



INNOVATE2018

ONLINE CONFERENCE



Migrate Away That Technical Debt (Level 200)

Manav Prabhakar, Practice Manager

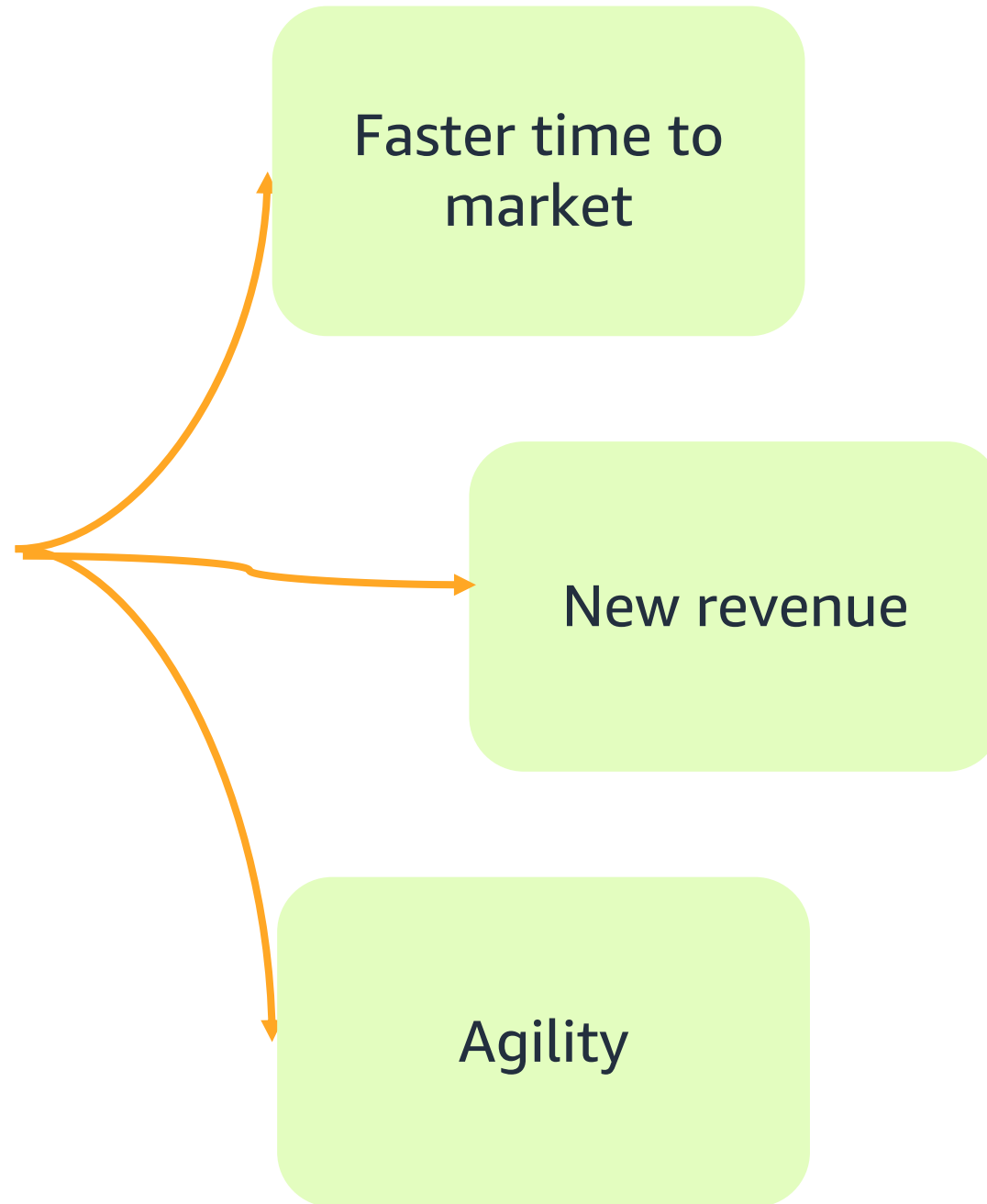
What's ahead?

- ❏ Why migrate to AWS? In 5 mins or less...
- ❏ Migration Methodology
- ❏ Migration Tools & Programs
- ❏ It's quiz time!
- ❏ What to do next? (and Critical Success Factors)

