ENT308

Building a Solid Business Case for Cloud Migration

Shahbaz Alam, Manager AWS Professional Services
Rehan Qureshi, Senior Manager, AWS Professional Services

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What to Expect from the Session

- Understand what most cloud business cases look like
- What is typically missed
- Tools and frameworks to build a better business case
- Illustrative examples

COME ON GUYS, IT'S NOT ROCKET SCIENCE

IT'S A CLOUD BUSINESS CASE

Disrupt or Be Disrupted…Start Building Your Business Case Now

airbnb

Hotels

robinhood

Trading

Oscar

Insurance

Instacart

Grocery delivery

lyft

Taxi

TicketLeap.com

Event Tickets

Spotify®

Music

MI

Devices

Business Case Components

In the beginning . . .

…there was **TCO**
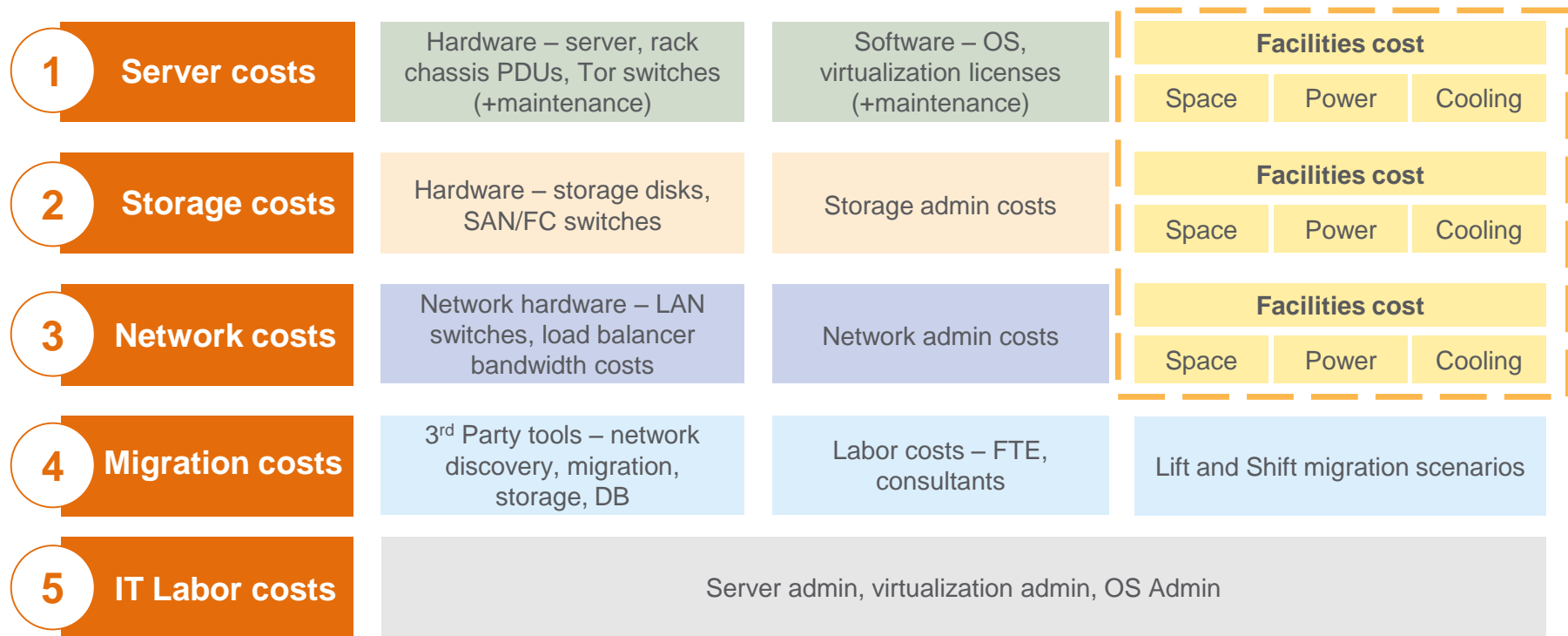
Total Cost of Ownership (TCO)

A TCO analysis typically includes:

1. Comparing the costs of running an infrastructure environment or specific workload/application on-premises or in a co-location facility to AWS

