AWS Sales Ready

Day 2

AWS Sales Ready

aws training and certification

- 2-days Training

Day1

- Sales Accreditation
- Accreditation (Sales)

Day2

- Cloud Advisory
- (Game/Teams)

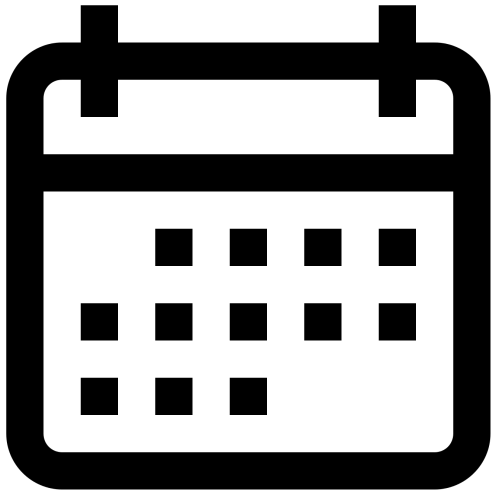
AWS Sales Ready

Day 2

Agenda

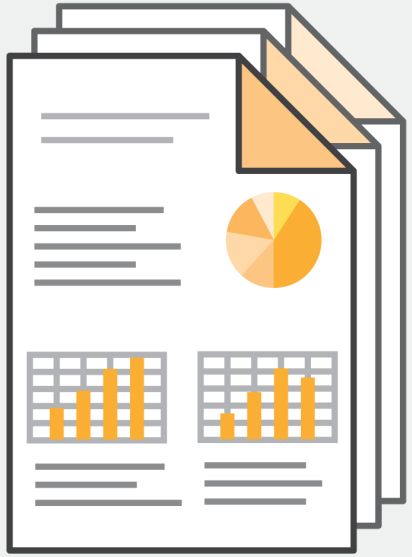
aws training and certification

- Cloud Advisory 1-Day Bootcamp
- Business Case & Cloud Journey Simulation



- Module 1: Why prepare a business case?
- Module 2: Discovery
- Module 3: Calculating the total cost of Migration
- Module 4: Calculating the total cost of Operation
- Module 5: Cost optimizing your business case
- Module 6: Identifying value benefits for your business case
- Module 7: Objections to cloud adoption and how to overcome them
- Game

Module 1: Why prepare a business case?



An **effective business case** can significantly increase the speed of adoption of AWS by our customers.

Knowledge of a customers' **existing application workloads or plans for new ones** is key to developing the foundations of a sound business case.

By adding an understanding of the broader systems, processes and people that support the application workloads you will build a business case that truly captures the benefits to be realised from adopting AWS.

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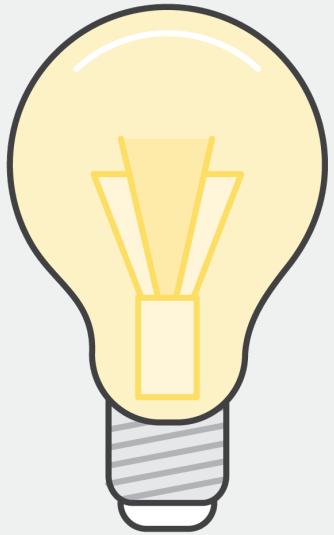

In preparing the business case, we often find **more opportunities** to help customers drive efficiencies in the broader business as well as reduce costs.

This creates the environment required to **accelerate innovation**, **increase productivity** and **reduce risk**.

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What a business case tells us

Building a business case tells us

- What the cost of getting into AWS will be
- What the cost of operating in AWS will be
- What the costs of exiting current infrastructure could be
- What benefits the business will gain from being in AWS
- What the cost of doing nothing is
- What building infrastructure for new workloads costs

What type of business case do customers need

Directional

?

Detailed

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Directional

1-2 days
High-level, directional
Limited customer data
Presentation
Simple Opportunity
Calculator or Simple TCO
Calculator
±30%

Detailed

4-10 *elapsed* weeks
Low-level, detailed
Broad customer data
Presentation
Multiple tools
Multiple Excel outputs
±5%

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How do we build a business case?

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Automated business case tooling

Inventory

- RISC Networks
- TSO Logic
- Cloudamize
- ATAVISION
- 
- 

Business Case

- TSO Logic
- Cloudamize
- APPTIO

Discovery & Planning

- RISC Networks
- Cloudamize
- ATAVISION
- 

Dependency Mapping

- RISC Networks
- New Relic
- ATAVISION
- dynatrace
- AppDynamics

Workload & Data Migration

- ATAMOTION
- CLOUDVELOX
- CloudEndure
- ATTUNITY
- VELOSTRATA
- 
- 

Validation

- New Relic
- dynatrace
- AppDynamics
- 

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Why not just build a TCO analysis?

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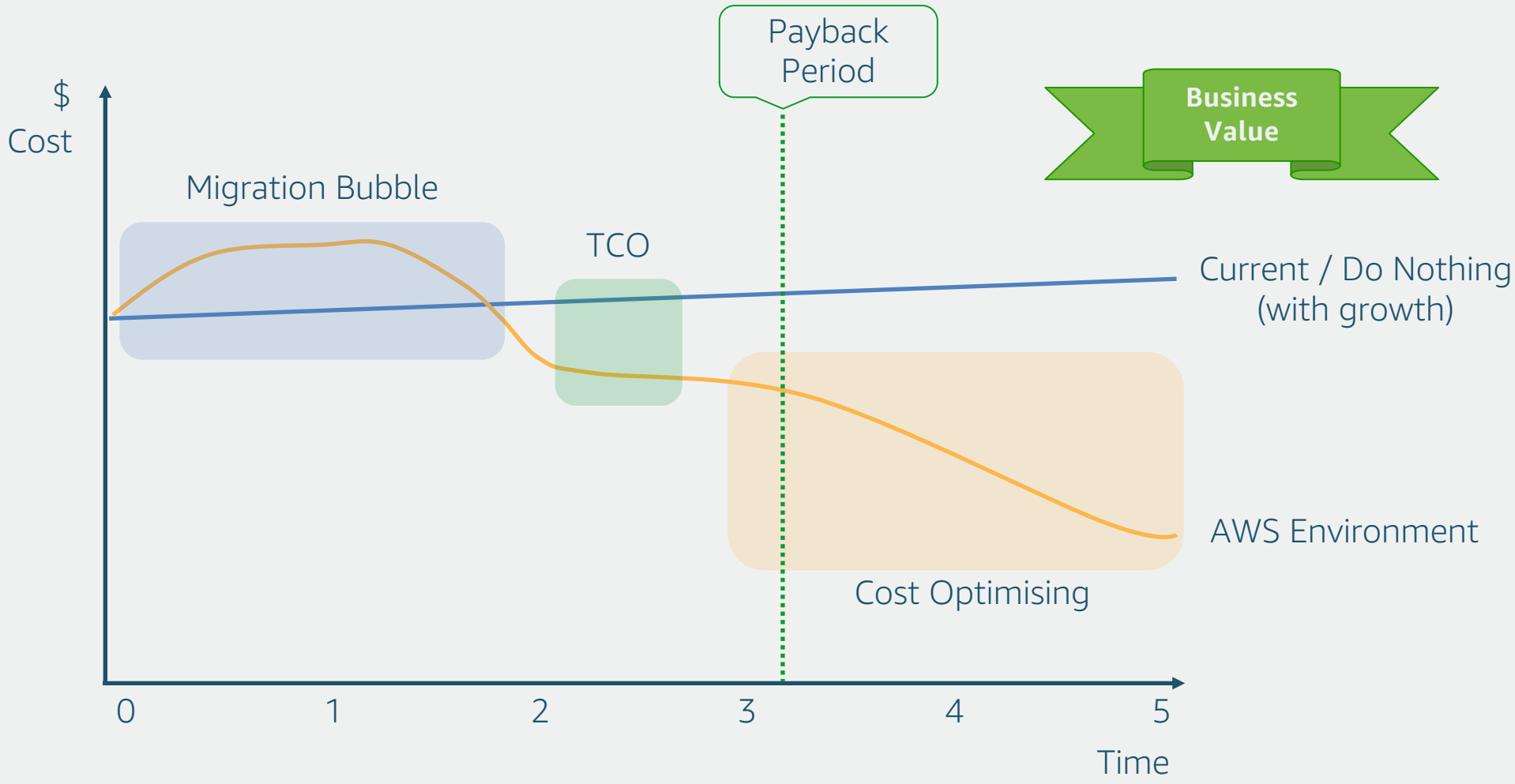
TCO and the business case



