
AWS
re:Invent
DECEMBER 2 – 6, 2024 | LAS VEGAS, NV

MAM204

Plan to win: Building a migration plan

Dr. Jonathan Shapiro-Ward
(he/him)
Senior Manager, Product Management,
AWS Migration Services

Ted Carroll
(he/him)
Principal Engineer,
AWS Migration Services

Jonathan Shapiro-Ward

(he/him)
Sr Manager, Product Management
AWS Migration Services

Ted Carroll

(he/him)
Principal Engineer
AWS Migration Services

We’re here to help you plan your migration

STARTING QUESTIONS

01 How do I build a migration plan?

02 What data do I need and how do I get it?

03 How do I make sense of the data I collect?

04 How do I group my applications into waves?

05 What do I do if my migration doesn’t go to plan?

06 How can I use AI to plan faster?

07 How do I align my organization to my plan?

08 How do I execute my migration plan?

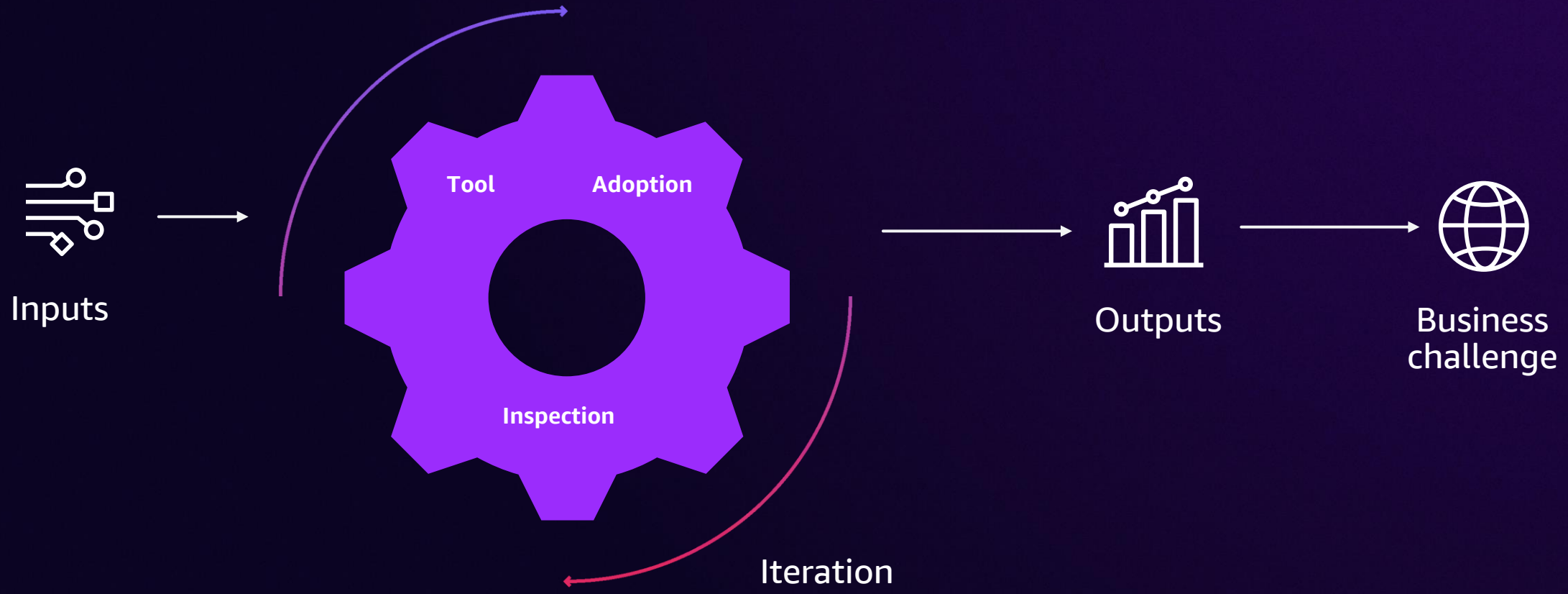
A brief introduction to migration planning

Good intentions never work, you need good mechanisms to make anything happen.