2. Paralleling an existing AWS workload with an on-premises or co-location setup

3. Assuming a lift and shift migration scenario
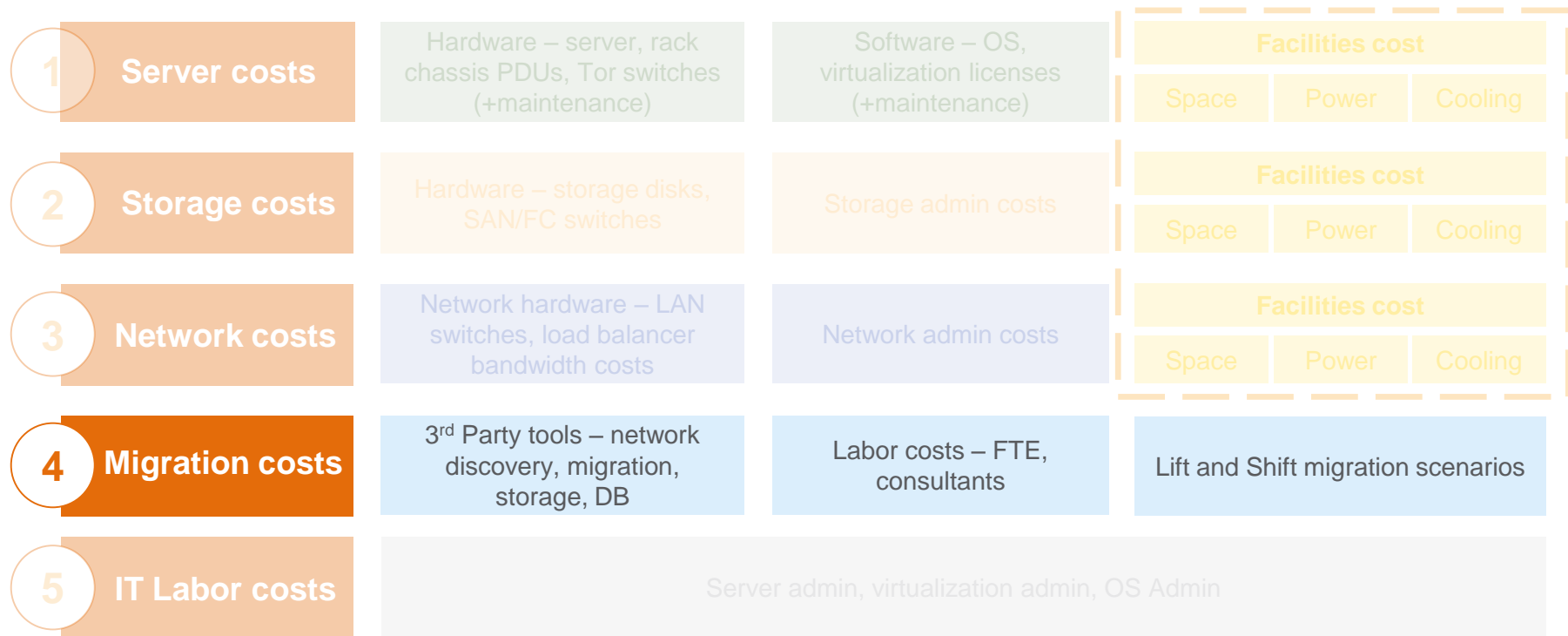
TCO = Acquisition + Migration + Operation Costs

illustrative

			Facilities cost		
1 Server costs	Hardware – server, rack chassis PDUs, Tor switches (+maintenance)	Software – OS, virtualization licenses (+maintenance)	Space	Power	Cooling
			Facilities cost		
2 Storage costs	Hardware – storage disks, SAN/FC switches	Storage admin costs	Space	Power	Cooling
			Facilities cost		
3 Network costs	Network hardware – LAN switches, load balancer bandwidth costs	Network admin costs	Space	Power	Cooling
4 Migration costs	3rd Party tools – network discovery, migration, storage, DB	Labor costs – FTE, consultants	Lift and Shift migration scenarios		
5 IT Labor costs	Server admin, virtualization admin, OS Admin				

The diagram doesn't include every cost item. For example, software costs can include database, management, and middle-tier software costs. Facilities cost can include costs associated with upgrades, maintenance, building security, taxes, and so on. IT labor costs can include security admin and application admin costs.