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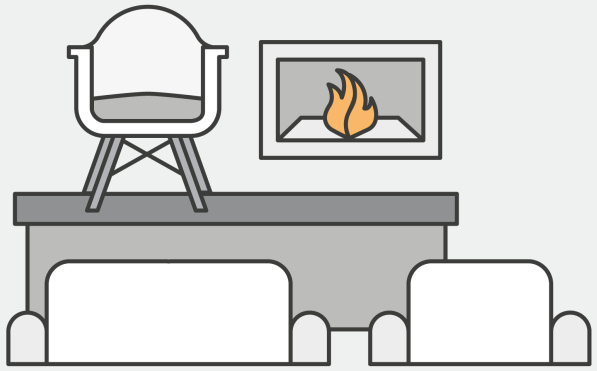
Module 2: Discovery

Topic 1: Business objectives

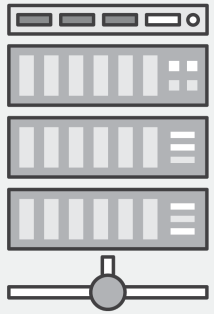
Business objectives



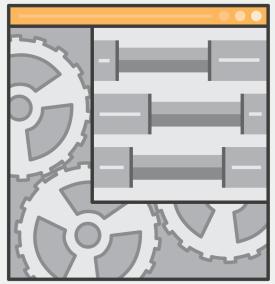
- It is important to understand the customer
- Different stakeholders will have different objectives
- Understanding the organisation will allow you to work around competing priorities and goals
- Take the time to understand what is really driving cloud adoption
- Find out what the blockers will be; knock them out of the way
- Ensure there is an executive sponsor

Topic 2: Existing costs

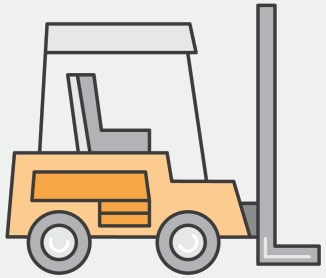
Existing costs



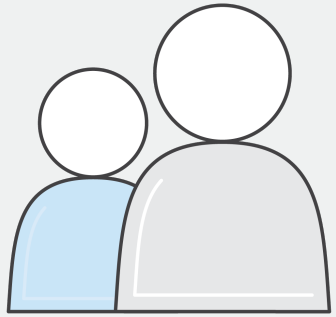
Infrastructure Costs



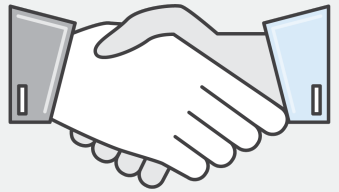
Application Costs



Migration Costs



People Costs



Third Party Costs

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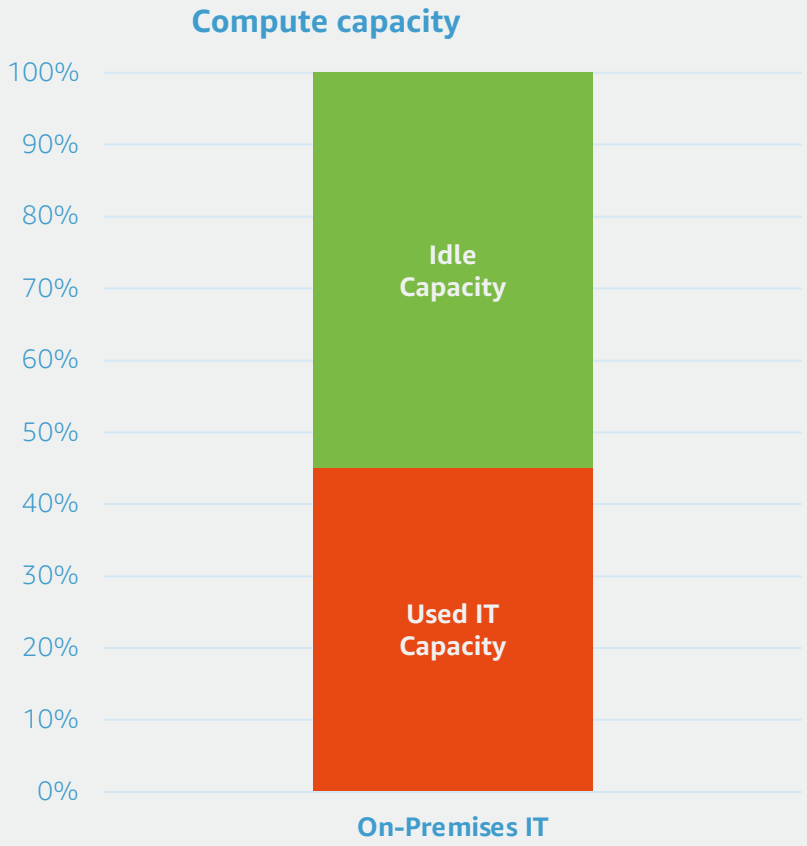
Infrastructure costs

Infrastructure costs



A typical on-premises compute environments are massively underutilized

A 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.

