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Discover 2017



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Session ID: HOL12733

Speaker: Vedanta Barooah

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Build and use a DevOps-driven migration pipeline

Automation for Workload Portability

Vedanta Barooah – Senior Enterprise Cloud Architect (WW)
Eric Johnson – North America Hybrid IT Portfolio Leader

Cloud Workload Deployment Models – “One size doesn't fit all”

	IaaS	PaaS
Discovery Effort	↓	↑
Migration Effort	↓	↑
Workforce Expertise	↓	↑
Vendor Lock-in	↑	↓
Open Standards Usage	↓	↑
Migration Automation / Tools	↑	↓
Cloud Workload Performance	↓	↑
TCO & ROI	↓	↑
DevOps	↓	↑
CI / CD	↓	↑

IaaS Migrations (Virtualization Switch) require less effort and low workforce expertise.

Customers achieve more automation and cloud performance by using PaaS / Cloud Native

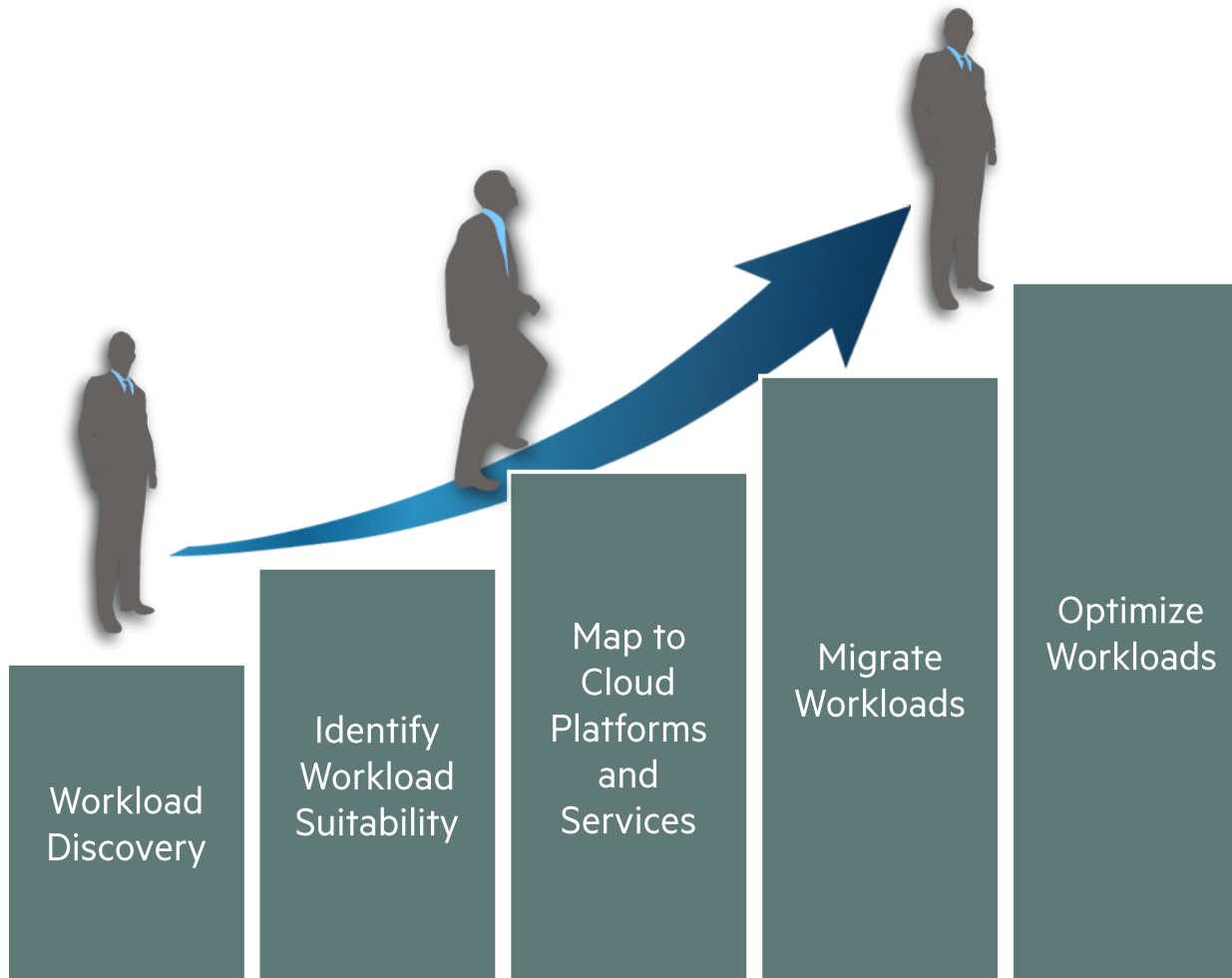
Better TCO / ROI using PaaS/Cloud Native