Jeff Bezos

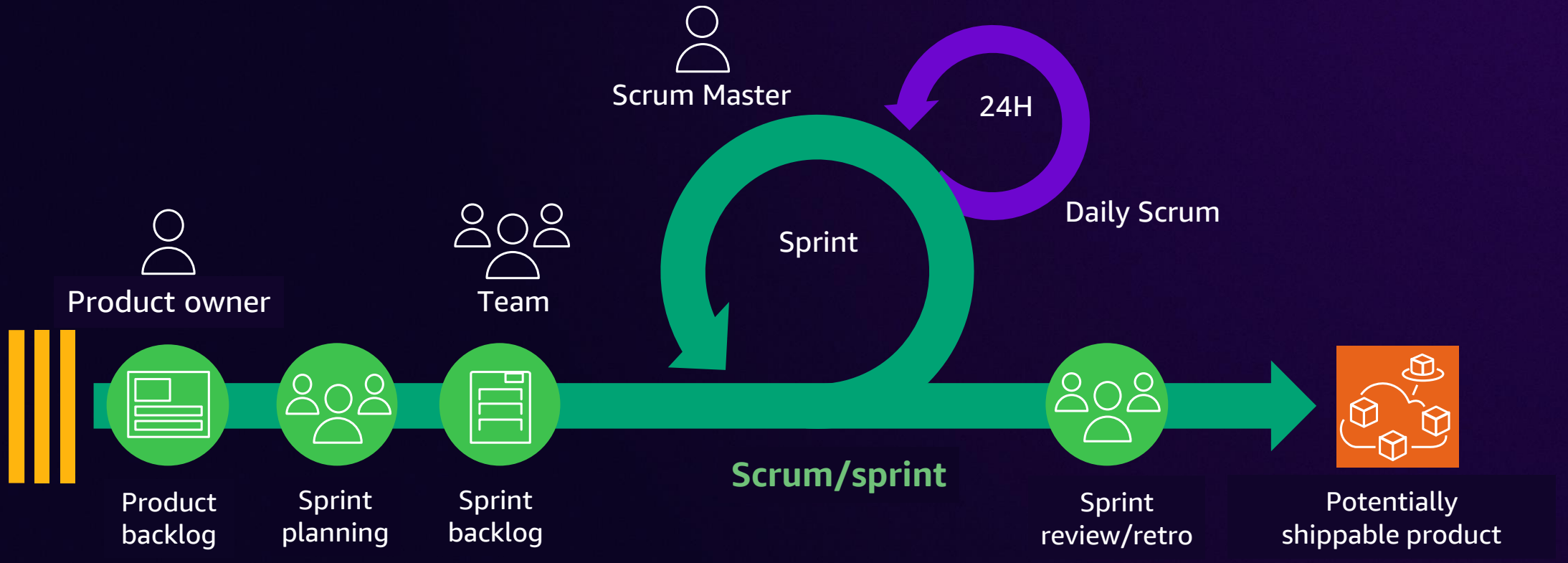
Amazon

Mechanisms



Organizing your migration

MIGRATIONS ARE AGILE PROJECTS



The migration planning process

01 Stakeholder engagement

02 Discovery

03 Analysis

04 Workload dispositioning

05 Wave planning

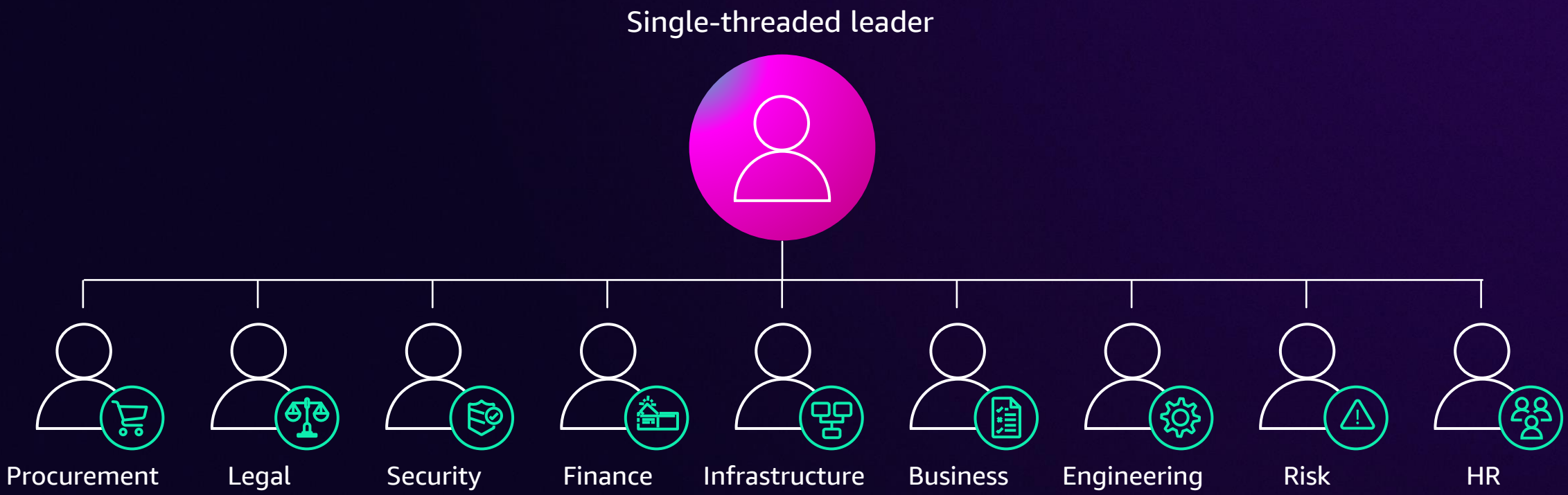
06 Backlog creation

07 Artifact generation

08 Iteration

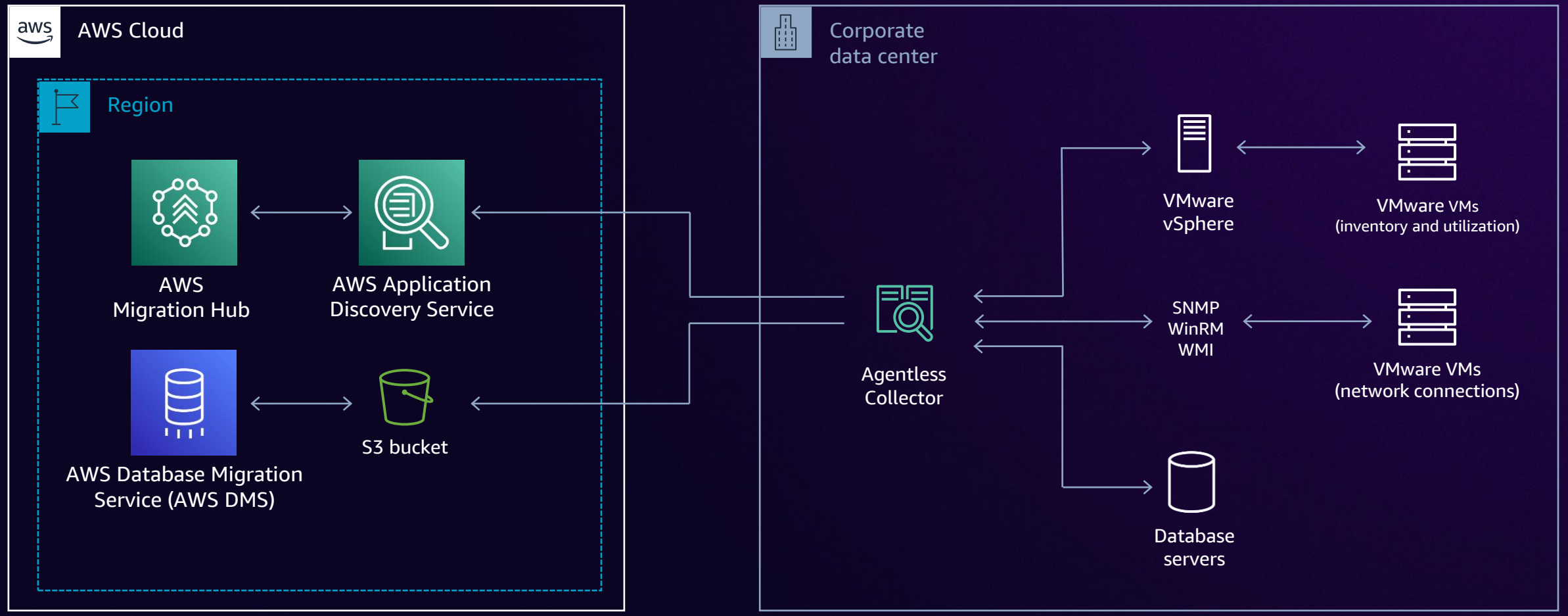
Participants in a migration

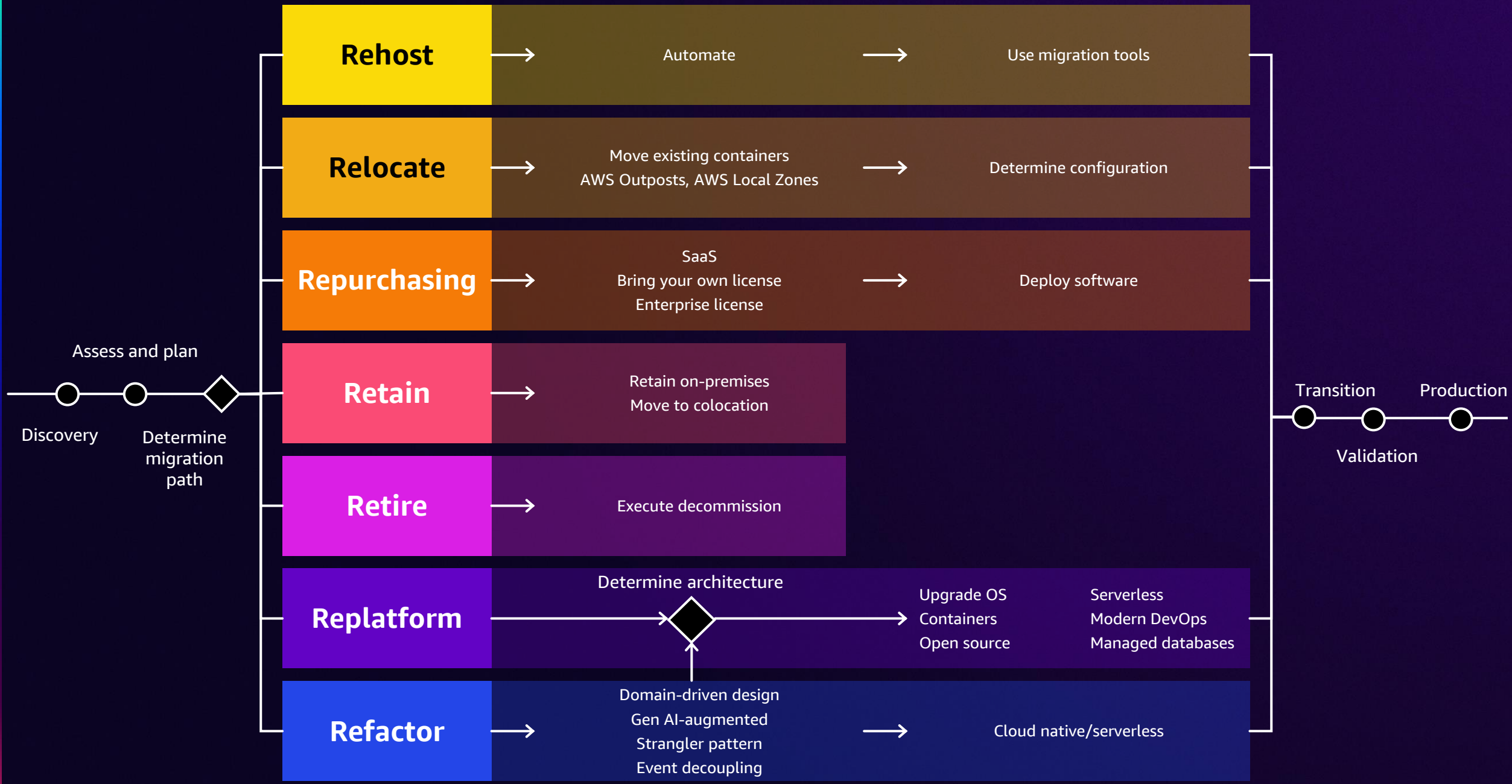
BROAD PARTICIPATION WITH A SINGLE THREADED LEADER