IDC: Quantifying Datacenter Inefficiency
http://www.integra1.net/uploads/files/IDC%20Making%20the%20Case%20for%20Composable%20Infrastructure.pdf

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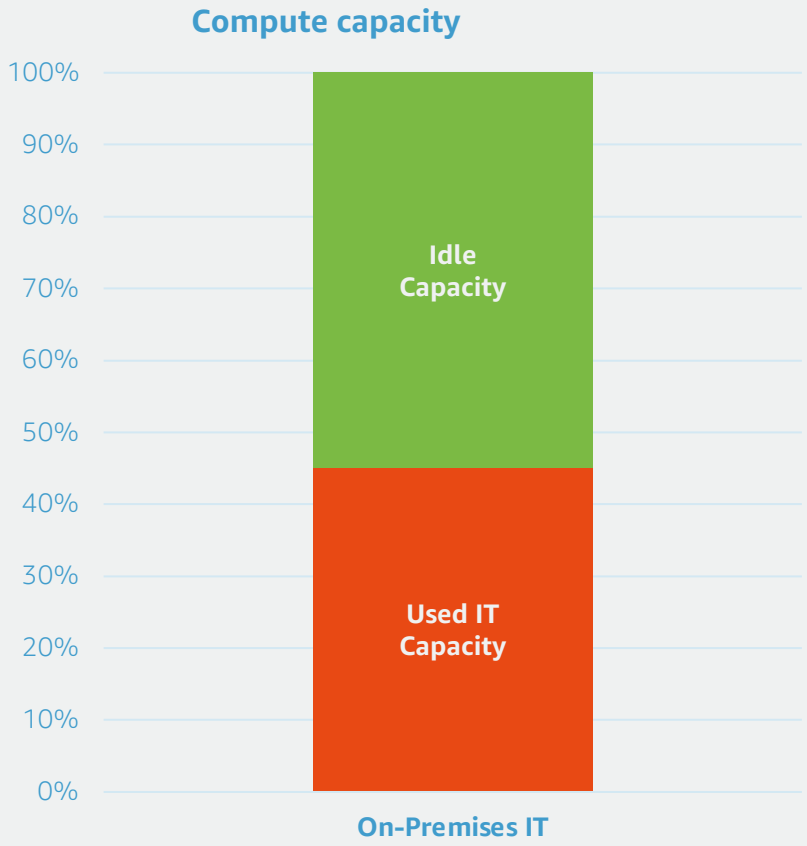
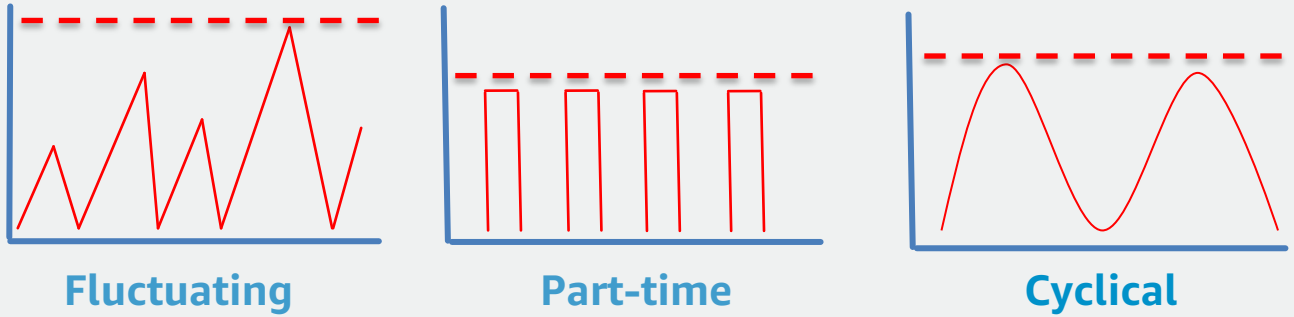
Infrastructure costs



Part of this can be explained by buying for "peak load" requirements with inflexible infrastructure



IDC: Quantifying Datacenter Inefficiency
http://www.integra1.net/uploads/files/IDC%20Making%20the%20Case%20for%20Composable%20Infrastructure.pdf

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Infrastructure savings can be significant in the business case, because of this over-capacity

Application costs

Application costs

- Licensing landscape
  - Existing licences
  - Transferability of licences
  - Upcoming licence renewals
  - Move to Amazon Linux
- Application requirements:
  - SLAs
  - Disaster Recovery
  - High Availability
  - Security and access
- Regulation and compliance
- Perform a “Seven R’s” analysis of each workload

Application costs

R	Name	Description	Examples
1	Retain	Workloads are kept in-situ and are not changed in any way.	Unresolvable dependencies, custom Linux kernels, non-x86, AS400, etc.
2	Retire	Workloads are retired from use.	Existing decommission scope.
3	Re-host	Workloads moved to the cloud, lift-and-shift.	Minimal re-engineering, IP, DNS, file path changes, Win 2008, RHEL, etc.
4	Re-platform	Workloads moved to the cloud with some changes to support use of cloud concepts, e.g. elasticity, failover, etc.	Broader changes, use of higher-level AWS servers, e.g. RDS
5	Re-factor	Workloads require significant re-engineering in order to run on the cloud.	Significant re-engineering, e.g. to Linux, server-based to serverless, etc.
6	Re-purchase	Workloads are candidates for migration to SaaS-based solutions.	On-premise CRM to SaaS CRM, Exchange to WorkMail, etc.

10%

5%

40%

70%

30%

10%

5%

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Migration costs

Migration costs

- Planning and designing migration
- Development effort
- Landing zone configuration
- Deployment effort
- Testing effort
- Acceptance effort
- Licensing
- Data migration
- Cut over
- Roll back plan

Migration costs

- Duplicate environment
- Training and certification
- Migration velocity
    - Identify which apps can move most easily
    - Create prioritised move groups
    - Organise in sprints and sprint teams for fast results
    - Be able to forecast the entire project timescale
    - Create a high-level multi-year/month project plan
    - The migration should be fast paced and demonstrate a commitment to migrating the workloads because of its velocity

People costs

People costs

- Direct people costs (employees):
    - Recruitment, retention, replacement and retirement costs
    - Activity costs including understanding time and motion
    - Training and development costs
    - Physical space, equipment, and services