Landing zones for Workloads are based on business priorities and often changes with time, its best to sustain them in a composable format which is agnostic towards the target platform

Common Application Migration Challenges

- Knowledge of current enterprise IT landscape
- No single source of truth for application portfolio
- Application qualification for Cloud migrations
- Applications are continuously moving targets
- Requirement to prove ROI before migration
- Application performance goals
- Multiple landing technologies and targets
- Hybrid cloud orchestration and management
- New technology and culture adoption challenges

HPE Pointnext Workload Portability Services



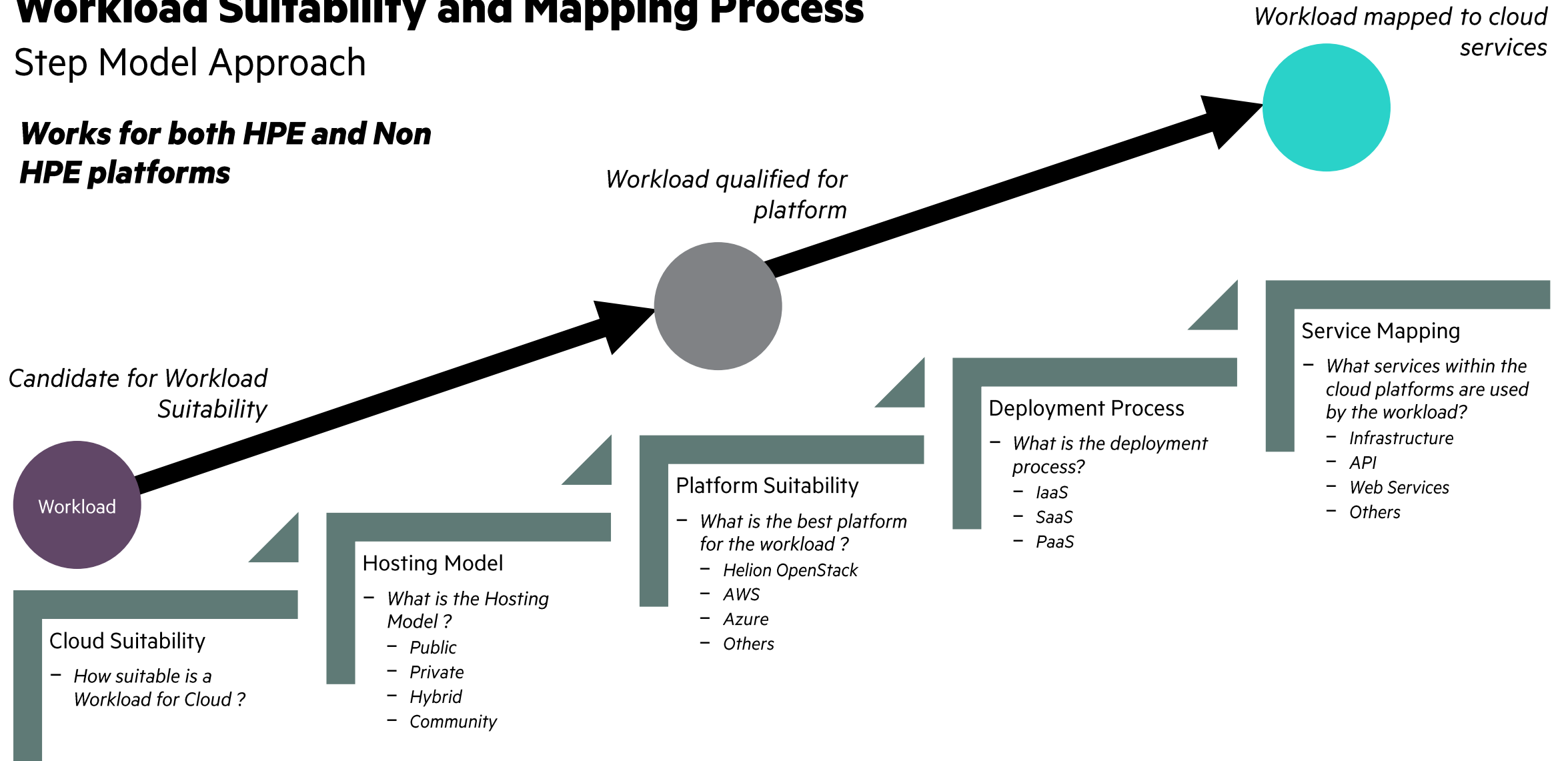
Customer Journey for Workload Migration to Cloud