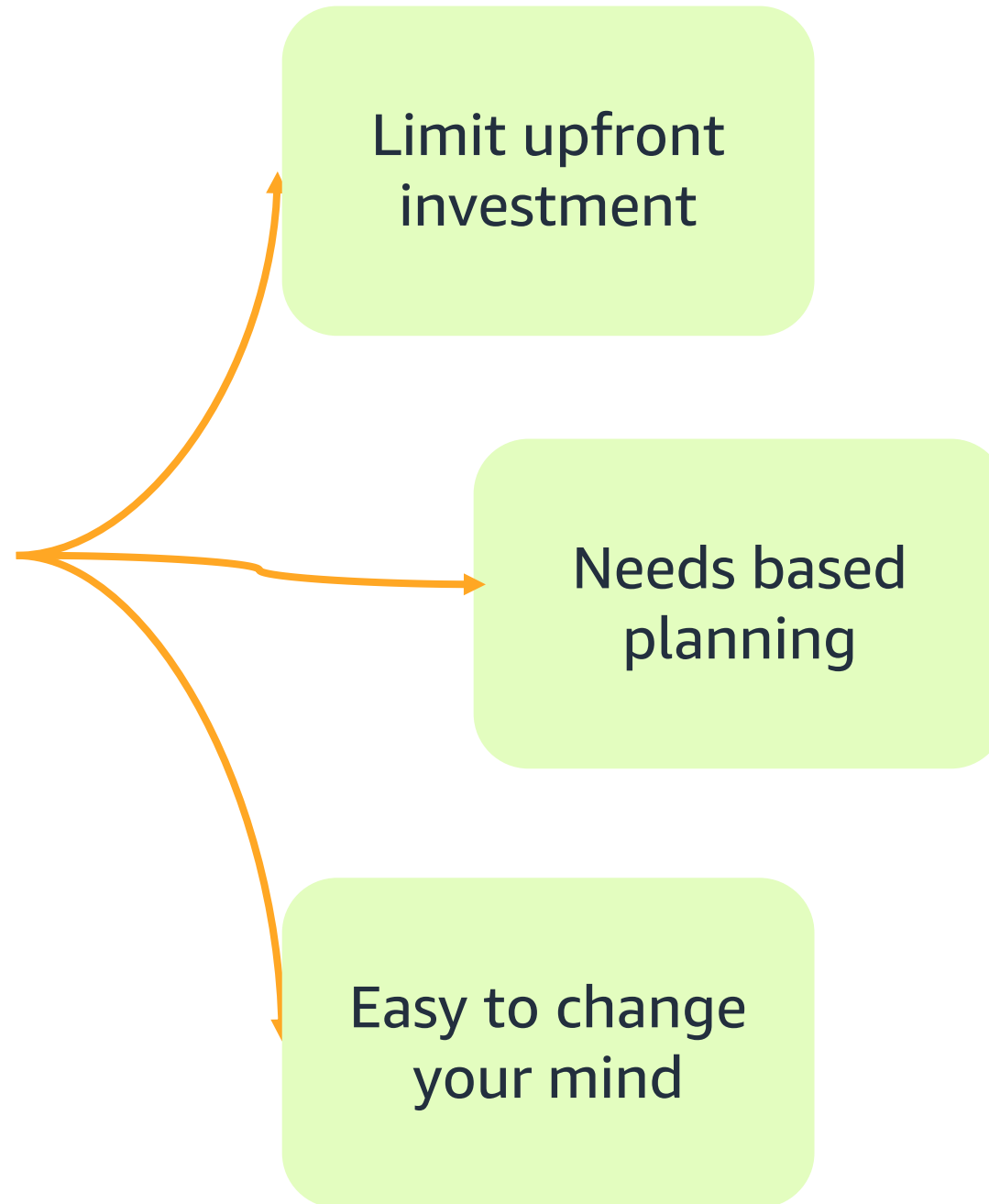
WHY MIGRATE TO AWS?