- Indirect people costs (contractors):
    - Cost per hour/day/week/month

Third party costs

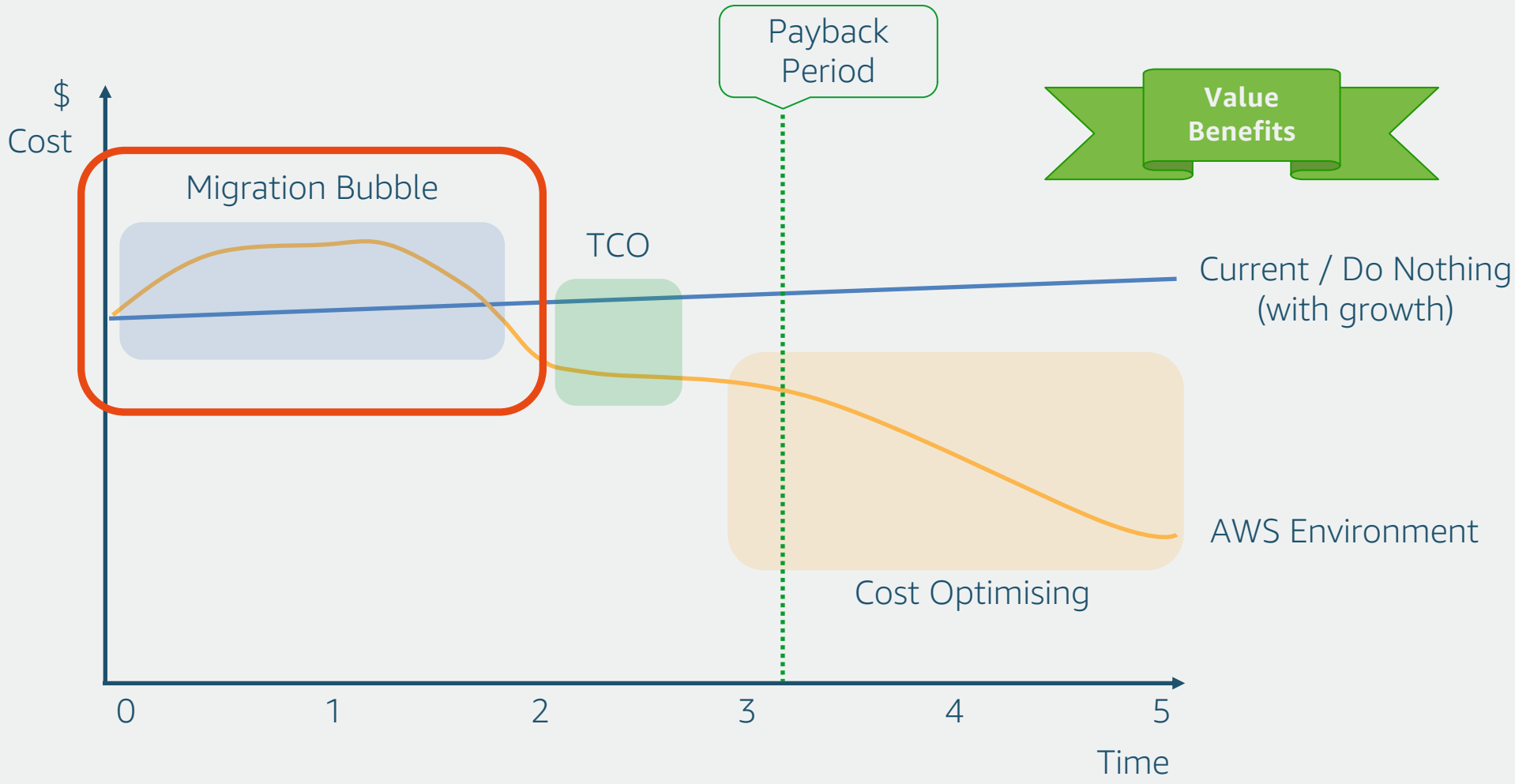
Third party costs

- Contract related costs
    - Fixed costs (maintenance, etc.)
    - Variable costs (innovation, change requests, etc.)
    - Variation penalties / early termination penalties
    - Lock-in deals
    - Tools lifecycle status
- Software licences (e.g. orchestration tools / multi-cloud)
- Activity costs including understanding time and motion

Module 3: Calculating the total cost of migration (TCM)

Topic 1: The migration bubble

The migration bubble



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The migration bubble

- All new workloads migrations have a cost, even small migrations
- The investment needed to achieve the adoption or migration is often called the migration cost or the migration bubble
- Costs typically include:
    - discovery, planning and assessment costs
    - proof of concept (POC) activities
    - migration tooling
    - application readiness
    - staff readiness and training
    - software licensing changes

The migration bubble

- Continued…
  - running duplicate environments during migration
  - lease penalties
  - redundancies / restructuring / re-deployment
  - external consultancy
- The migration bubble can be controlled
  - Migration planning can help
  - Migrations can be optimized for cost, speed and risk or balanced for all three

Exercise 1: The BridgeBit migration cost

Exercise 1: The BridgeBit migration cost

- Review the BridgeBit case study
- Make note of the total number of servers in the Business Domain Migration Patterns table
- Create a new Migration Cost Estimator (by opening the template)
- Enter migration requirements
    - $90 for customer resource cost
    - $325 for AWS resource cost
    - $200 for partner resource cost
    - 2 weeks for sprint cadence
    - 156 weeks for project duration
    - 16,880 for number of servers
    - Servers by migration pattern from the case study

Exercise 1: The BridgeBit migration cost

- $50 for discovery tool cost
- $200 for migration tool cost
- 80 for training
- $2,500 for training cost

- Save the migration cost estimate
- Look at the results

Total cost of migration:

$35,773,300

Cost per server:

$2,119

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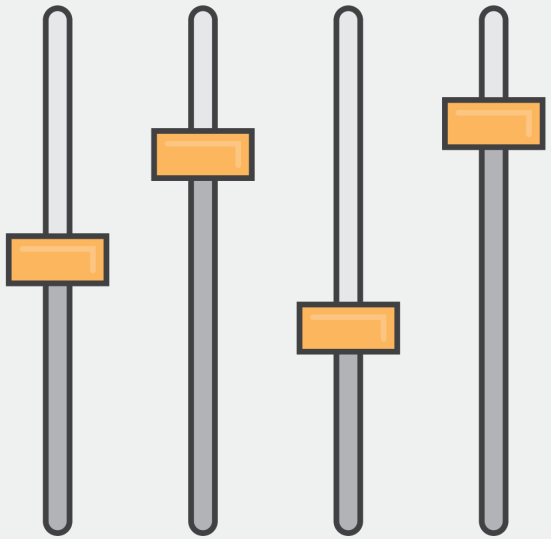
Using levers to improve migration cost

Using levers to improve migration cost



- We can use levers to change the costs of migration
- We'll focus on:
  - Migration patterns
  - Partner resource mix
  - Migration timeline

Exercise 2: Lever (migration pattern)

Exercise 2: Lever (migration pattern)

Alter the migration patterns by reducing the re-architect to re-host server counts and the note the effect on per server migration costs.

- Open the BridgeBit migration cost estimate you created earlier
- Make a note of the current cost per server and the total migration cost
- Change the number of servers in the re-host category from 6,260 to 7,312
- Change the number of servers in the re-factor category from 2,652 to 1,600
- Note the effect on the current cost per server and the total migration cost
- What did we end up with?

Total cost of migration:

$34,111,000

Cost per server:

$2,021

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Exercise 3: Lever (resource mix)

Exercise 3: Lever (resource mix)

Substitute lower cost partners by lowering per hour rate. The concept is that partners should be brought in to “keep the lights on”, while your internal staff is trained up on cloud fundamentals, cloud migration and cloud operations.

- Open the BridgeBit migration cost estimate you created earlier
- Change the per hour cost for partner resources to $120 from $200
- Double the number of people being trained from 80 to 160
- Note the effect on the current cost per server and the total migration cost
- What did we end up with?

Total cost of migration:

$27,472,600

Cost per server:

$1,628

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Exercise 4: Lever (migration timeline)

Exercise 4: Lever (migration timeline)

Accelerating the migration timeframe can have a significant effect on the overall cost savings.

- Open the BridgeBit migration cost estimate you created earlier
- Make a note of the current cost per server and the total migration cost
- Reduce the project duration from 156 weeks to 104 weeks
- Note the effect on the current cost per server and the total migration cost
- What did we end up with?

Total cost of migration:

$27,223,000

Cost per server:

$1,613

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Why did this have such a small impact on the cost of migration?

The BridgeBit focus game

BridgeBit

The BridgeBit focus game

Break up into groups of 4 or 5 and then
pick a team name

- This is a team-based exercise
- You represent the BridgeBit senior executive team
- BridgeBit is considering a migration to AWS
- BridgeBit wish to optimise their business case to get maximum value out of AWS
- BridgeBit have identified 15 possible initiatives to maximise value
- The 15 initiatives cost $25m to execute all 15 and each have different payoffs
- There will be 4 rounds in the game
- In each round of the game you have an opportunity to select initiatives
- Each initiative has a cost which will reduce your budget if you select it
- BridgeBit have a total budget of $10m
- Your $10m budget is for all 4 rounds so spend it wisely!!

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BridgeBit focus game round one

BridgeBit focus game round one

Discuss with your team which initiatives from the list below to focus on. You can select none, one or more or all, but remember to watch your budget!