TCO = Acquisition + Migration + Operation Costs

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			Space	Power	Cooling
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Lift and Shift Migration Cost Components
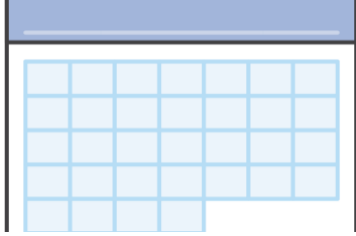
Planning
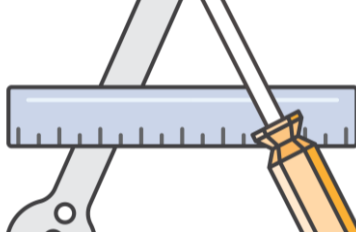
Migration tools
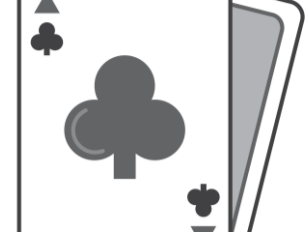
Consulting partners



Application assessment

Duplicate environments

Lease penalties

Lift and Shift Application Migration Scenarios

Hours	**Very Low**	**Low**	**Medium**	**High**	**Very High**
	2 – 4 hours	4 – 6 hours	6 – 8 hours	10 – 14 hours	20 – 24 hours

Characteristics

Very Low	Low	Medium	High	Very High
☐ Basic workload	☐ Basic workload	☐ Contains multiple components	☐ Multiple components including database	☐ Multiple components including database
☐ Current/supported OS on AWS	☐ No database	☐ No database	☐ System may include greater than five disks	☐ Complex system configuration (e.g. numerous disks)
☐ No database	☐ May require re-platforming (i.e. OS)	☐ May require re-platforming (i.e. OS change / upgrade)	☐ Limited downtime permitted	☐ Contains several dependencies
☐ Few dependencies	☐ Scheduled outage is OK	☐ Outage with advance planning	☐ Production servers likely to impact business if unavailable for an extended period of time	☐ Limited to No acceptable downtime
☐ Scheduled outage is OK		☐ Business impact possible for production servers		☐ Requires advanced detailed assessment and planning
				☐ High-touch migration

Migration Method

Very Low	Low	Medium	High	Very High
VM Conversion	VM Conversion	Live Migration	Live Migration	Live Migration
Host Cloning	Host Cloning	App Containerization	App Containerization	App Containerization

Sample TCO Output
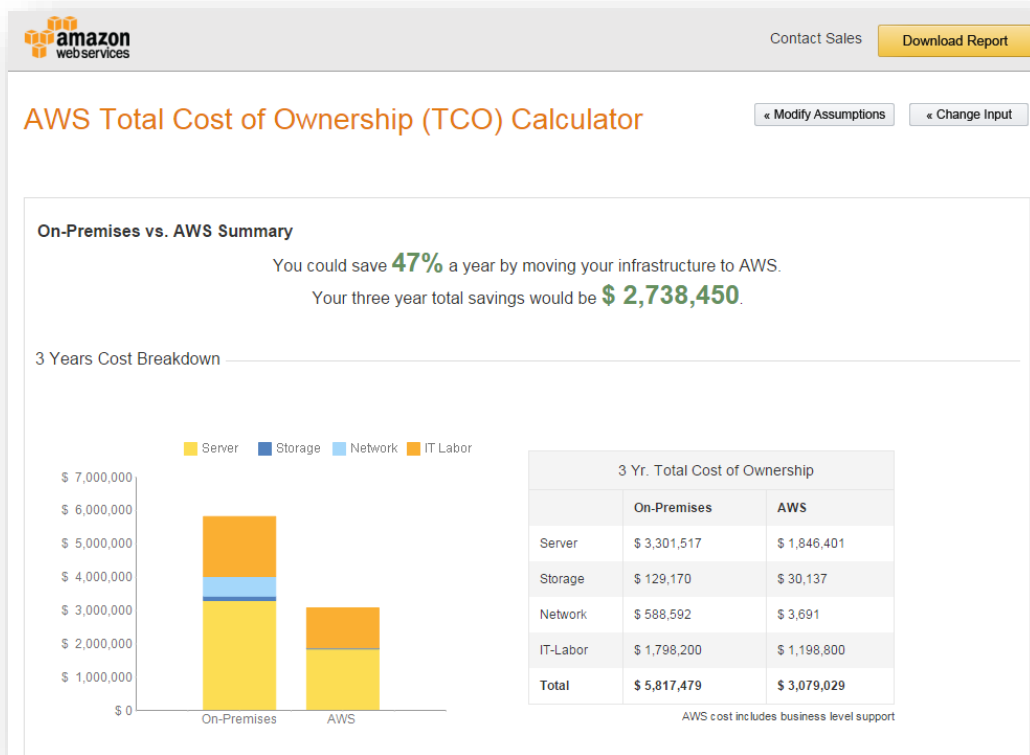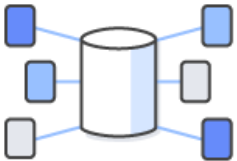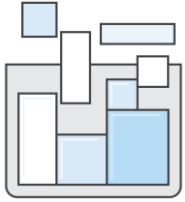
But Don't Stop Here…