Automating discovery

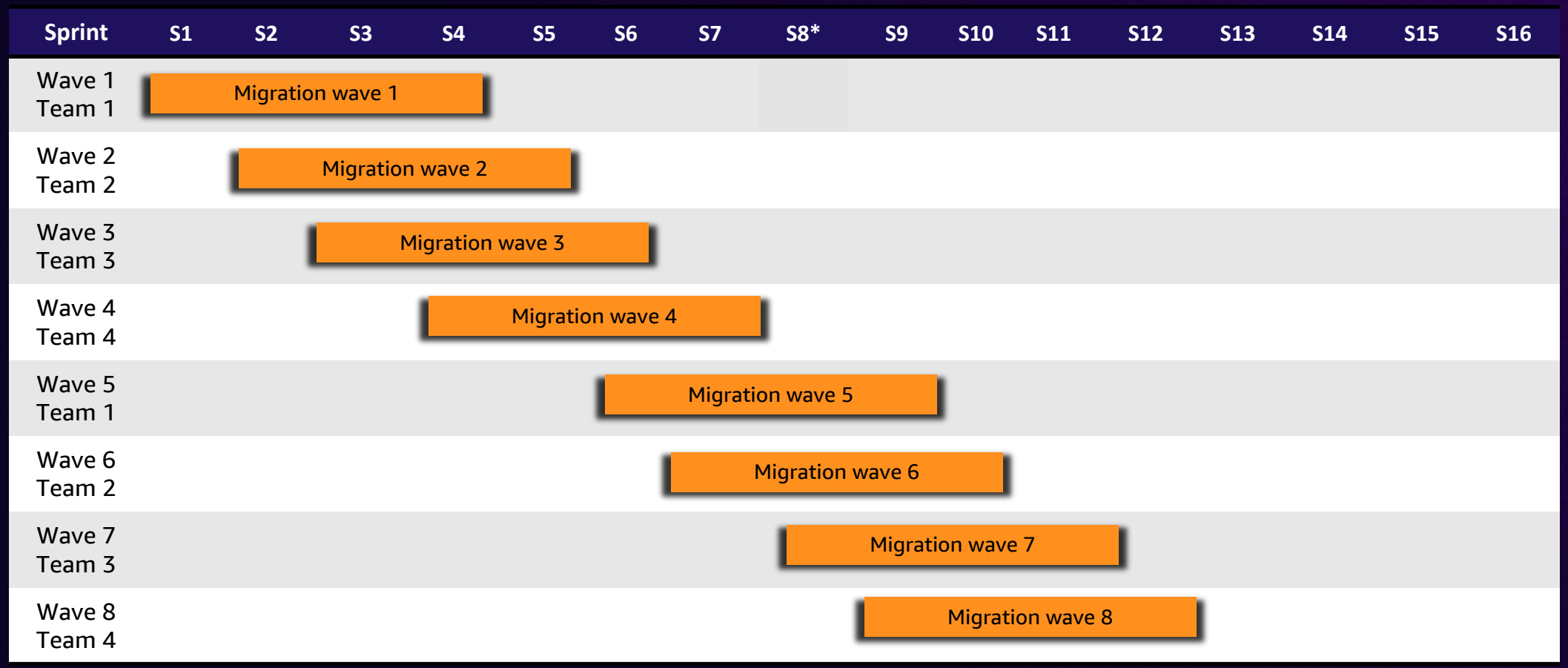
APPLICATION DISCOVERY SERVICE AGENTLESS COLLECTOR