Initiative	Cost	Savings
Change application migration patterns: Alter the migration patterns by reducing the re-architect and increasing the re-host counts.	**$2m**	**?**
Change the partner resource mix: Substitute lower cost partners by lowering the hourly rate. The concept is that partners should be brought in to 'keep the lights on', while customer internal staff are trained up on cloud fundamentals, cloud migration and cloud operations.	**$2m**	**?**
Shorten the migration timeline: Change the migration timeframe from three years to two years.	**$3m**	**?**

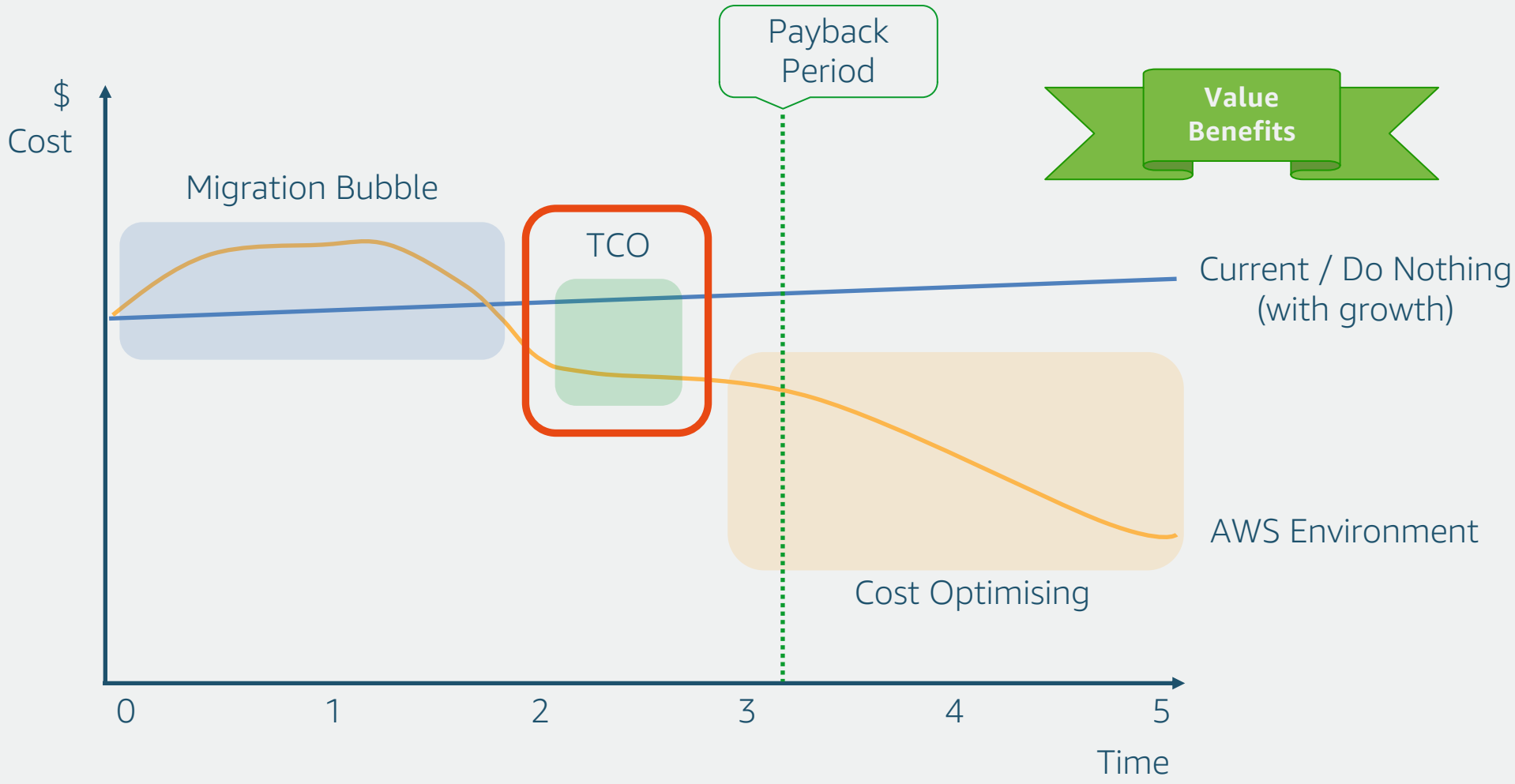
BridgeBit focus game round one: results

So how did you do?

Initiative	Cost	Savings
Change application migration patterns: Alter the migration patterns by reducing the re-architect and increasing the re-host counts.	**$2m**	**$2m**
Change the partner resource mix: Substitute lower cost partners by lowering the hourly rate. The concept is that partners should be brought in to 'keep the lights on', while customer internal staff are trained up on cloud fundamentals, cloud migration and cloud operations.	**$2m**	**$7m**
Shorten the migration timeline: Change the migration timeframe from three years to two years.	**$3m**	**$29m**

Module 4: Calculating the total cost of operation (TCO)

Total cost of operation (TCO)



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Total cost of operation (TCO)

≠

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Utilisation sensitivity

Peak CPU/RAM Utilization %'s can have a significant effect on the savings

- It is important to gather as much peak utilization data as possible
- No environments are 100% peak utilization!
- When in doubt, use a measurement tool such as…

Application Discovery Service

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Instructions

- We will be focusing on adjusting important levers to the model, where we will be able to see the before and after impacts
    - Instance Right Sizing (Peak CPU and Peak RAM)
    - Manage Non Production Instances – Usage
    - O/S Licensing Models (Dedicated Hosts)

BridgeBit focus game round two

BridgeBit focus game round two

Discuss with your team which initiatives from the list below to focus on. You can select none, one or more or all, but remember to watch your budget!

Initiative	Cost	Savings
Use dedicated hosts to "bring your own software license": Leverage Dedicated Hosts for software licenses that have already been purchased. The license could be migrated over instead of purchased directly from AWS.	**$2m**	**?**
Instance peak right-sizing: Right sizing is using the lowest cost resource that still meets the technical specifications of a specific workload base on peak CPU ad peak RAM.	**$1m**	**?**
Manage non-production billing usage: Leverage the AWS APIs to automatically provision and decommission environments as you need them. This usage is well suited for development or test environments that run only in defined business hours or periods of time.	**$1m**	**?**