The First Rule of Technology Optimization…

Compare your current on-premises environment to your future state re-architected AWS environment, **NOT** a replica of what exists today.

Imagine…

A world that frees you from managing infrastructure

The 5 Components of Technology Optimization

Services	Fit	Price	Scale	Iterate

Non Optimized Services

Optimized Services

Instance Type

Instance Family

On-Demand

Reserve

Spot

Dedicated

Time Based

Event Based

Periodic Review

Periodic Updates

Future State Optimization – AWS Managed Services to Consider

Amazon ECS

Elastic Load Balancing

Amazon Redshift

Amazon ElastiCache

Amazon EMR

Amazon Machine Learning

AWS Mobile Hub

Amazon Cognito

AWS Lambda

Amazon Route 53

Amazon RDS

Amazon DynamoDB

Amazon Kinesis

Amazon Elasticsearch Service

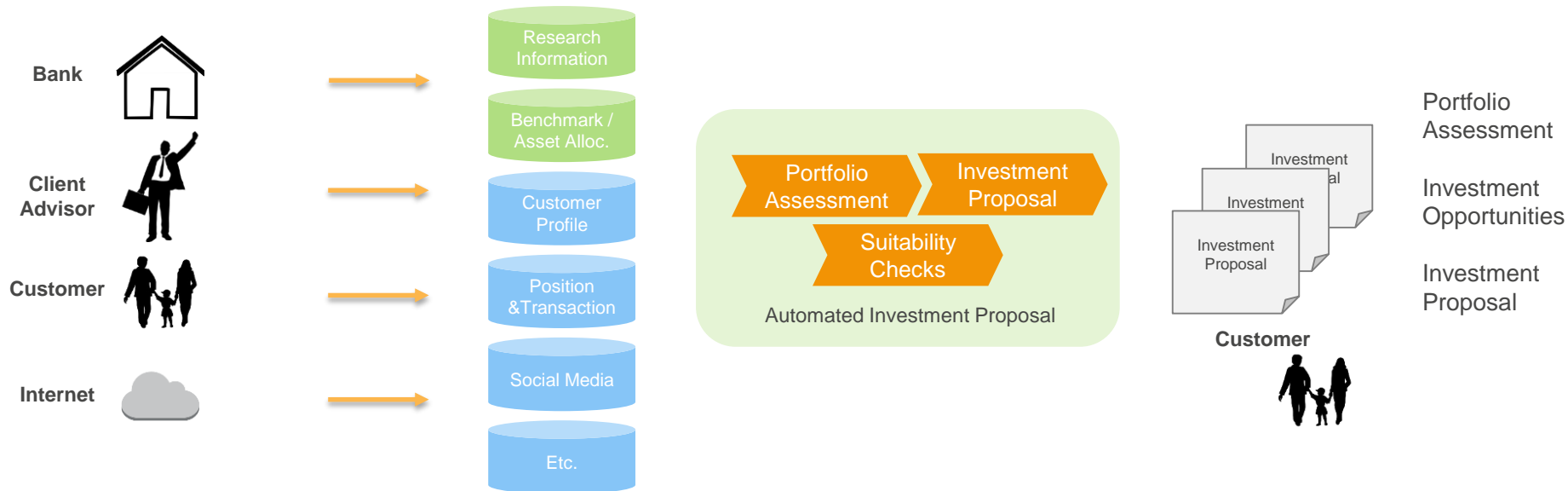Amazon GameLift

Amazon API Gateway
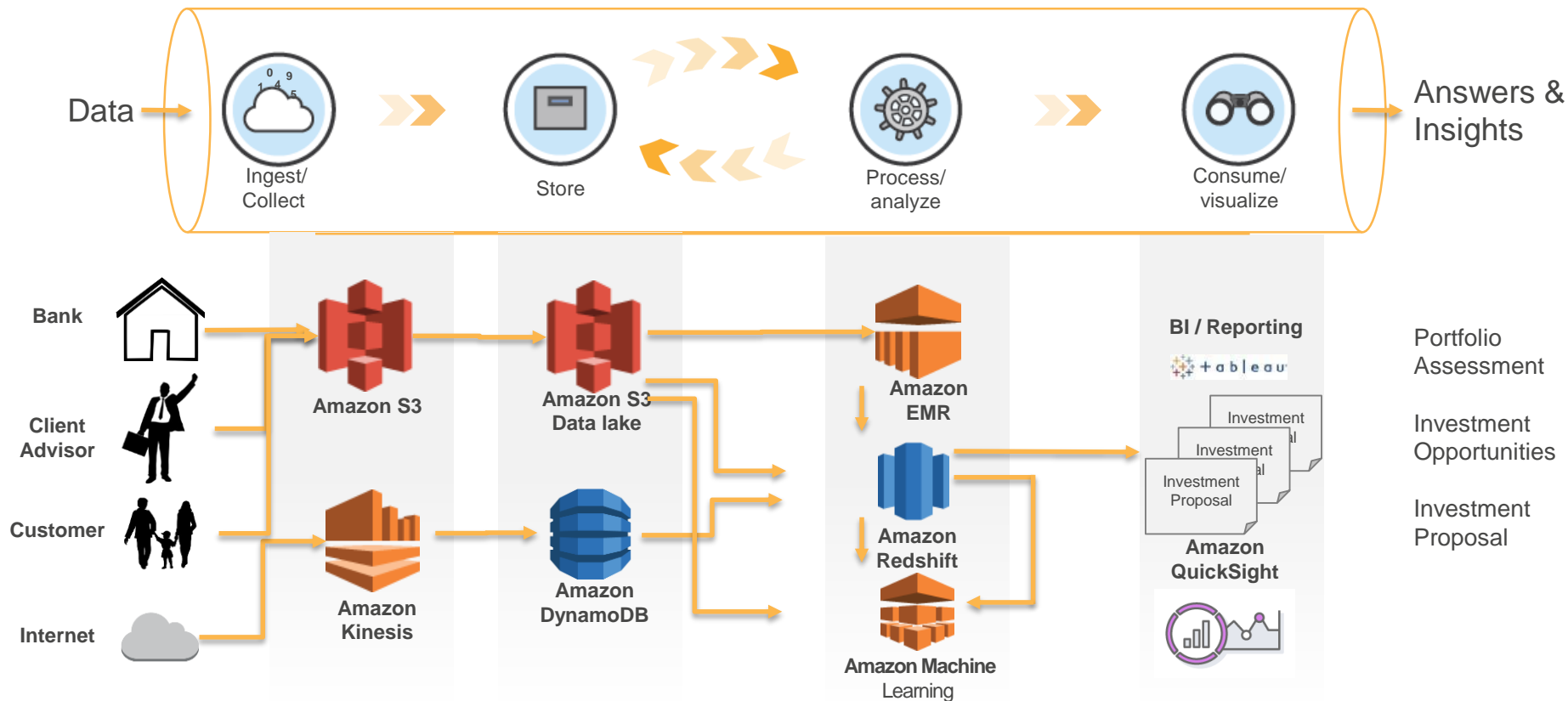
Amazon EFS

AWS IoT

Amazon S3

AWS KMS

Use Case: Automated Advisory Platform

Cost of Change

Business Case Components

Total Cost of Ownership (TCO)

Technology Optimization

Cost of Change

Business Value

Many Non-Technology Components Are Forgotten in a Business Case…

Compliance

Core Competency

Security

Business Alignment

Cost Control

DevOps

Governance and Policy

Application Optimization

Operational Integration

Reporting

Talent Optimization

On Demand

Continuous Deployment

The AWS Cloud Adoption Framework Can Be a Guide…Focus on the Relevant Perspectives