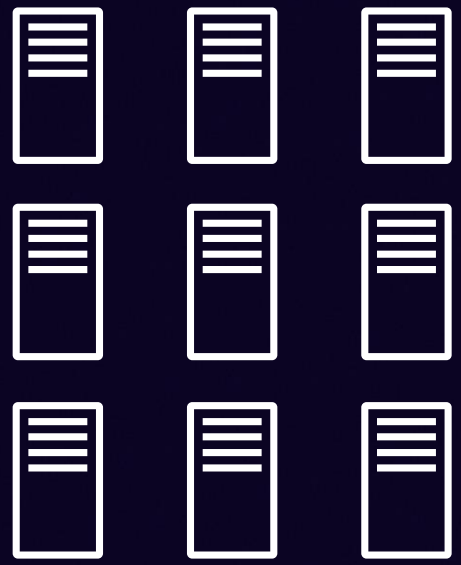
Migration wave planning

MIGRATIONS ARE AN AGILE PROJECT

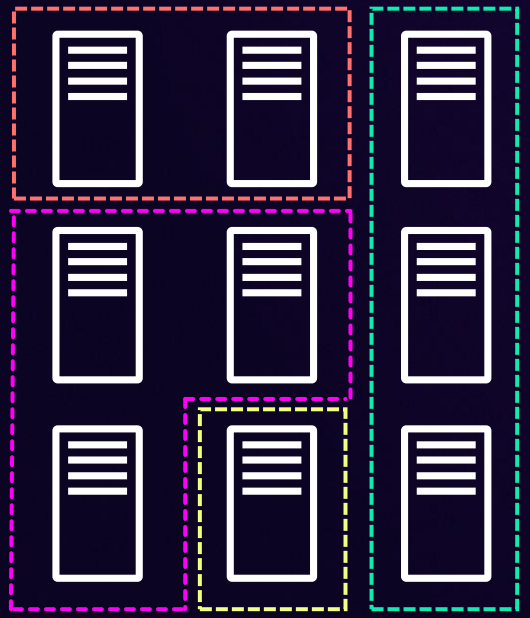


Migration wave planning

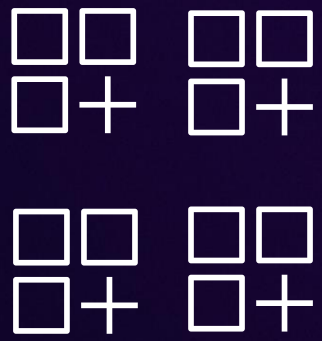
CONSTRUCTING A WAVE PLAN



Servers



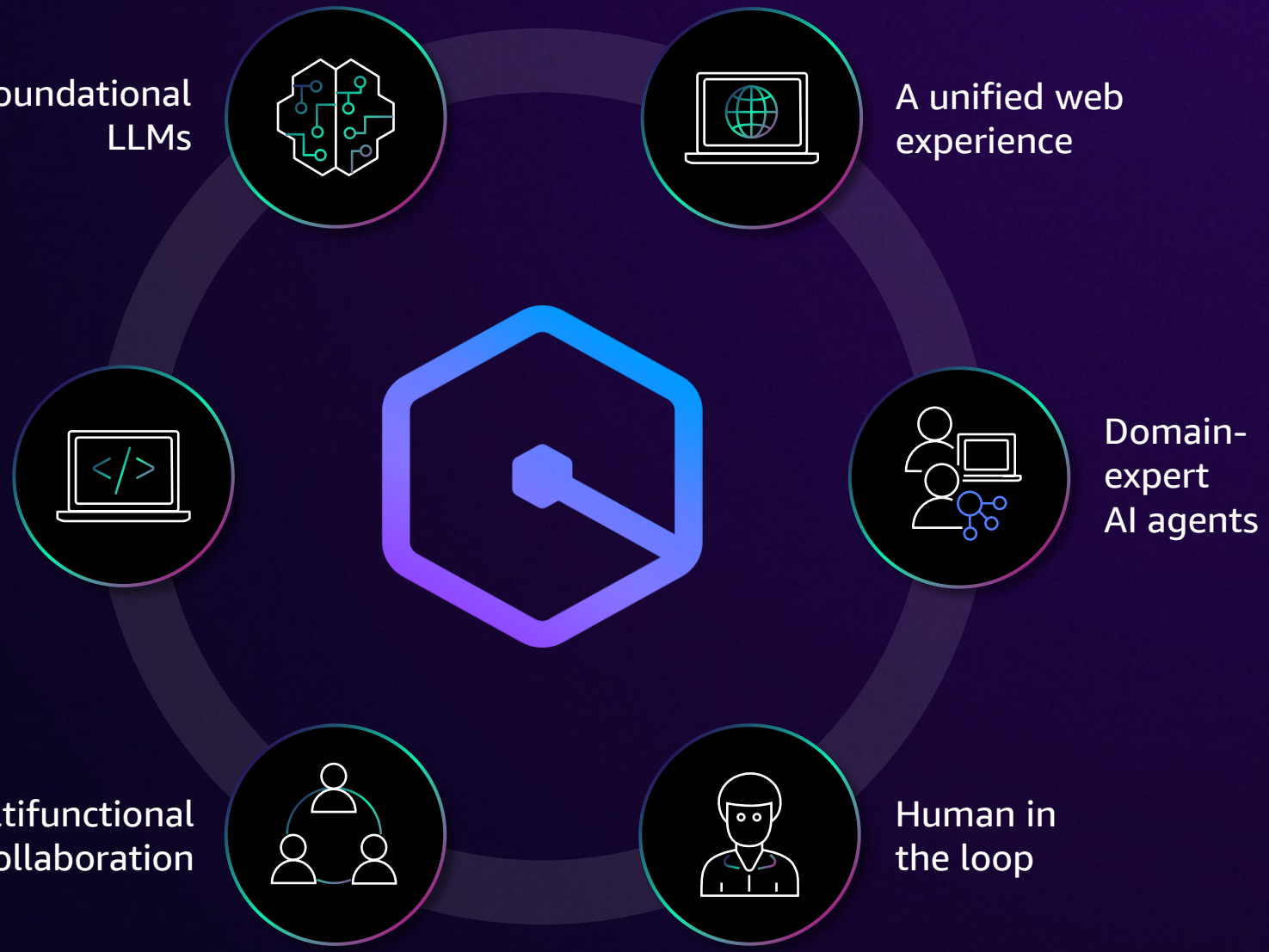
Dependency mapping and app grouping



Apps

Waves

Q Developer: Transform capabilities



New AI agents for VMware migrations

Data ingestion

Application grouping & wave planning

Network conversion & deployment

Migration orchestration

Application grouping & wave planning agent

Identify application dependencies, group servers, and create an optimal wave plan

- **Source:** Application Discovery Service, vSphere VM inventory
- **Output:** Wave plan

We’re here to help you plan your migration

STARTING QUESTIONS

01 How do I build a migration plan?

02 What data do I need and how do I get it?

03 How do I make sense of the data I collect?

04 How do I group my applications into waves?

05 What do I do if my migration doesn’t go to plan?

06 How can I use AI to plan faster?

07 How do I align my organization to my plan?

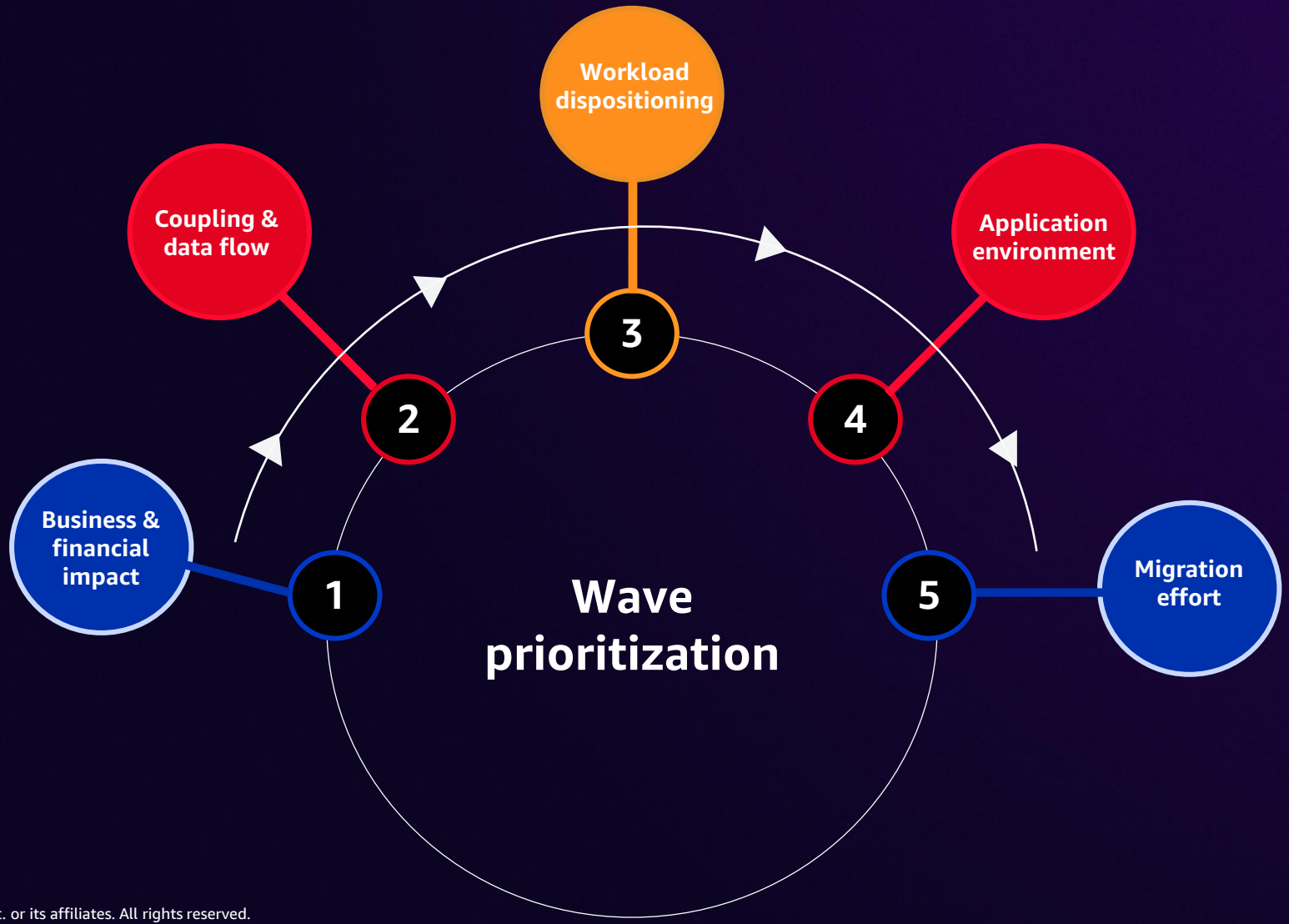
08 How do I execute my migration plan?