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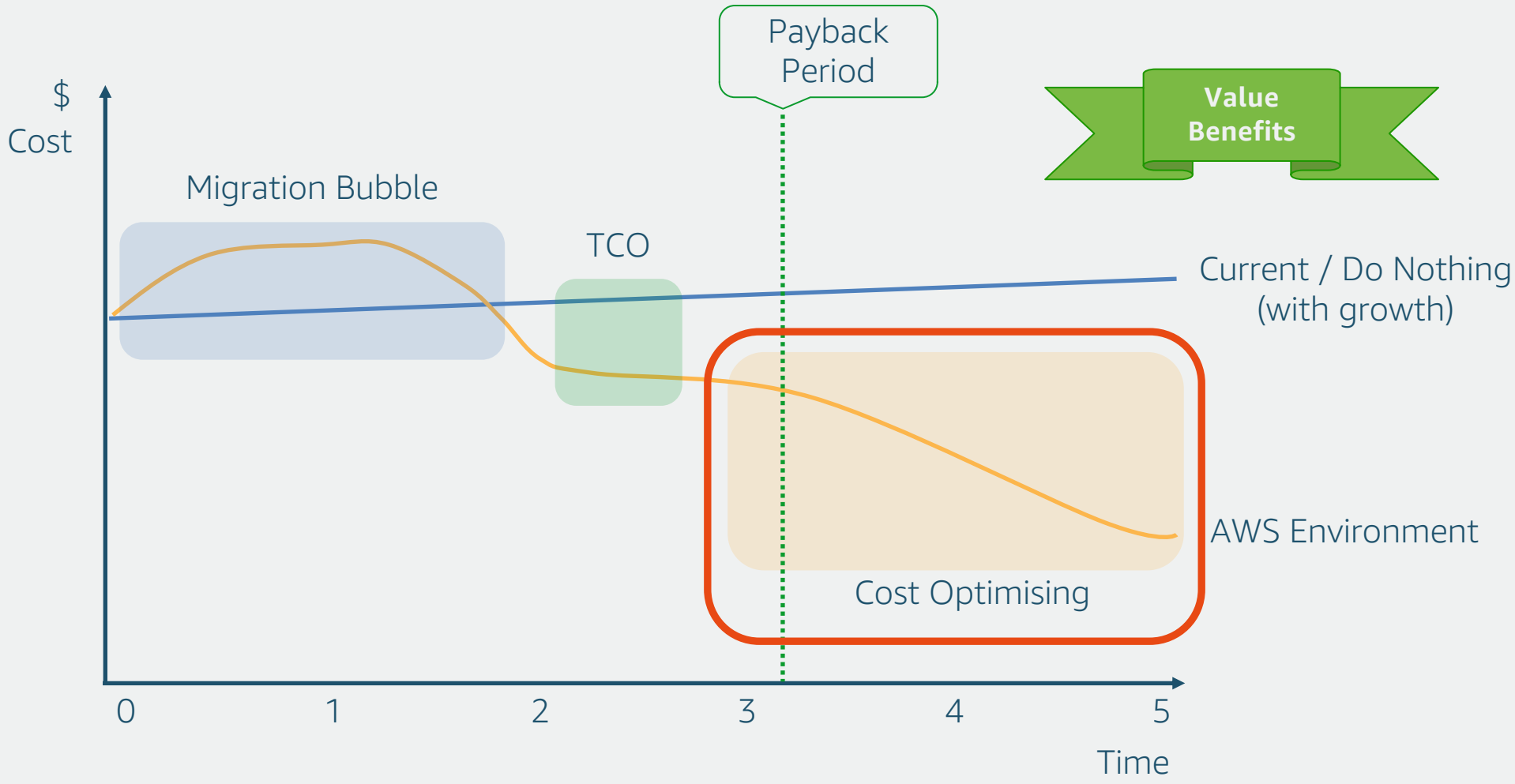
BridgeBit focus game round two: results

So how did you do?

Initiative	Cost	Savings
Use dedicated hosts to "bring your own software license": Leverage Dedicated Hosts for software licenses that have already been purchased. The license could be migrated over instead of purchased directly from AWS.	**$2m**	**$22m**
Instance peak right-sizing: Right sizing is using the lowest cost resource that still meets the technical specifications of a specific workload base on peak CPU ad peak RAM.	**$1m**	**$14m**
Manage non-production billing usage: Leverage the AWS APIs to automatically provision and decommission environments as you need them. This usage is well suited for development or test environments that run only in defined business hours or periods of time.	**$1m**	**$9.3m**

Module 5: Cost optimising your business case

Cost optimisation



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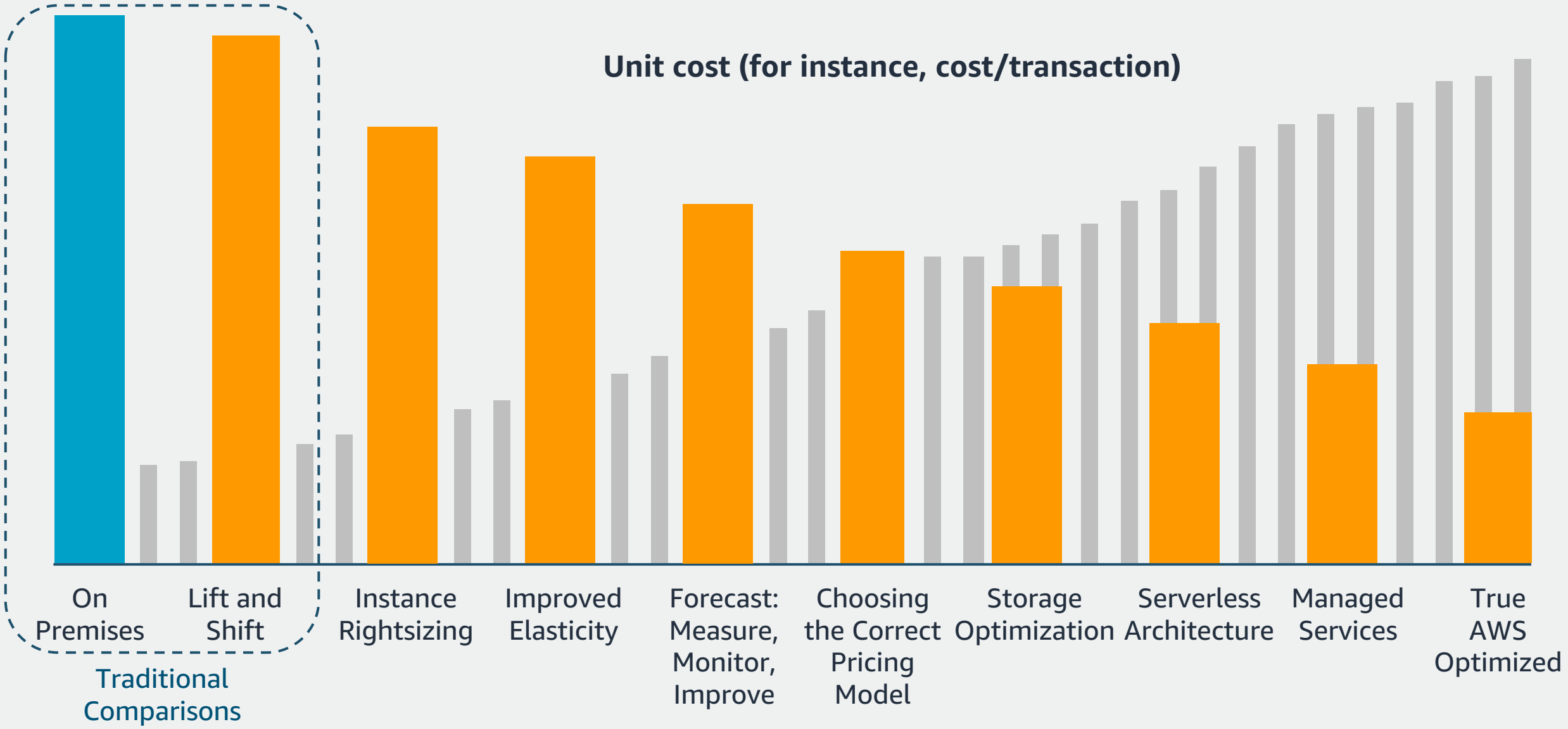
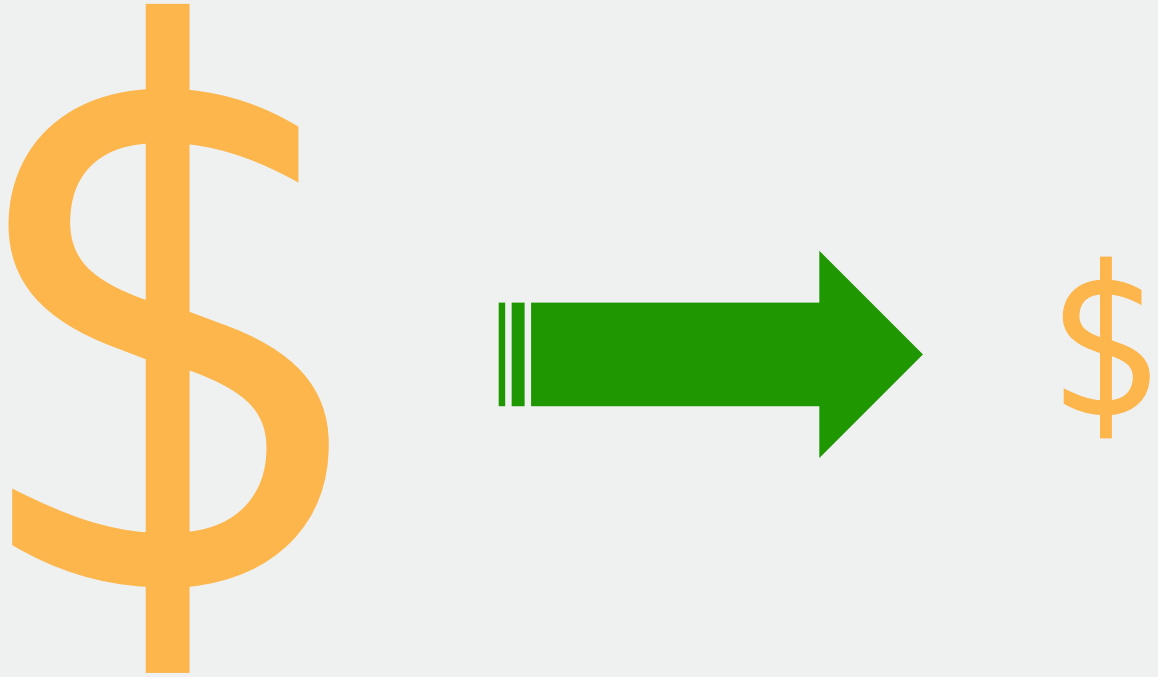