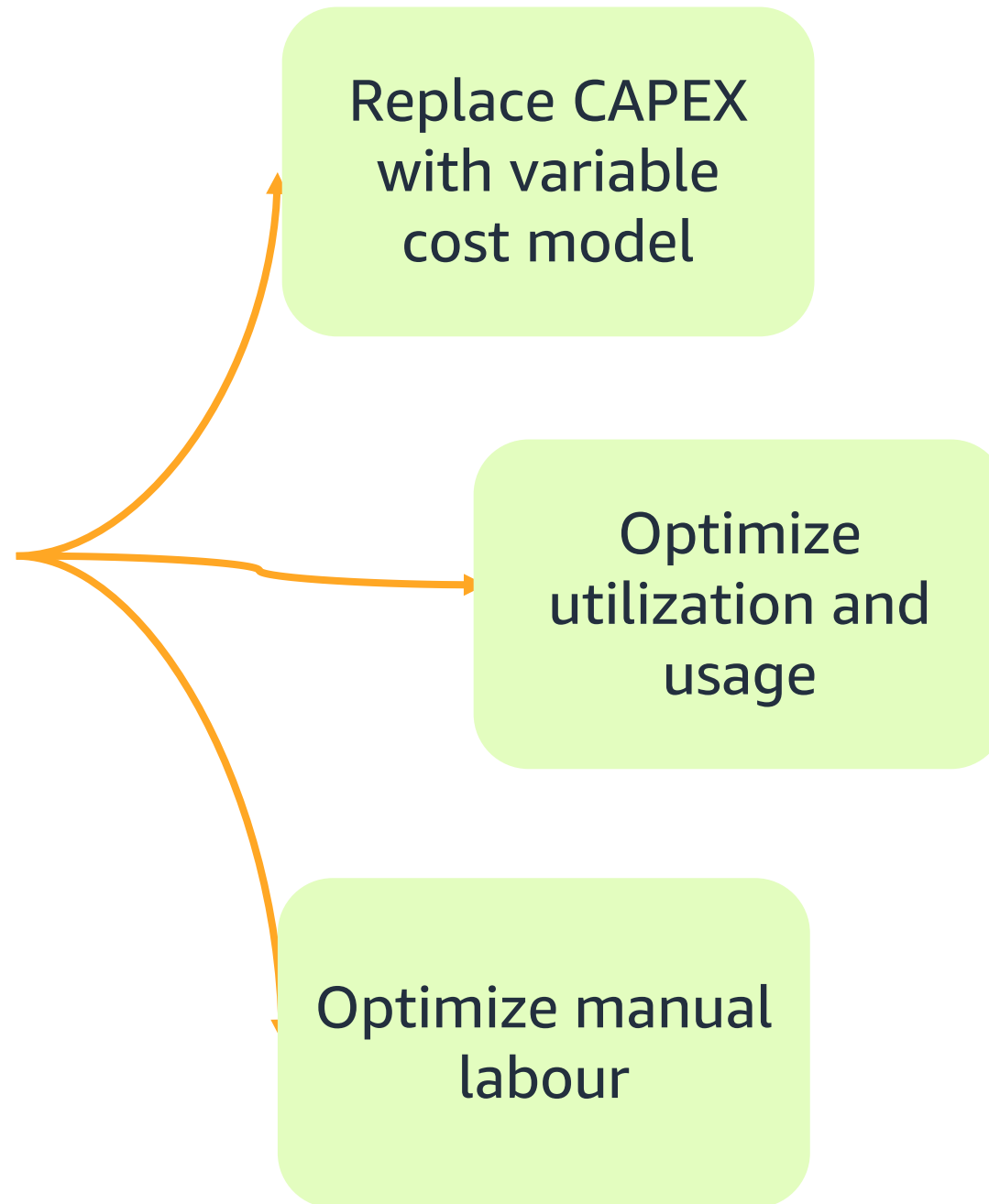
DRIVE BUSINESS VALUE



REDUCE RISK



LOWER TCO



MIGRATION METHODOLOGY

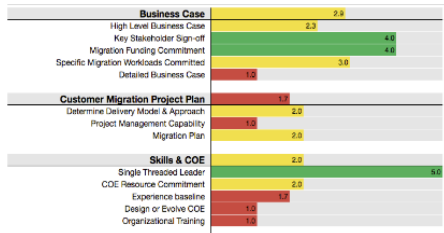


Migration Methodology

MIGRATION READINESS ASSESSMENT (MRA)

MIGRATION READINESS & PLANNING (MRP)

MIGRATIONS & OPERATIONS



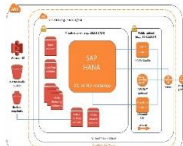
Rapid
Discovery



Directional
Business Case



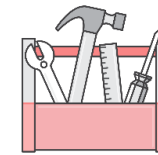
Discovery
& Planning



Landing
Zone



Migrations &
Expertise



Skills / CoE



Business
Case



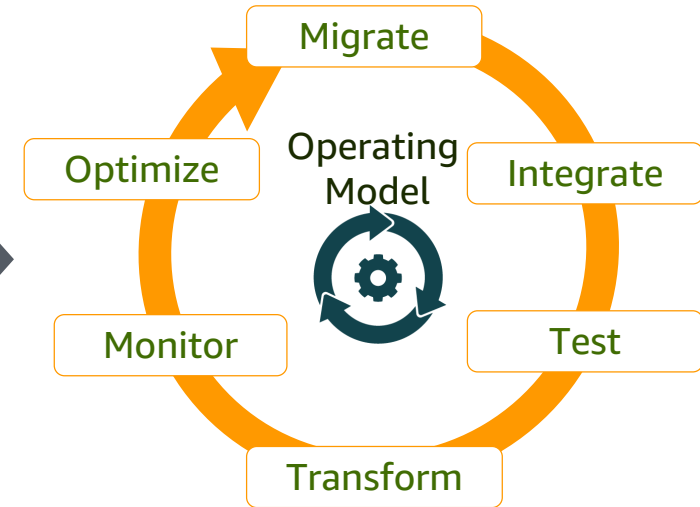
Migration
Plan



Operating
Model

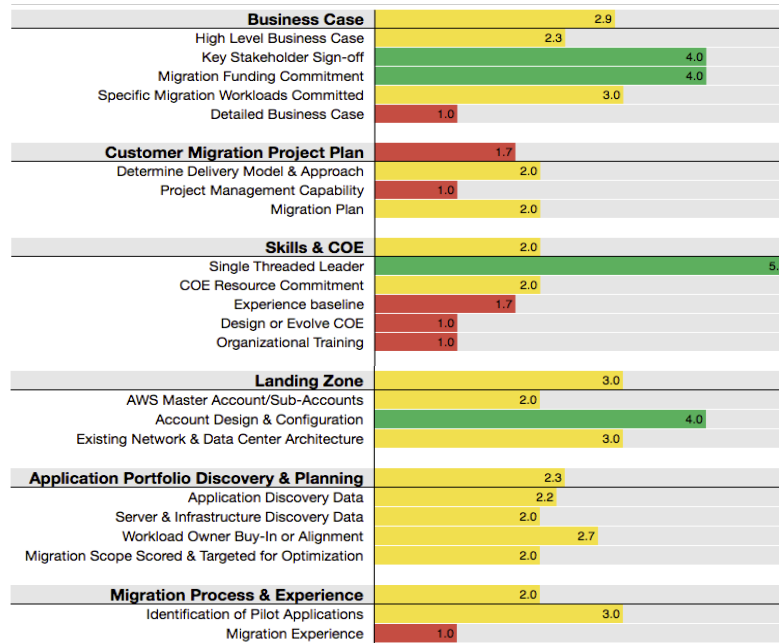


Security &
Compliance



MRA based on AWS Cloud Adoption Framework

Business Capability Focused	Business Value Realization
	People Roles and Readiness
	Governance Prioritization and Control
Technical Capability Focused	Platform Applications and Infrastructure
	Security Risk and Compliance
	Operations Hybrid and Dynamic