Additional slides

Prioritizing waves

Prioritizing migration waves

FACTORS TO CONSIDER



Migration wave planning

EXAMPLE WAVES

Initial waves

- Smaller, but meaningful apps
- Apps with fewer dependencies
- Apps with higher RTO and RPO
- Dev and test environments
- Lower effort to migrate, with higher business value

Next waves

- Larger and more complex apps
- High effort, high value apps

Later waves

- Mission-critical apps
- Apps with significant dependencies
- Apps with low RTO and RPO
- Higher effort to migrate, with lower business value
- Latency sensitive apps

Migration Services

Database migration tooling

AWS Database Migration Services (AWS DMS)

Easily and securely migrate and / or replicate your databases and data warehouses to AWS

Fleet Advisor automatically inventories and assesses your on-premises databases and analytics server fleet and identifies potential migration paths

AWS Schema Conversion Tool (AWS SCT)

Convert your commercial database and data warehouse schemas to open source engines or AWS-native services such as Amazon Aurora and Amazon Redshift

AWS Data Sync - Migrate active application data

TRANSFER YOUR APPLICATION DATA TO THE CLOUD

Features

- NFS, SMB, HDFS, Object Storage protocol support
- Seamless integration with Amazon S3, Amazon EFS, and Amazon FSx
- Schedule incremental transfers until final cut-over
- Encryption in-flight and data integrity verification
- Highly parallel, optimized network transfer

Benefits

- Accelerate migration of active data sets by migrating while they are being used
- Fast transition to target file systems due to metadata preservation

AWS Application Migration Service (MGN)

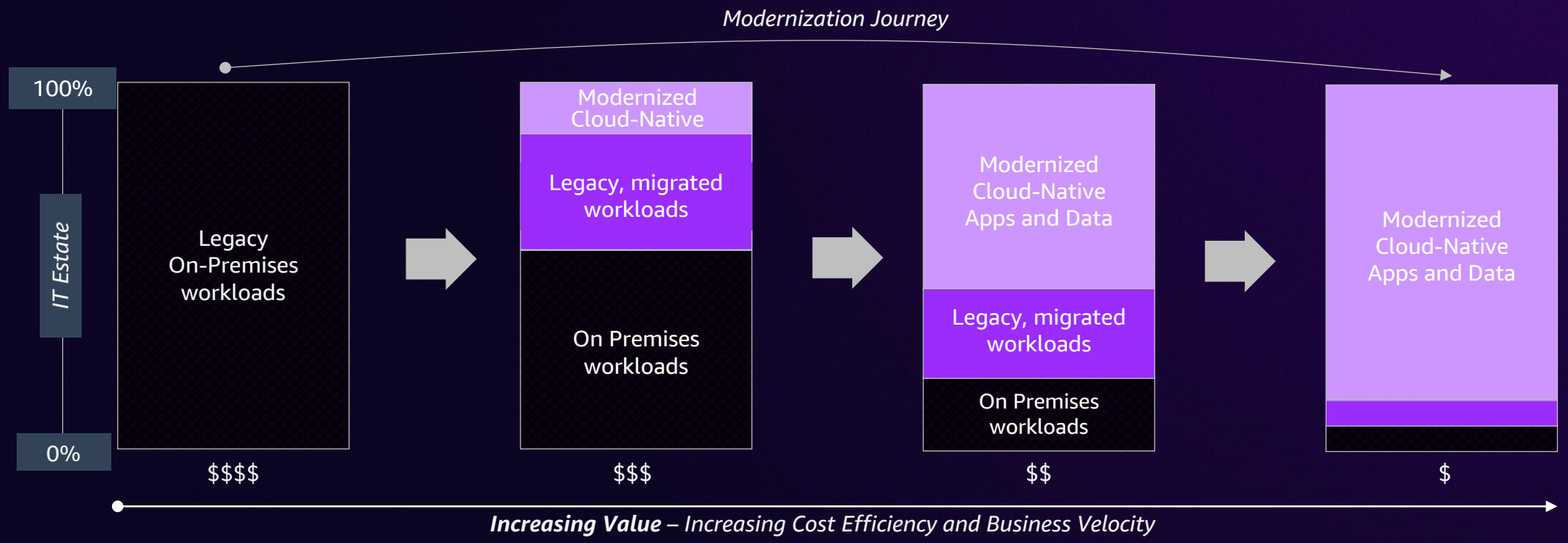
SIMPLIFY AND REDUCE THE COST OF MIGRATING YOUR APPLICATIONS TO AWS

Automate the conversion of your source servers to run natively on AWS with AWS MGN

Simplify application modernization with built-in and custom optimization options

- Migrate applications to AWS with or without changes to applications or workflows
- AWS MGN automates migration of VMware-based VMs to AWS
- Modernize using AWS MGN preconfigured or custom actions during cutover
- Access the full range of AWS capabilities to modernize applications running on AWS

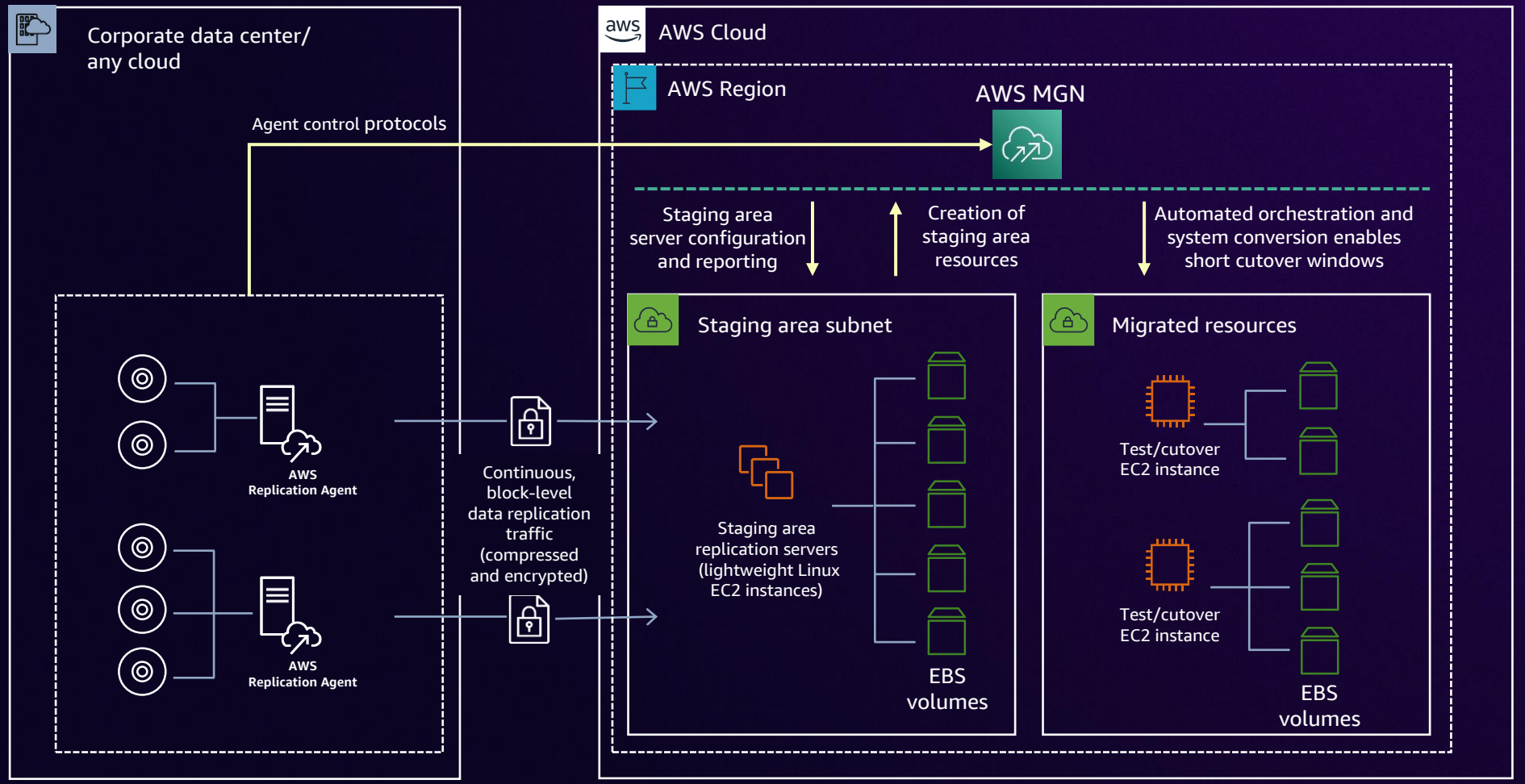
Migration and modernization is a journey