- Turnkey solution for Cloud Migrations
- Start anywhere in the journey
- Cloud platform vendor agnostic
- Support multiple landing zones
- Automation and DevOps at its core
- Unique IP and Partner Tools
- Includes enablement services for optimization

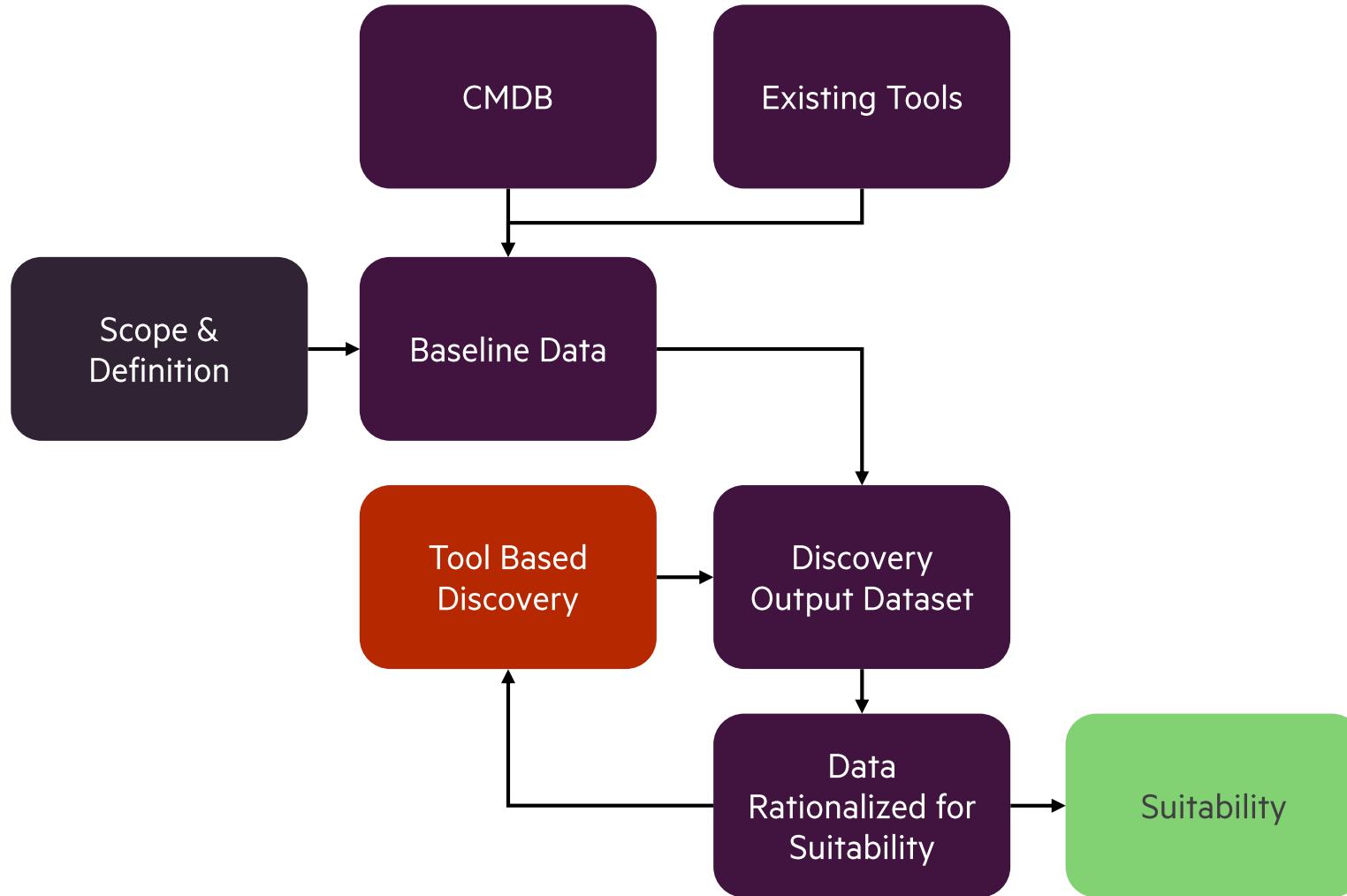
Workload Suitability and Mapping Process