Cost of Governance

- ✓ Standards and Control
- ✓ AWS consumption model
- ✓ Financial Management, Consumption
- ✓ Capacity Management

Cost of Organizational Change Management

- ✓ Cloud COE
- ✓ AWS Training

The AWS Cloud Adoption Framework Can Be a Guide…Focus on the Relevant Perspectives
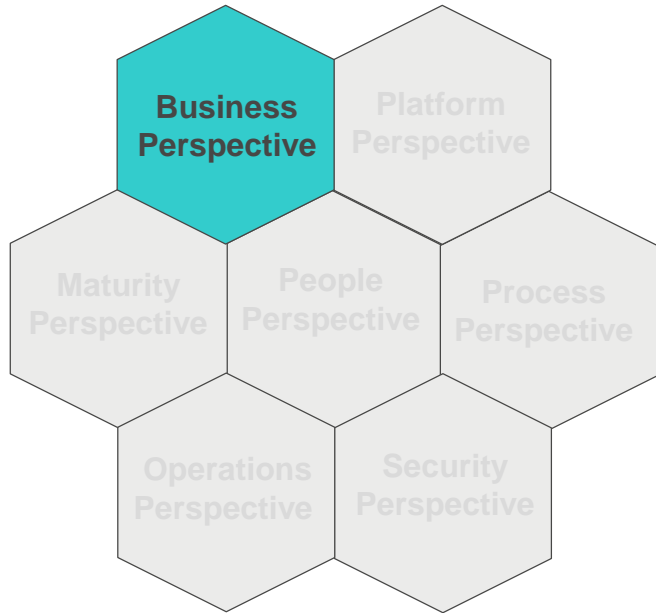

Cost of Process and Service Management

✓ SLA Strategy

✓ Asset Management

✓ Account Management

Cost of Integration with Existing Tools / Processes

✓ AWS native services

✓ Cloud Operating model

✓ Cloud Operations

The AWS Cloud Adoption Framework Can Be a Guide…Focus on the Relevant Perspectives

Cost of Business Transformation

- ✓ Realigning IT Strategy
- ✓ Vendor Management
- ✓ Shadow IT / Line of Business IT realignment

Business Value

Total Cost of Ownership (TCO)