Migration Project Observations and Actions: [Example]

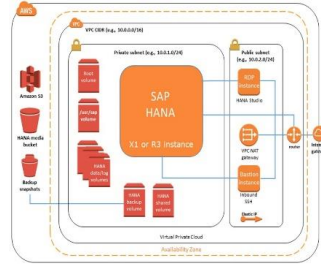
- Determine if CMDB is up to date and covers targeted areas
- Select Cloud project team leader and business area leader
- Establish an security assessment team to review regulatory requirements



Migration Readiness & Planning Outcomes



Discovery & Planning



Landing Zone



Skills



Migrations Experience



Migration Business Case



Security & Compliance



Migration Plan

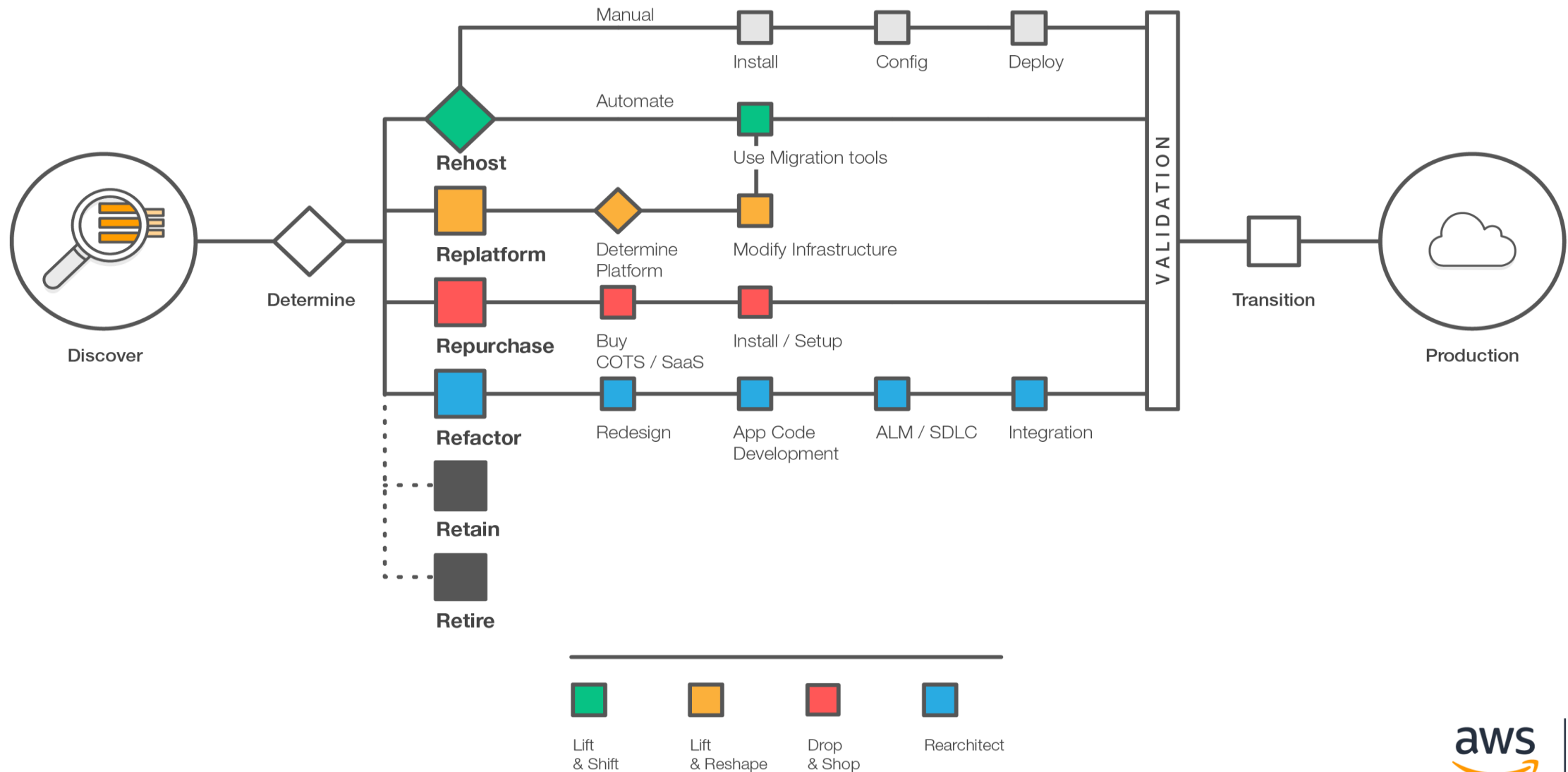


Operating Model

Application Migration Strategies (6Rs)

REHOST	REPLATFORM	REFACTOR
REPURCHASE	RETIRE	RETAIN

Application Migration Strategies (6Rs)



MIGRATION TOOLS & PROGRAMS



Migration Tools & Programs

Integrated discovery tools:

- ➔ AWS Discovery Connectors
- ➔ AWS Discovery Agents

AWS migration programs:

- ➔ Professional Services
- ➔ Migration Acceleration Program
- ➔ Migration Partners Solutions

Integrated migration tools:

- ➔ AWS Database Migration Service
- ➔ AWS Server Migration Service
- ➔ ATADATA ATAmotion
- ➔ CloudEndure Live Migration

Documentation & support:

- ➔ User Guide
- ➔ Forums
- ➔ Contact us

Migration Hub



Services ^

Resource Groups v



Manav Prabhakar v

Oregon v

Support v

History

Console Home

Server Migration Service

Database Migration Service

AWS Migration Hub

IAM

Find a service by name or feature (for example, EC2, S3 or VM, storage).