1. Conduct assessment / Pilot
2. Modernize a handful of workloads - Refactor or Build new
3. Continue to scale across the org to modernize business critical workloads
4. Cloud-Native transformation and ongoing optimization

Executing your migration

AWS APPLICATION MIGRATION SERVICE (MGN)



Cloud Centre of Excellence (CCoE)

Scaling the human capability to deliver a migration

Use own resources

AWS Professional Services

Onsite and remote resoures assigned to you, working to contract

AWS Managed Services

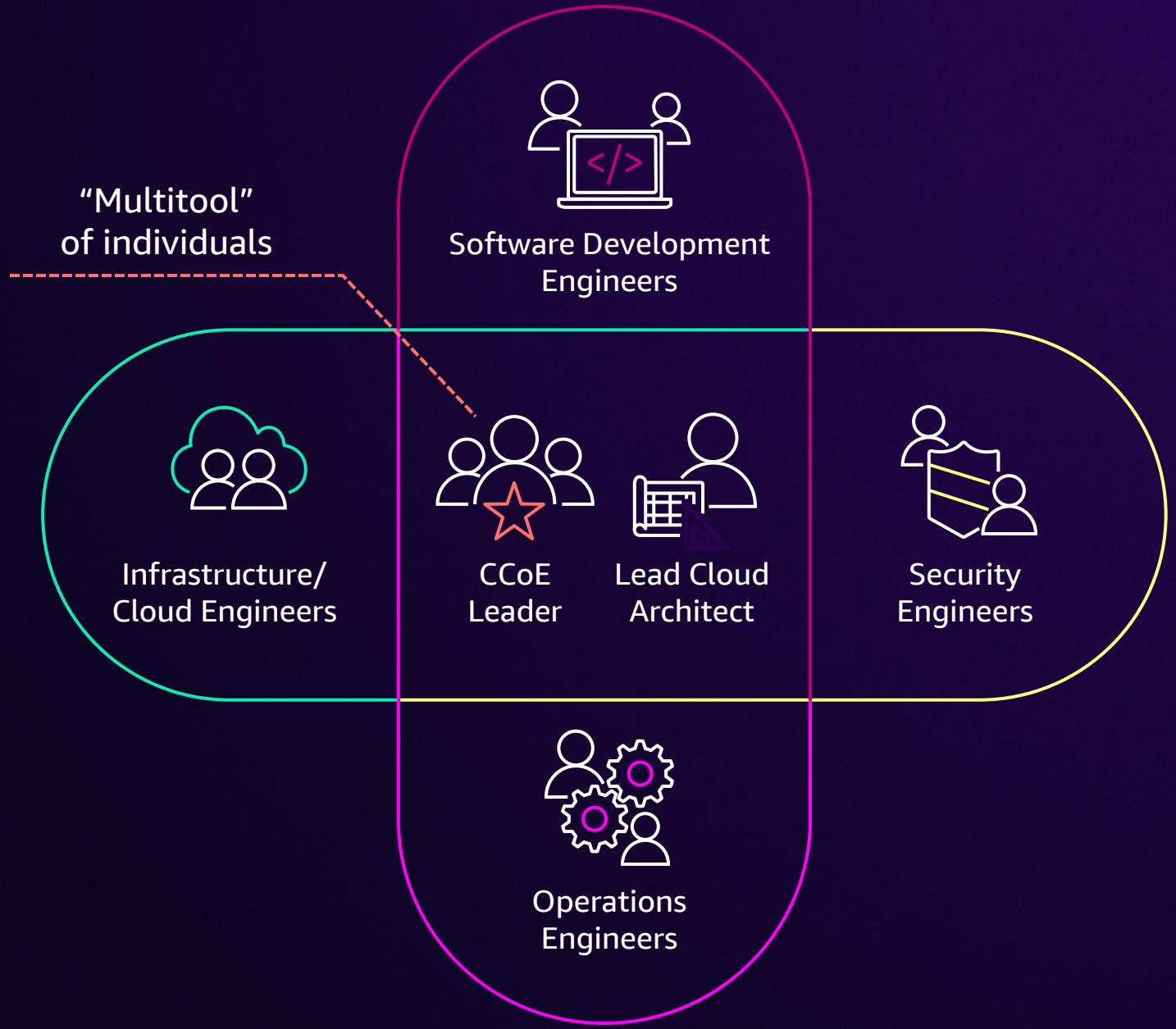
Remote resources contracted to support you remotely; can also execute migration work

AWS Partner Network

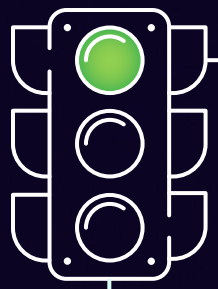
Choose to work with any of the 100K+ partners

TRAINING AND CERTIFICATION MECHANISM

Cloud Center of Excellence (CCoE)