Step Model Approach

Works for both HPE and Non HPE platforms

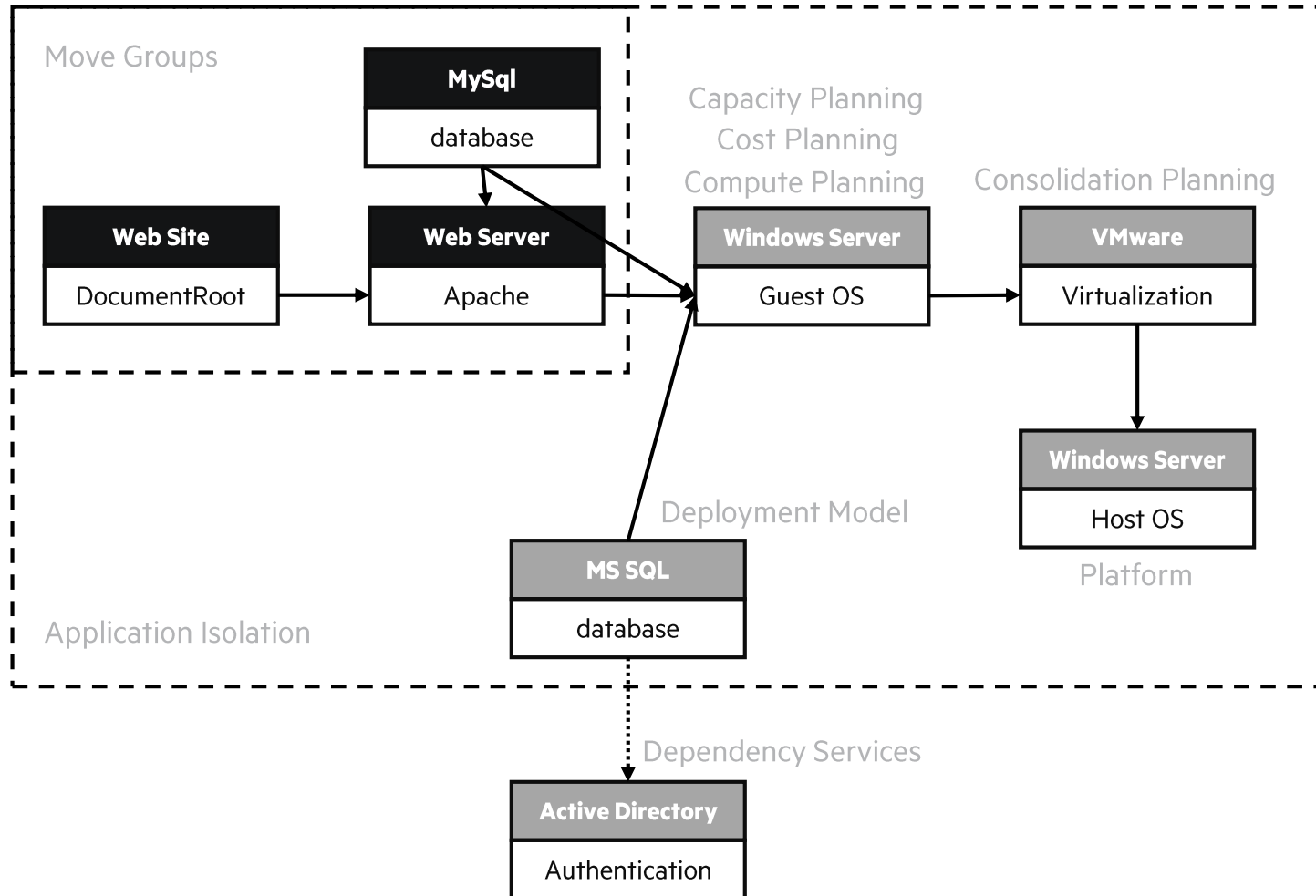


Workload Data Collection Strategies



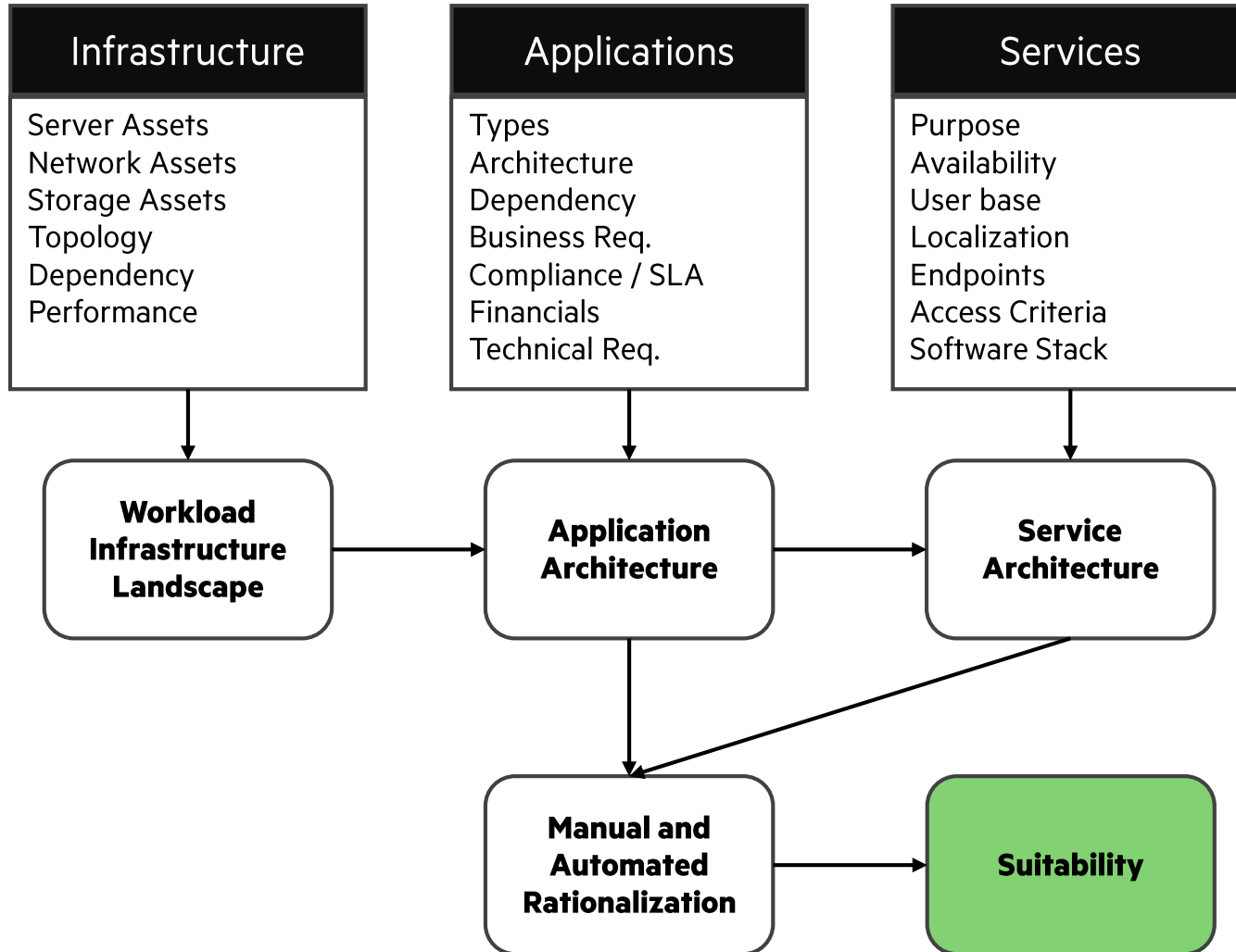
- Define and solidify scope
- Use exiting inventory and data sources
- Use existing tooling when feasible
- Use new tooling when necessary
- Multiple options on tools
- Reduce noise, discover and filter only required data
- Focus on simplicity and speed

Consider what role “Dependency Mapping” plays in transformation ?