Group

A-Z



Database

RDS

DynamoDB

ElastiCache

Amazon Redshift

Kinesis Video Streams

MediaConvert

MediaLive

MediaPackage

MediaStore

MediaTailor

GuardDuty

Inspector

Amazon Macie ↗

AWS Single Sign-On

Certificate Manager

CloudHSM

Directory Service

WAF & Shield

Artifact

AppStream 2.0



Migration

AWS Migration Hub

Application Discovery Service

Database Migration Service

Server Migration Service

Snowball



Machine Learning

Amazon SageMaker

Amazon Comprehend

AWS DeepLens

Amazon Lex

Machine Learning

Amazon Polly

Rekognition

Amazon Transcribe

Amazon Translate



Mobile Services

Mobile Hub

AWS AppSync

Device Farm

Mobile Analytics



Internet Of Things

IoT Core

IoT 1-Click

IoT Device Management

IoT Analytics

Greengrass

Amazon FreeRTOS



Game Development

Amazon GameLift



Networking & Content Delivery

VPC

CloudFront

Route 53

API Gateway



AR & VR

Amazon Sumerian



Migration Hub



Services ▾

Resource Groups ▾



Manav Prabhakar ▾

Oregon ▾

Support ▾

Migration Hub

Dashboard

Discover

Servers

Applications

Data Collectors

Tools

Migrate

Applications

Updates

Tools

Help & Support

Feedback

AWS Migration Hub

Migration Hub simplifies and accelerates discovery and migration from your data centers to the AWS Cloud. [Learn more](#)



Discover

- Deploy AWS discovery tools (Optional)



Migrate

- Connect migration tools
- Migrate using connected tools
- Group servers as applications



Track

- Track status of migrations [View example](#)



Discovery Tools



Services ▾

Resource Groups ▾



Manav Prabhakar ▾

Select a Region ▾

Support ▾

Migration Hub

Dashboard

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Help & Support

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Discovery Tools

Integrated discovery tools

Because AWS Application Discovery Service agents and connectors are integrated with Migration Hub, you can view the collected data in Migration Hub.



Discovery Connector

To collect system specification and performance information for all VMs in one vCenter, deploy an AWS Agentless Discovery Connector (Discovery Connector) in each VMware vCenter. Deployment is simple and helps you quickly collect info about your VMs.

[Download connector](#)

[Setup instructions](#)



Discovery Agent

To collect system specification, performance, processes, and network dependencies, install an AWS Application Discovery Service Agent (Discovery Agent) on each of your VMs or physical servers.

Pre-requisite for Windows Agent:

[Microsoft Visual C++ Runtime for x86 \(vc_redist.x86.exe\)](#)

[Download agent](#) ▾

[Setup instructions](#)

► [How do Discovery Connectors and Discovery Agents differ?](#)

Other discovery tools

You can also use [AWS Partners' Solutions](#) to discover your data center. However, these tools are not currently integrated with Migration Hub. You can't view the data you collect with partner tools in Migration Hub.

Ready to migrate?

If you have already performed discovery, or if you want to skip straight to migration, use [the integrated migration tools](#).



Migration Tools



Services ▾

Resource Groups ▾



Manav Prabhakar ▾

Select a Region ▾

Support ▾

Migration Hub

Dashboard

Discover

Servers

Applications

Data Collectors

Tools

Migrate

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Help & Support

Feedback

Migration Tools

You can track the migration status of your applications in MigrationHub using the following tools. To send migration status to Migration Hub, you need to first connect your preferred migration tools. The connected tools will send migration status updates to the us-west-2 region.

Server migration tools



Server Migration Service Not connected

Use AWS Server Migration Service (AWS SMS) to import VM images from your existing environment to ready-to-use Amazon EC2 instances. With AWS SMS, you can use your existing VM investments to meet your IT security, configuration management, and compliance requirements.

Connect

[Documentation](#) | [SMS Console](#)

ATADATA™ ATAmotion ⓘ

ATAmotion auto-migrates live workloads directly to your VPC from any physical, virtual or cloud source, without installing agents. The friendly user interface incorporates AWS API integration for features like VPC auto-provisioning, and the proprietary clone engine is purpose built for enterprise class workloads, benchmark migration speeds, flexible deployment, and with no database size restrictions for replication or synchronization.

Connect

[ATADATA website](#)



CloudEndure® Live Migration ⓘ

CloudEndure provides automated migration to AWS from any physical or virtual infrastructure. Its continuous, block-level replication technology enables efficient migration for all workloads, including databases and legacy applications. Replication occurs in the background, without system disruption or performance impact. Automated machine conversion and application stack orchestration minimize cutover window to near-zero.

Connect

[Buy on AWS Marketplace](#) | [CloudEndure website](#)



AWS Server Migration Service



Services ▾

Resource Groups ▾



Manav Prabhakar ▾

Oregon ▾

Support



AWS Server Migration Service

AWS Server Migration Service makes it easier and faster for you to migrate on-premises servers to AWS.

[Get started](#)

[Getting started guide](#)



Easy to get started

AWS Server Migration Service will automatically replicate live server volumes to AWS and create Amazon Machine Images (AMI) as needed.