Technology Optimization

Cost of Change

Business Value

Understand How IT Can Help the Business…

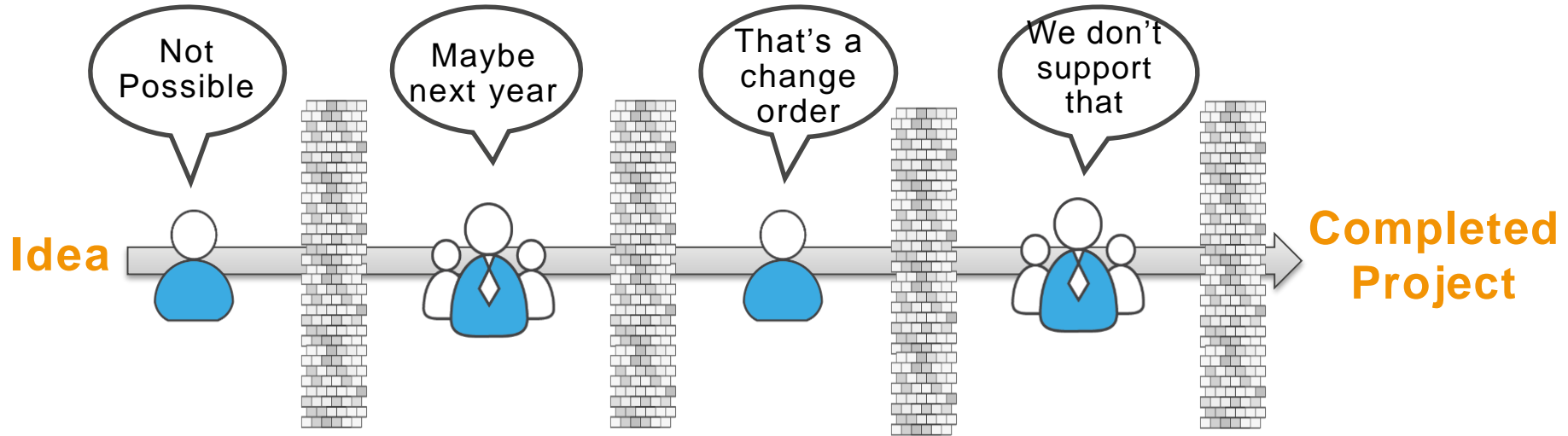Lower the time spent on building and supporting infrastructure
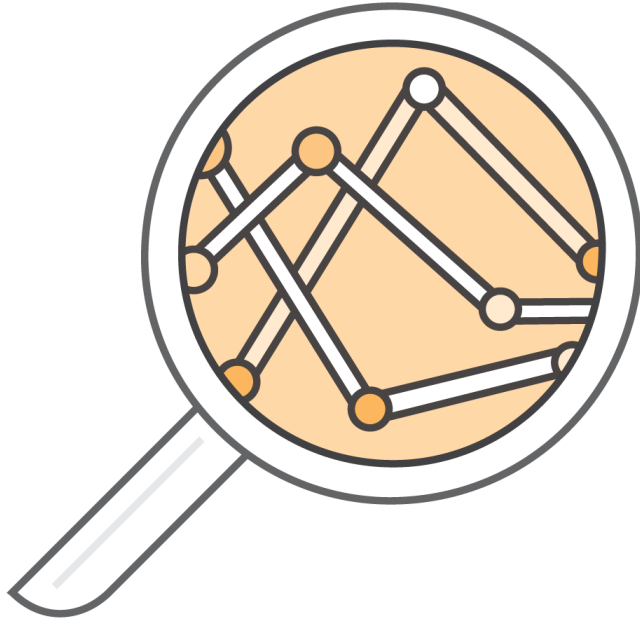
Concentrate on new business initiatives and projects

Dedicate more IT resources to innovation

# Builders Don't Want to Be Blocked…They Want to Build and Innovate!

Quantify Tangible Benefits

Tangible cost savings associated with migration to the cloud are not the only benefits to be gained from your cloud transformation.

Quantifying the **business value** that the cloud can have on your business and your bottom line can lead to a solid business case, thus helping to create a greater urgency to accelerate your cloud journey.

(In)Tangible Benefits You Can Quantify
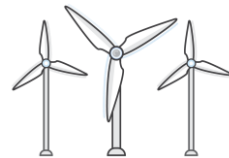
Business Agility

- Rapid and less expensive experimentation
- Faster application development
- Faster business decisions = faster time to market

Workforce Productivity

- Individual task productivity
- Self-service culture
- Increased automation
- Developer satisfaction = higher retention

Operational Resilience

- Improved system performance
- Less downtime
- Improved security posture
- More incremental changes = reduced bugs

Illustrative Example of Calculating Productivity Improvements

Server Engineering			Current Estimates		AWS Reduction Estimates	
Stage	Activity Category	Activity	% of time on (Annual)	Estimated Hours p/Resource	Efficiency Estimate by Moving to AWS (Higher % = More Efficient)	Notes: Reasons why AWS feels Efficiences would be achieved
			100%	1,920.0	33.48%	
Plan			**31%**	586	**58%**	
Plan	Architecture	Server Architecture Design	5%	92	50%	Since all the servers will reside on AWS there is minimal server architecture design required by the client. Most of the items that will be required are instance rightsizing.
Plan	Architecture	New technologies evaluation	6%	122	0%	New technology evaluation will continue to be a crtical function of a Server Engineer.
Plan	Budgeting	Server Budgeting and Planning	6%	112	90%	There is no capital server budget or plan in the AWS cloud.
Plan	Procurement	Server purchasing process	8%	152	75%	Instance purchasing requires minimal effort in comparison to server purchasing.
Plan	Capacity Planning	Long term capacity planning	6%	108	75%	Capacity planning is simply a matter of initiating new instances based on thresholds and much of this can be automated.
Operate			**69%**	1,334	**16%**	

Determine amount of efficiency on each task for each resource by moving to AWS

In Summary, Creating a Good Business Case Enables You to…

Define your current and future costs

Envision the art of the possible

Accurately reflect your cloud transition

Quantify the tangible benefits

Remember to complete your evaluations!