Unit cost (for instance, cost/transaction)
On Premises
Lift and Shift
Traditional Comparisons
Instance Rightsizing
Improved Elasticity
Forecast: Measure, Monitor, Improve
Choosing the Correct Pricing Model
Storage Optimization
Serverless Architecture
Managed Services
True AWS Optimized

Cost optimisation



Paying for what you **have**

Paying for what you **need**

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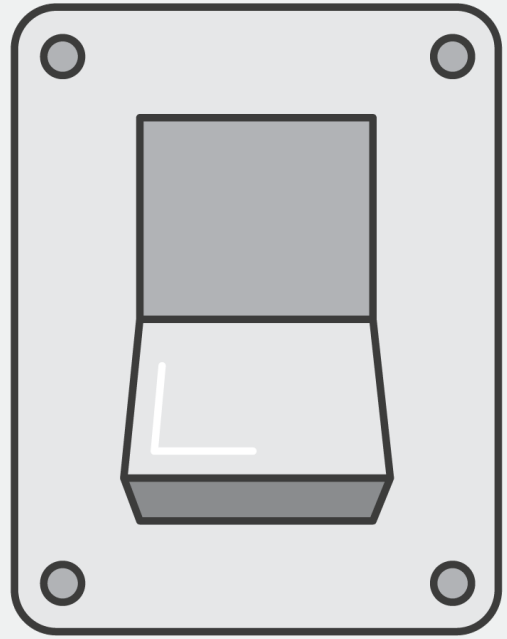
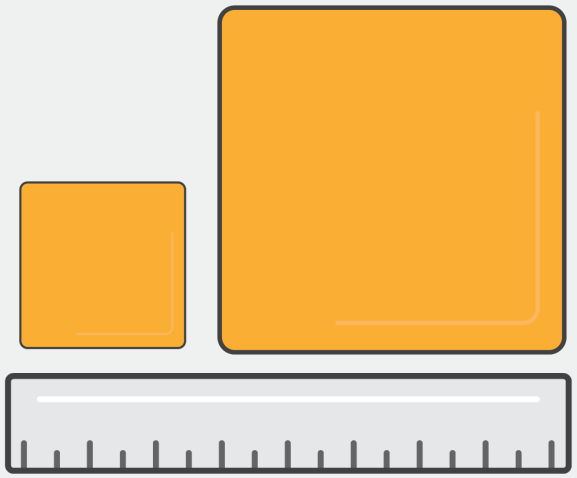
Idle resources

- Idle resources should not feature in your AWS account
- Automate shutdown / turn off / terminate
- Pay particular attention to dev / test workloads
- Use CloudFormation to tear down and re-build as needed
- Instances are disposable



Instance right-sizing



- Selecting the cheapest instance available while meeting performance requirements
- Looking at CPU, RAM, storage, and network utilization to identify potential instances that can be downsized
- Leveraging Amazon CloudWatch metrics and setting up custom RAM metrics

Rule of thumb: Right size, then reserve.

Purchasing options

On-Demand

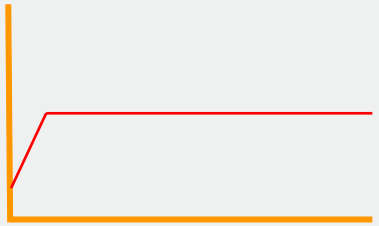
Pay for compute capacity by the hour with no long-term commitments

For spiky workloads, or to define needs

Reserved

Make a low, one-time payment and receive a significant discount on the hourly charge

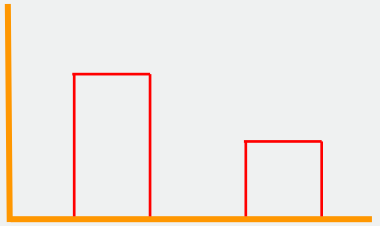
For committed utilization



Spot

Bid for unused capacity, charged at a Spot Price which fluctuates based on supply and demand