[Learn more](#)



Control

Create and manage a customized replication schedule designed for large-scale migrations, and track the progress of each migration.

[Learn more](#)



Agility

Perform migrations faster while minimizing network bandwidth and reducing server downtime, by migrating only incremental changes made to on-premises servers.

[Learn more](#)



AWS Database Migration Service



Services ▾

Resource Groups ▾



Manav Prabhakar ▾

Oregon ▾

Support ▾

Setting up your first replication task

Step 1: Welcome

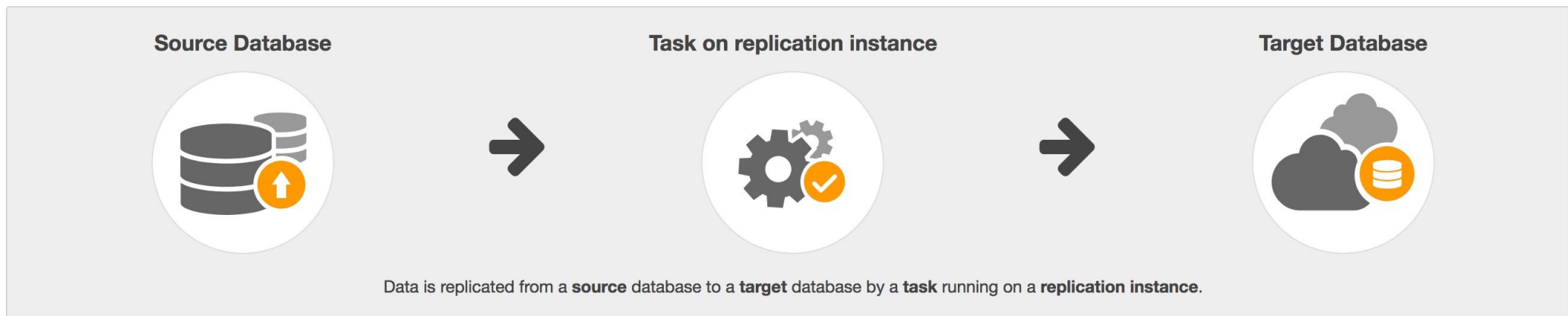
Step 2: Replication instance

Step 3: Database endpoints

Step 4: Task

Welcome to AWS Database Migration Service

AWS Database Migration Service tasks require at least a source, a target, and a replication instance. Your source is the database you wish to move data from and the target is the database you're moving data to. The replication instance processes the migration tasks and requires access to your source and target endpoints inside your VPC. Replication instances come in different sizes depending on your performance needs. If you're migrating to a different database engine, AWS Schema Conversion Tool can generate the new schema for you. [Download AWS Schema Conversion Tool](#)