Patterns and anti-patterns of CCoEs



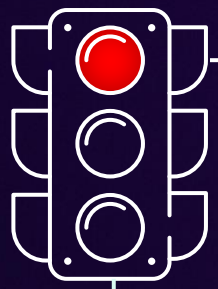
Ephemeral team

Understand the new cloud patterns

Work to empower other teams

Establish essential patterns first

Technical self-sufficient dedicated resource



Immutable team

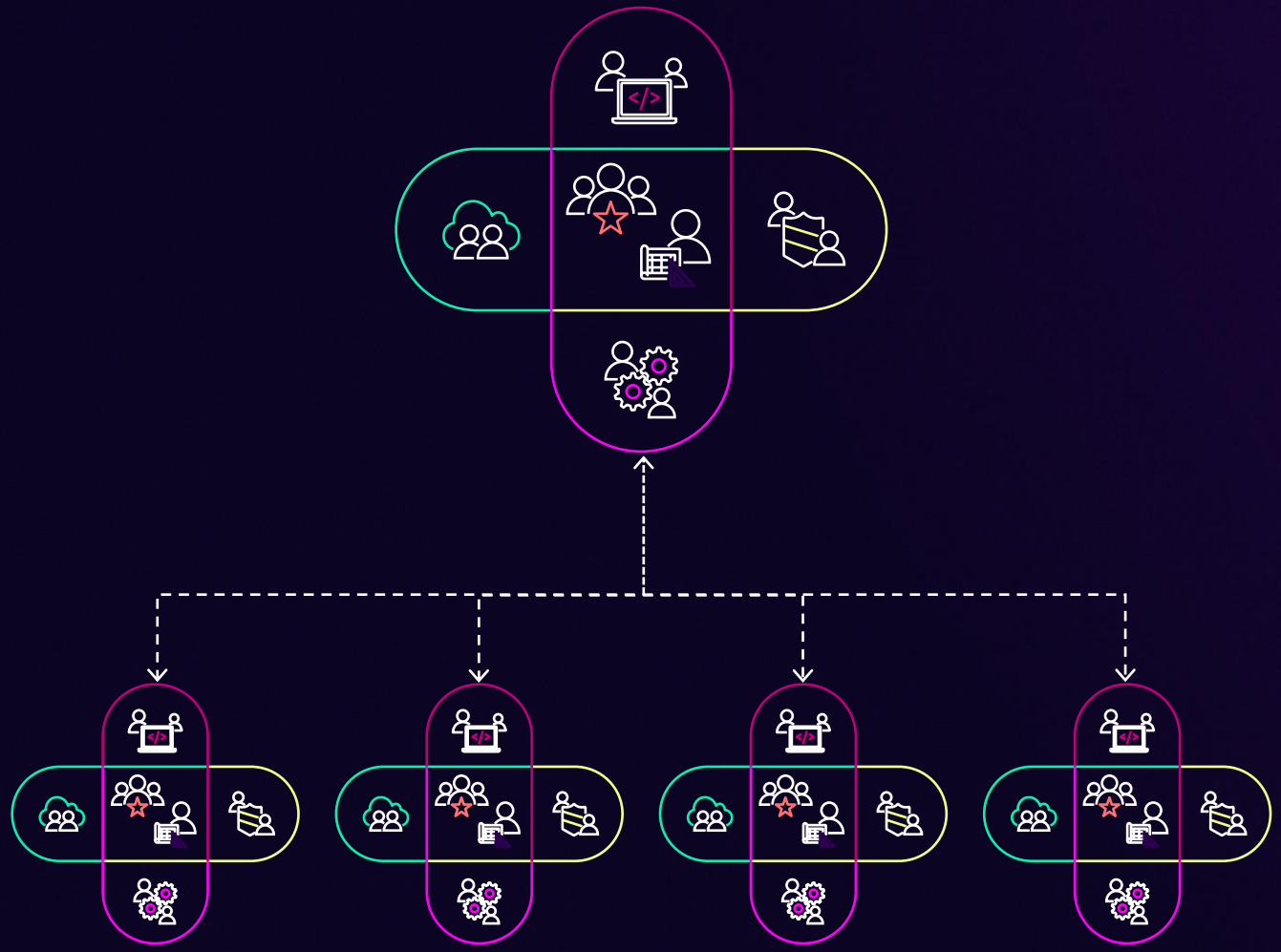
Use legacy on-premises design patterns

Become a bottleneck

Try to “boil the ocean”

Treating it as a “side of desk” project

Centralized vs. federated CCoE model



GLOBAL

- Enablement of federated CCoE teams
- Private Pricing Agreement (PPA)
- Global networking and IP Address Allocation
- Master Payer Account
- Security standards
- Compliance standards
- ‘Traffic light’ of service usage
- Ensure all CCoE teams are learning and sharing from each other

FEDERATED

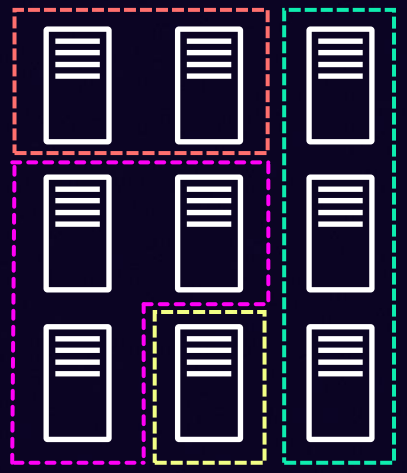
- Enablement of LoB builder teams
- Availability choices
- Amazon Machine Image creation as appropriate
- Creation of service usage standards as needed
- Ability to customize DevSecOps pipelines
- Ensure all infrastructure as code
- Ensure AMI rehydration
- IP Address allocation
- Control Tower vending as needed

ADS to MGN Export

AUTOMATING WAVE PLAN EXECUTION

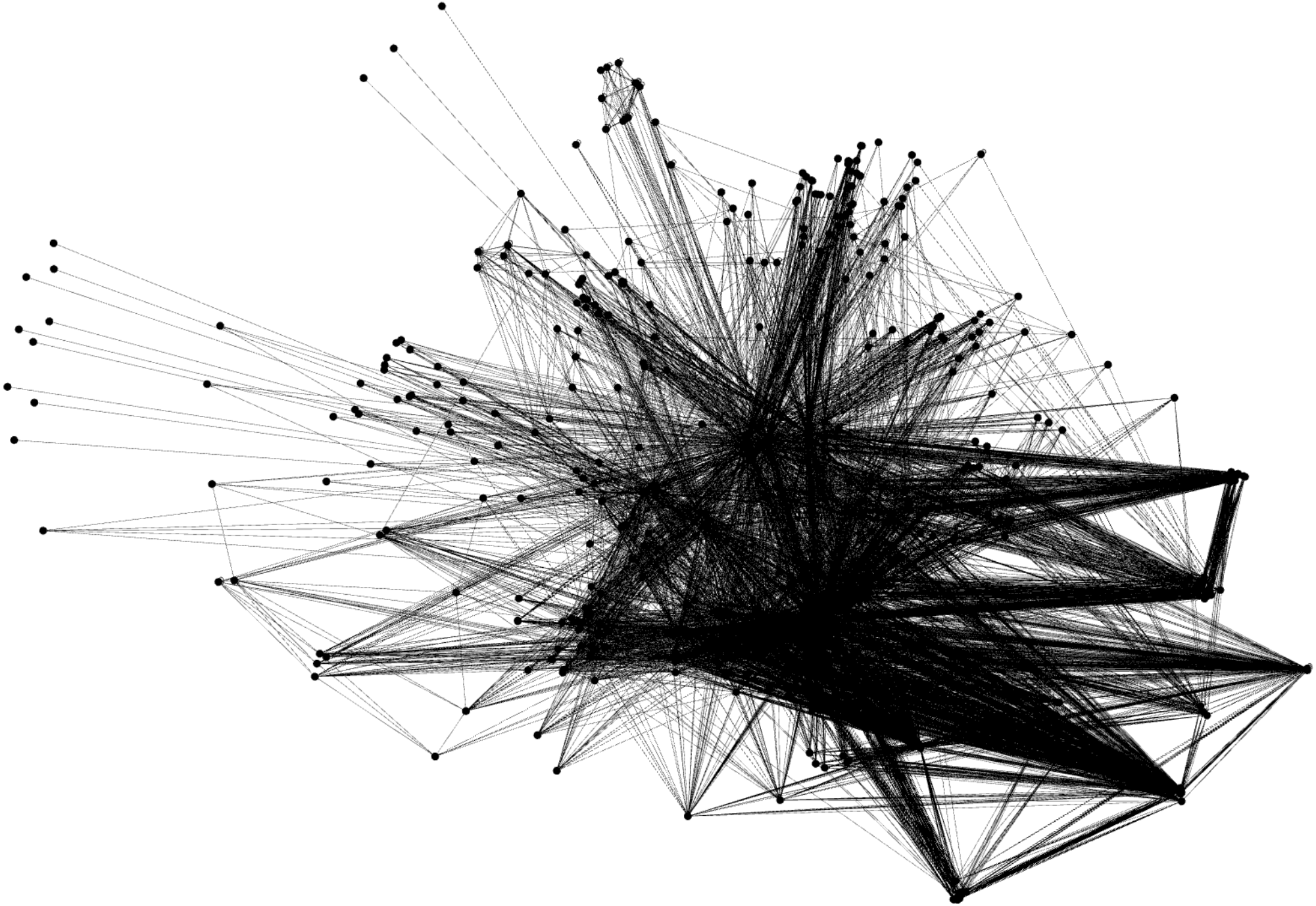
Streamline your migration execution plan with an export of your on-premise applications to a file supported by Application Migration Service (MGN)