For time-insensitive or transient workloads

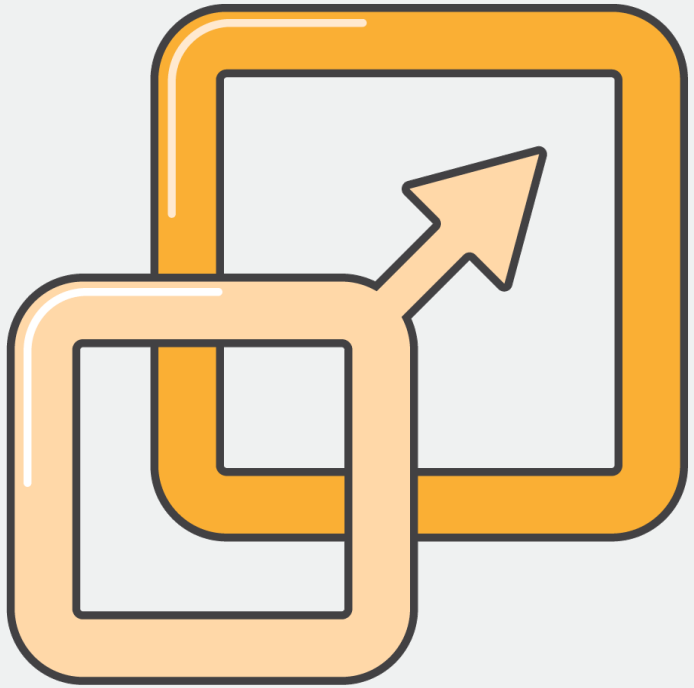


OS licensing

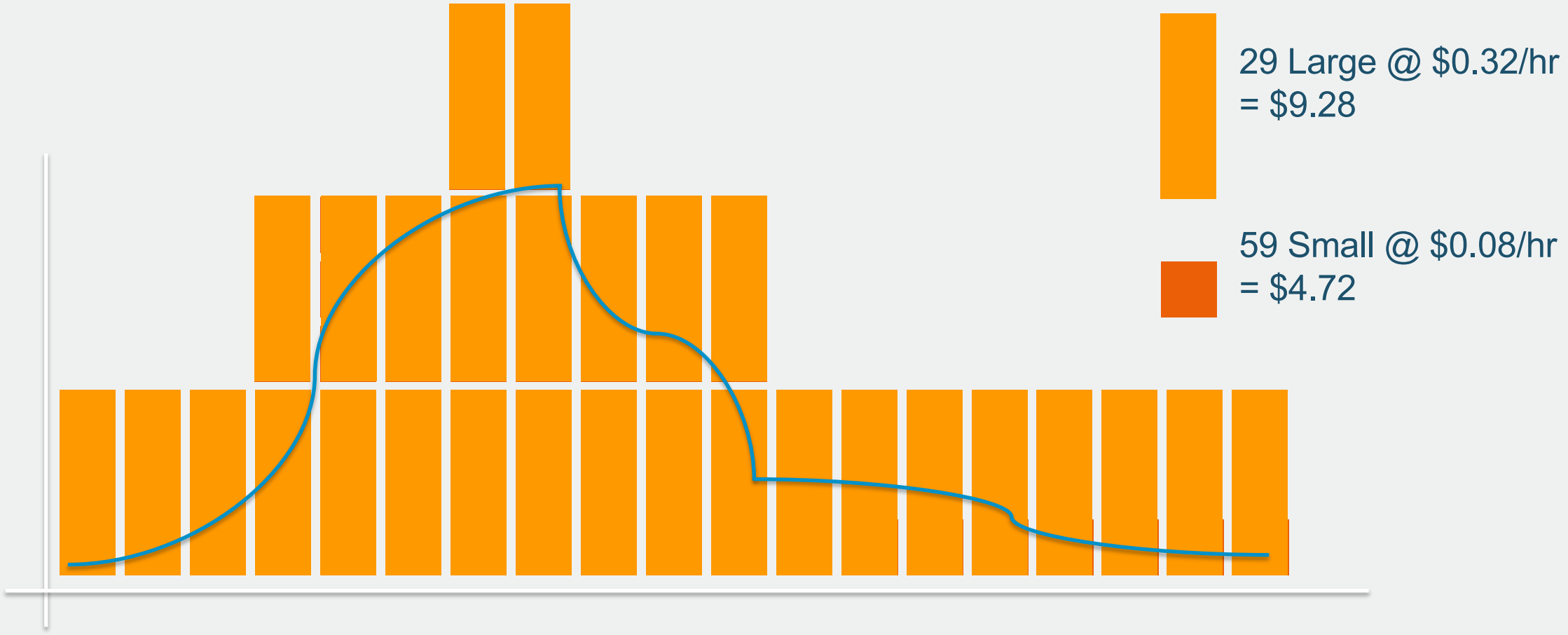
- Utilise Amazon Linux
- Supported by Amazon
- No licence fees
- Regularly updated

Design for elasticity

- Use elasticity to scale the compute you need at the point you need it
- Scale out or up and in and down again quickly



Design for elasticity



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Instructions

- We will be making two adjustments
    - Reserved instance selection
    - Spot instance pricing

BridgeBit focus game round three

BridgeBit focus game round three

Discuss with your team which initiatives from the list below to focus on. You can select none, one or more or all, but remember to watch your budget!

Initiative	Cost	Savings
Increase usage of reserved instances: With reserved instances, you commit to a period of usage (one or three years) and you can make significant savings over equivalent on-demand instances.	**$2m**	**?**
Use spot instances: Spot instances allow you to big on unused EC2 instances and they can significantly lower your Amazon EC2 costs.	**$2m**	**?**

BridgeBit focus game round three: results

So how did you do?

Initiative	Cost	Savings
Increase usage of reserved instances: With reserved instances, you commit to a period of usage (one or three years) and you can make significant savings over equivalent on-demand instances.	**$2m**	**$19m**
Use spot instances: Spot instances allow you to big on unused EC2 instances and they can significantly lower your Amazon EC2 costs.	**$2m**	**$5.2m**

Module 6: Identifying value benefits for your business case

Cloud Value Benefits

Customers Focus on Cost Savings, But Compelling Benefits Go Beyond Cost

	Cost Savings (TCO/CO)	Resource Efficiency	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 & reducing unplanned outage.	Deploying new features / applications 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 & Regions for robust DR (Expedia)	Launch of new products 75% faster (Unilever)

Typical Focus ← → Most Compelling Cloud Benefits →

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BridgeBit focus game round four

BridgeBit focus game round four

Initiative	Cost	Savings
Save hours by redirecting talent from hardware support: Reduce hardware tasks and enable your teams to replace tactical work with strategic work and more business focused tasks..	$3m	?
Decrease mean time to resolve outages: Run applications and failover across multiple Availability Zones or Regions.	$1m	?
Reduce failed application deployments: Deploy smaller code deployments to reduce unit, integration and system bugs.	$1m	?
Reduce total application defects: Automated testing for unit and integration tests. Continuous improvement is measured, monitored and improved.	$2m	?
Increase application deployment frequency: Automate continuous integration and continuous delivery workflow.	$1m	?
Launch more new applications: Invest in a flexible infrastructure. Organize around release not IT function. Modernize and Innovate	$1m	?

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BridgeBit focus game round four: results

Initiative	Cost	Savings
Save hours by redirecting talent from hardware support: Reduce hardware tasks and enable your teams to replace tactical work with strategic work and more business focused tasks..	$3m	$14.5m
Decrease mean time to resolve outages: Run applications and failover across multiple Availability Zones or Regions.	$1m	$6.4m
Reduce failed application deployments: Deploy smaller code deployments to reduce unit, integration and system bugs.	$1m	$4.9m
Reduce total application defects: Automated testing for unit and integration tests. Continuous improvement is measured, monitored and improved.	$2m	$7.2m
Increase application deployment frequency: Automate continuous integration and continuous delivery workflow.	$1m	$8m
Launch more new applications: Invest in a flexible infrastructure. Organize around release not IT function. Modernize and Innovate	$1m	$22m

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Module 7: Objections to cloud adoption and how to overcome them

“Our servers run at 100% peak CPU / peak RAM”

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“Moving to cloud means I have a cost of modernisation”

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“It’s cheaper to do all of this on-premise”

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“We don’t have the time for this change”

Thank You

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