Cancel

Previous

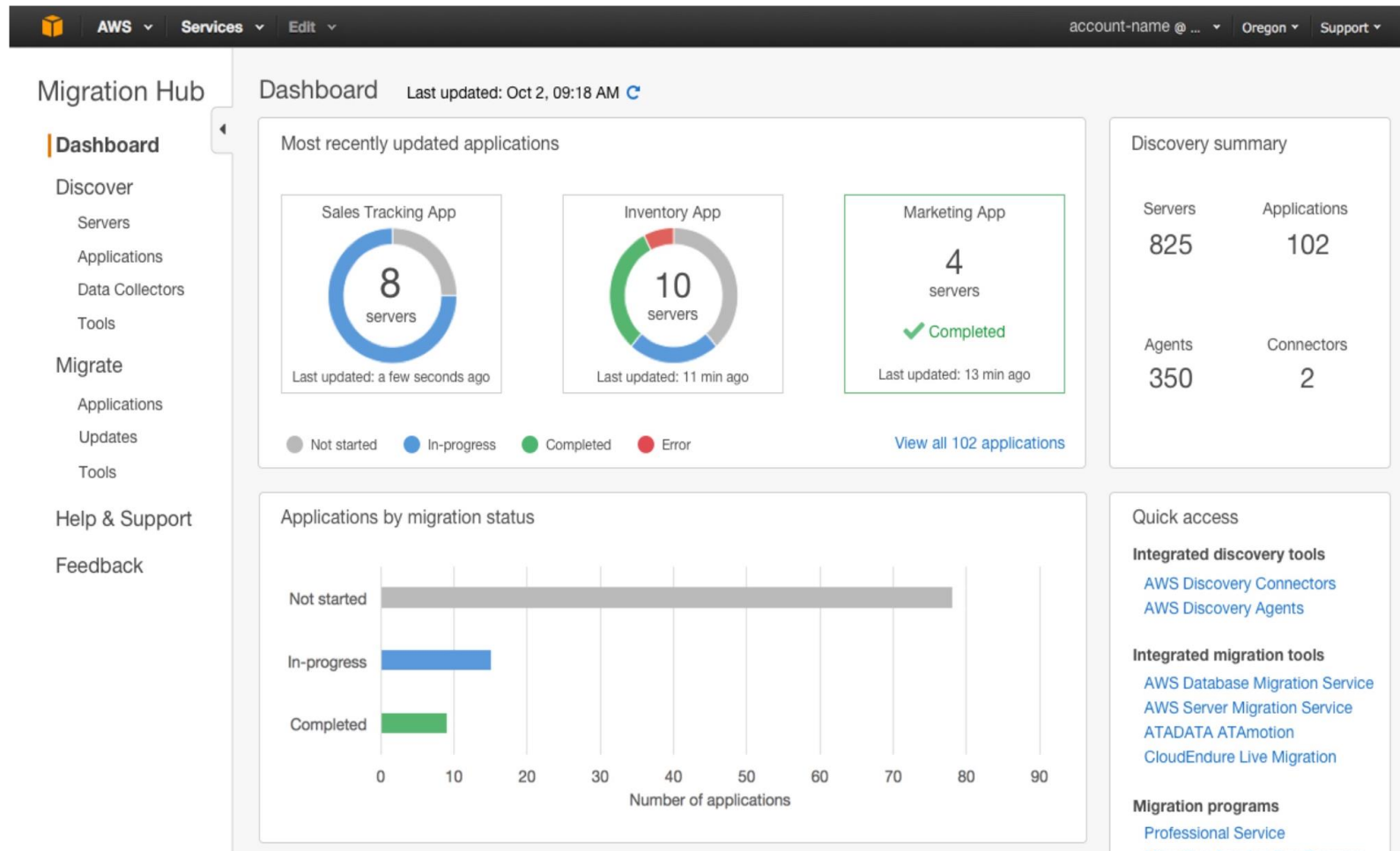
Next



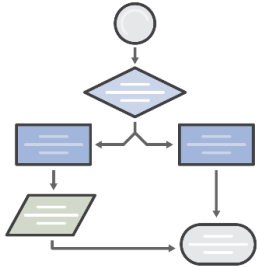
Migration Hub Dashboard

Migration Hub dashboard example

[X Close](#)



Migration Acceleration Program



Migration Methodology



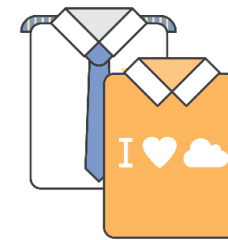
AWS and Partner Tools



AWS Partners



AWS Training



**AWS Professional
Services**

Migration Partner Solutions



- Established AWS migration practice
- Current Managed Services or DevOps Competency
- At least Advanced level AWS Consulting partner
- AWS certifications and certified consultants
- Audited annually against competencies

<https://aws.amazon.com/migration/partner-solutions>

IT'S QUIZ TIME!!



Scenario 1

- ❏ Web based 3 tier application
- ❏ X86 virtualized
- ❏ Supported OS e.g. Microsoft Windows Server 2012
- ❏ Little to no dependency on other apps that are running on-premise
- ❏ Database (DB) can be migrated to Amazon Relational Database Service (RDS) on a supported engine
- ❏ Well understood and documented architecture

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- ❏ Well understood and documented architecture

REHOST

Scenario 2

- ❏ Web based 3 tier application
- ❏ Non x86
- ❏ OS not supported e.g. AIX, Solaris
- ❏ Little to no dependency on other apps that are running on-premise
- ❏ App server runs on WebLogic
- ❏ DB can be migrated to Amazon RDS on a supported engine
- ❏ Well understood and documented architecture

Scenario 2

- ❏ 3 tier application
- ❏ Non x86
- ❏ OS not supported e.g. AIX, Solaris
- ❏ Little to no dependency on other apps that are running on-premise
- ❏ App server runs application logic
- ❏ DB can be migrated to Amazon RDS on a supported engine
- ❏ Well understood and documented architecture

REPLATFORM

Scenario 3

- ❏ Client-server application
- ❏ Non x86
- ❏ Runs on Mainframe
- ❏ Several dependencies on other applications
- ❏ DB can be migrated to Amazon RDS on a supported engine
- ❏ Architecture not well understood
- ❏ Faces variable spikey demand
- ❏ Difficult to make code changes

Scenario 3

- ❏ Client-server application
- ❏ Non x86
- ❏ Runs on Mainframe
- ❏ Several dependencies on other applications
- ❏ DB can be migrated to Amazon RDS on a supported engine
- ❏ Architecture not understood
- ❏ Faces variable spikey demand
- ❏ Difficult to make code changes

REFACTOR

WHAT TO DO NEXT?



#1 Build a Business Case

#1 Build a Business Case

Directional and then Detailed if required

#2 Analyze your Application Portfolio

#2 Analyze your Application Portfolio No Analysis Paralysis, please!