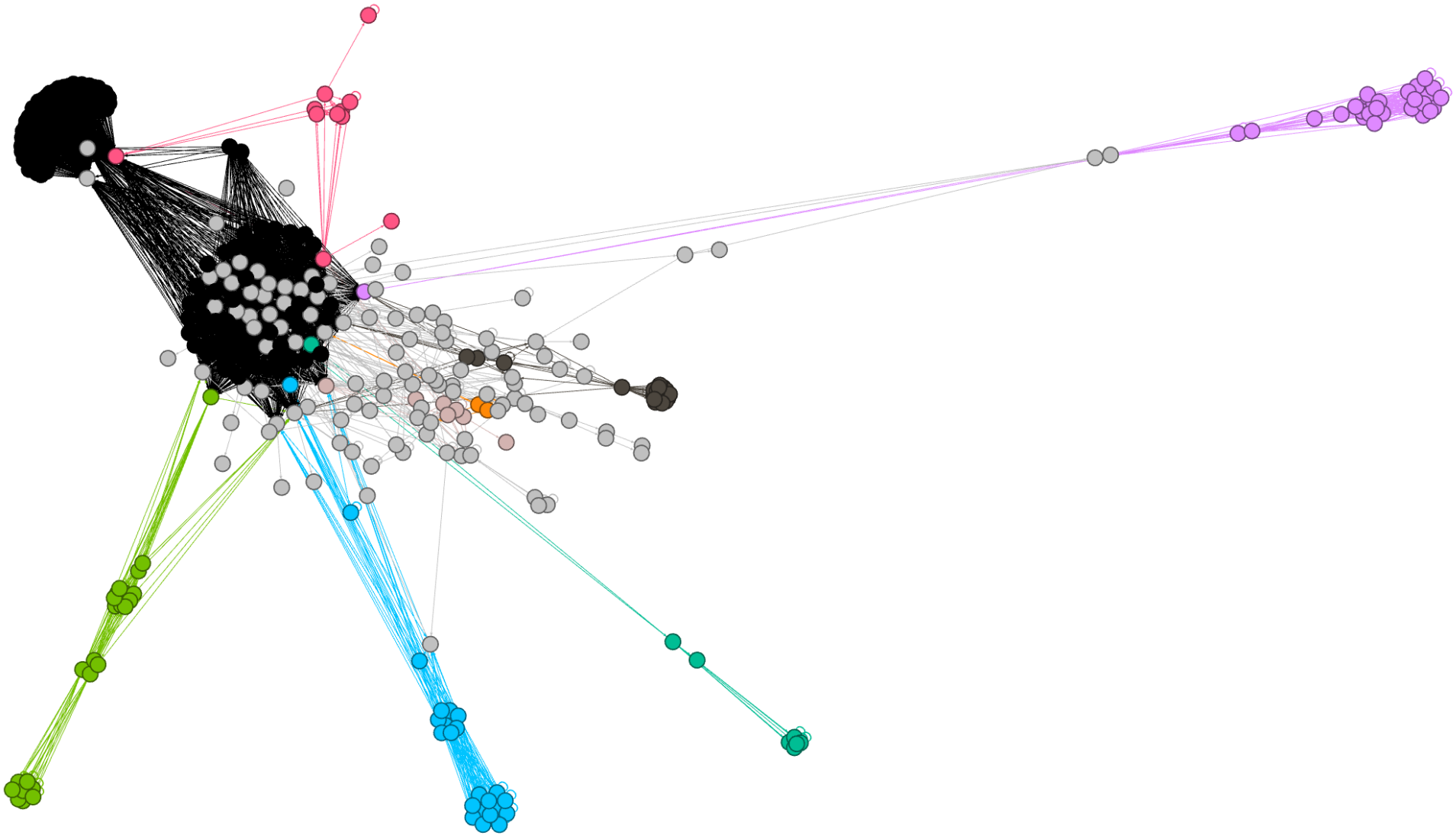
Create a migration plan by grouping on-premise servers into applications and assigning migration waves

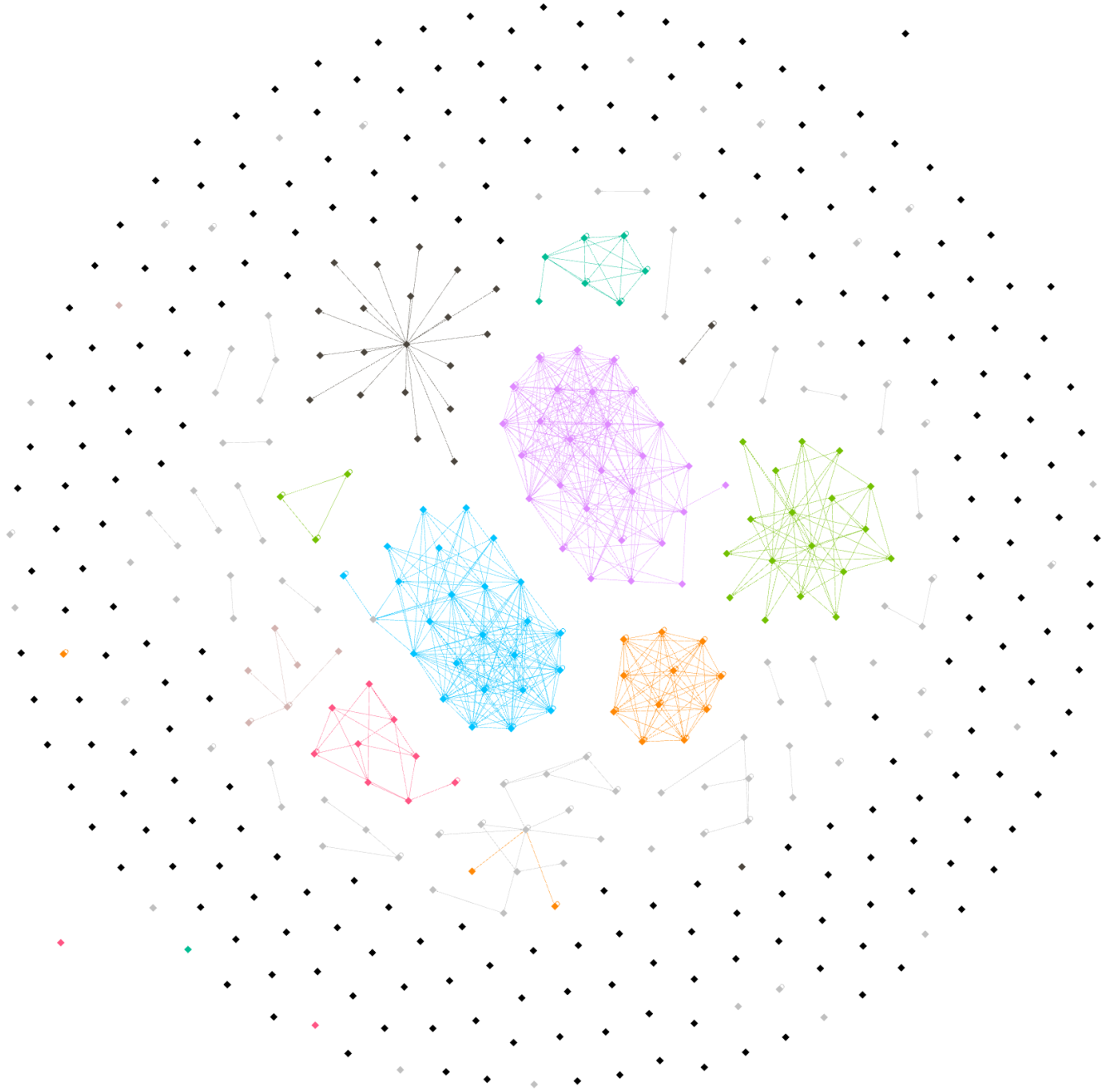


Generate a migration plan for MGN including a rightsized Amazon Elastic Compute Cloud (EC2) instances and network configuration, eliminating the need to rediscover workloads

Accelerating migration planning with AI







Closing

Five wave planning tips

01 Work backwards from the customer

02 Treat migrations as agile projects

03 Break your migration into waves

04 Fail fast and iterate your migration plan

05 Automate

Discovery acceleration & planning assessment

Create a case for change

"Assist customers in understanding the benefits of migrating to AWS"

1. *Infrastructure discovery*
2. *Total cost of ownership report*
3. *Optimization of license assessment (OLA) lens*
4. *Storage analysis*

Prepare for mobilize

"Help customers understand "how" to migrate onto AWS and accelerate their Mobilize engagement when ready"

1. *Application discovery and dependency mapping*
2. *Initial migration strategy (r-patterns)*
3. *Indicative migration plan (application complexity score, prescriptive initial migration recommendation)*
4. *Data required for mobilize/migrate engagement*

DAP is a robust assessment that provides customers the needed data points to ***move into – and accelerate*** – their Mobilise engagement

Methodology

Tools

Partners

AWS Migration Acceleration Program

Investment

Training

Services

Thank you!

Please complete the session survey in the mobile app

Jonathan Shapiro-Ward
jonward@amazon.com

Ted Carroll
tedc@amazon.com