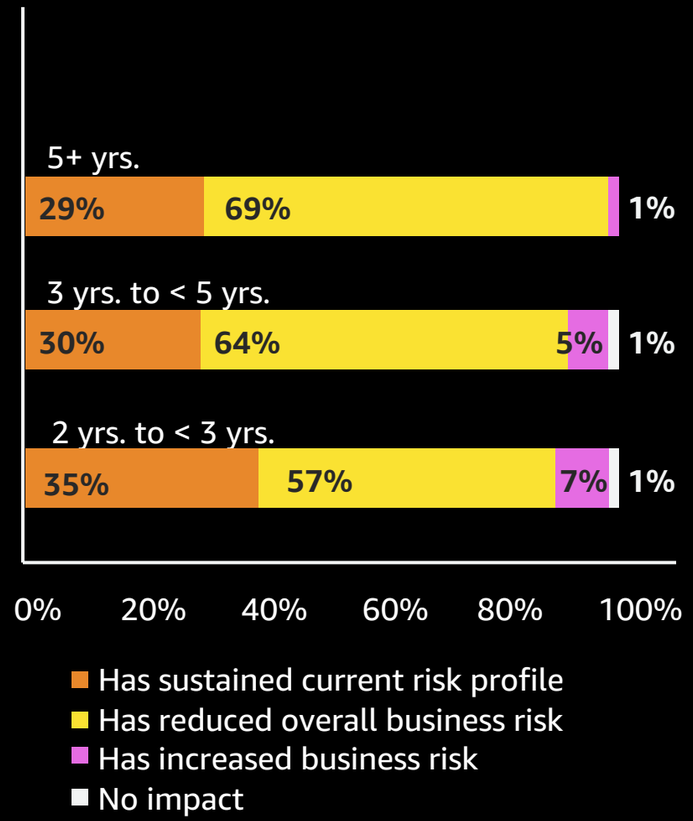
Revenue and profitability

Impact on revenue and profitability, by maturity



Business risk

Business risk impact, by maturity



Source: Cloud Financial Management: Small Changes Can Make Big Impacts, 451 Research and AWS, 2020, https://d1.awsstatic.com/analyst-reports/451-cloud-financial-management-impacts-2020.pdf?trk=ar_card

Where to start

1. Understand how your organization can create value with AWS by doing your own top-down business case

2. Dive deep with a bottom-up business case with the Migration Evaluator team; learn more about Migration Evaluator and contact AWS at https://aws.amazon.com/migration-evaluator/getting-started/

3. Visit https://aws.amazon.com/aws-cost-management/ to learn more about AWS Cloud Financial Management solutions

4. Visit https://www.aws.training/SessionSearch?pageNumber=1&courseId=50278 to build your knowledge

Resources

Cloud Migration Homepage: https://aws.amazon.com/cloud-migration/

Additional Migration Resources, AWS Prescriptive Guidance, AWS Enterprise Blog Collection: https://aws.amazon.com/cloud-migration/resources/

Migration Immersion Day: https://migration-immersionday.workshop.aws/en

All AWS workshops available here: https://www.workshops.aws/



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