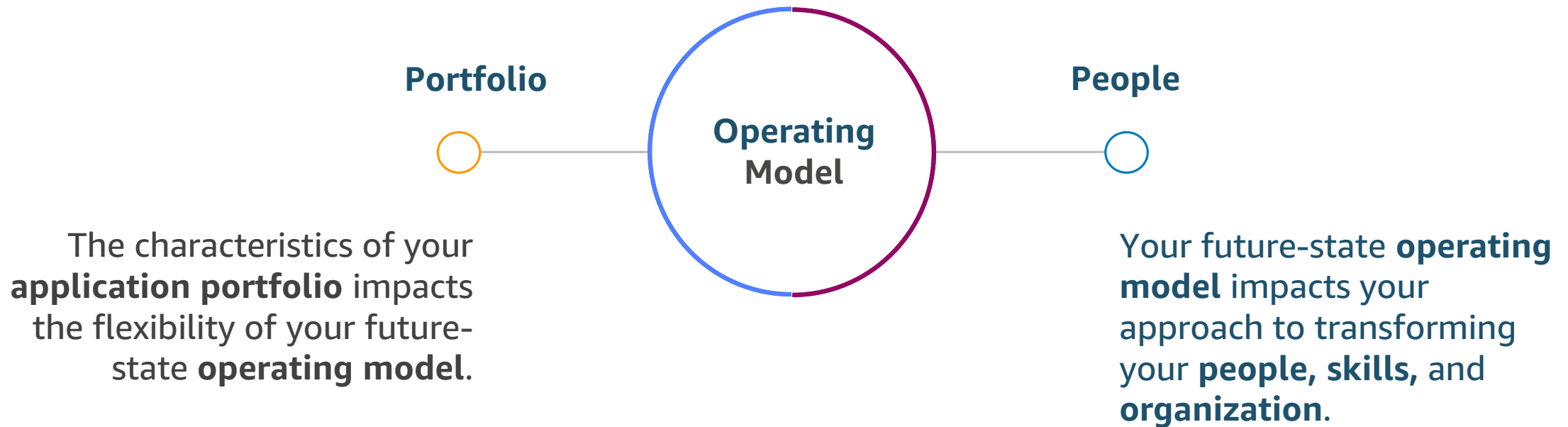
#3 Build a Migration Plan

#3 Build a Migration Plan

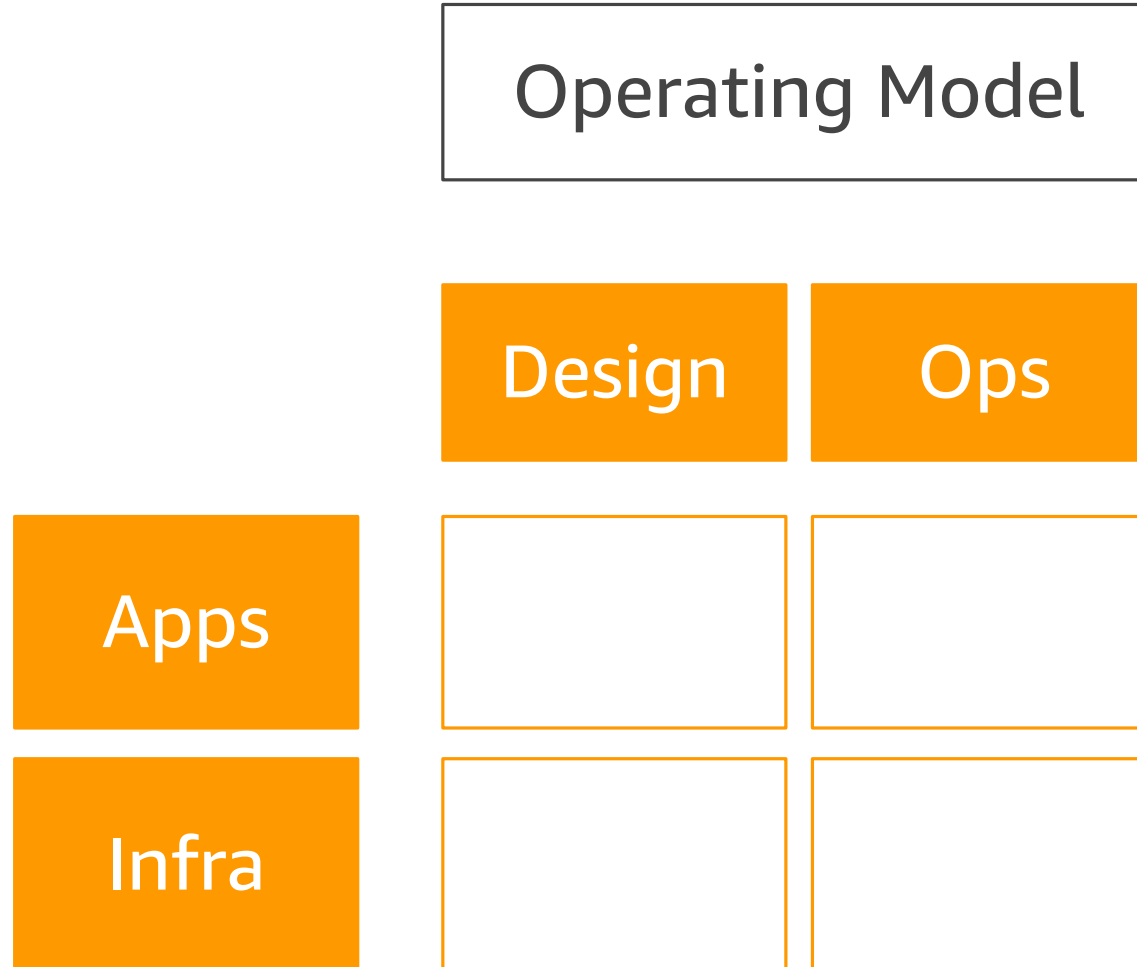
Make sure to cover Tech, People, and Processes

#4 Don't ignore the Operating Model

What is an Operating Model?



Building an Operating Model



#5 Start Migrations

#5 Start Migrations Integrate Learnings, Migrate Faster

#6 Ask for Help!

#6 Ask for Help!

Migration Hub, AWS Migration Partners, AWS Professional Services

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APN Consulting Partners who are skilled at cloud infrastructure and application migration, and offer proactive management of their customer's environment.



AWS Competency Partners

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A digital catalog with thousands of software listings from independent software vendors that make it easy to find, test, buy, and deploy software that runs on AWS.



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Learn more at the AWS Partner Network Booth

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