- Relevant mostly for IaaS deployment model
- Server dependencies used for application isolation
- Move groups from application dependency
- Capacity, Cost and Compute planning from performance matrices
- Platform and consolidation planning from Infrastructure inventory
- Application service dependency and infrastructure services

Discovery of workload information is an involved process

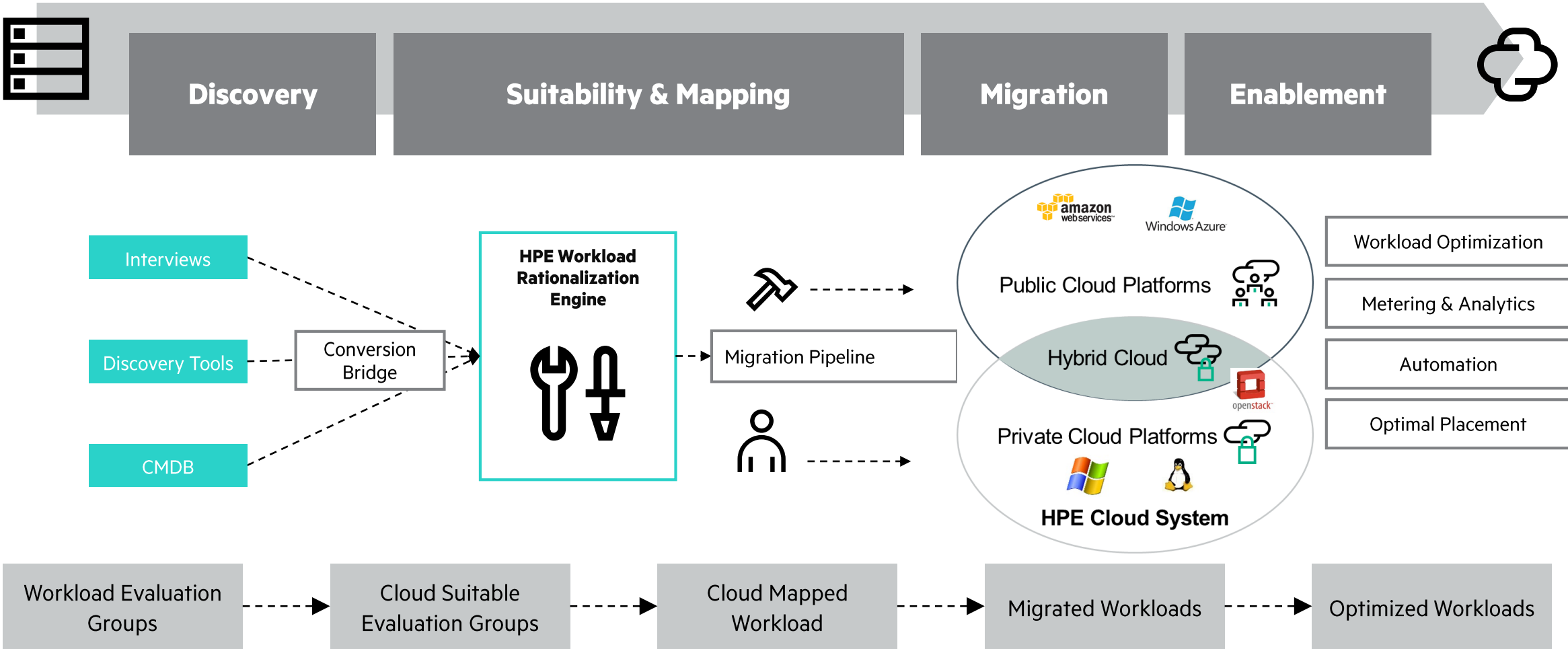


- **Infrastructure discovery**
 - Used to identify workload landscape
 - Application Isolation
 - Directly used for IaaS moves
 - Capacity and Performance
- **Application Discovery**
 - Application Dependency
 - Application Architecture
 - Capacity and Performance
 - Attached services
 - Topology
 - Geographic Localization
- **Services**
 - Application Ecosystem
 - Services and Functions
 - Processes

Workload Migration to Cloud - Modules

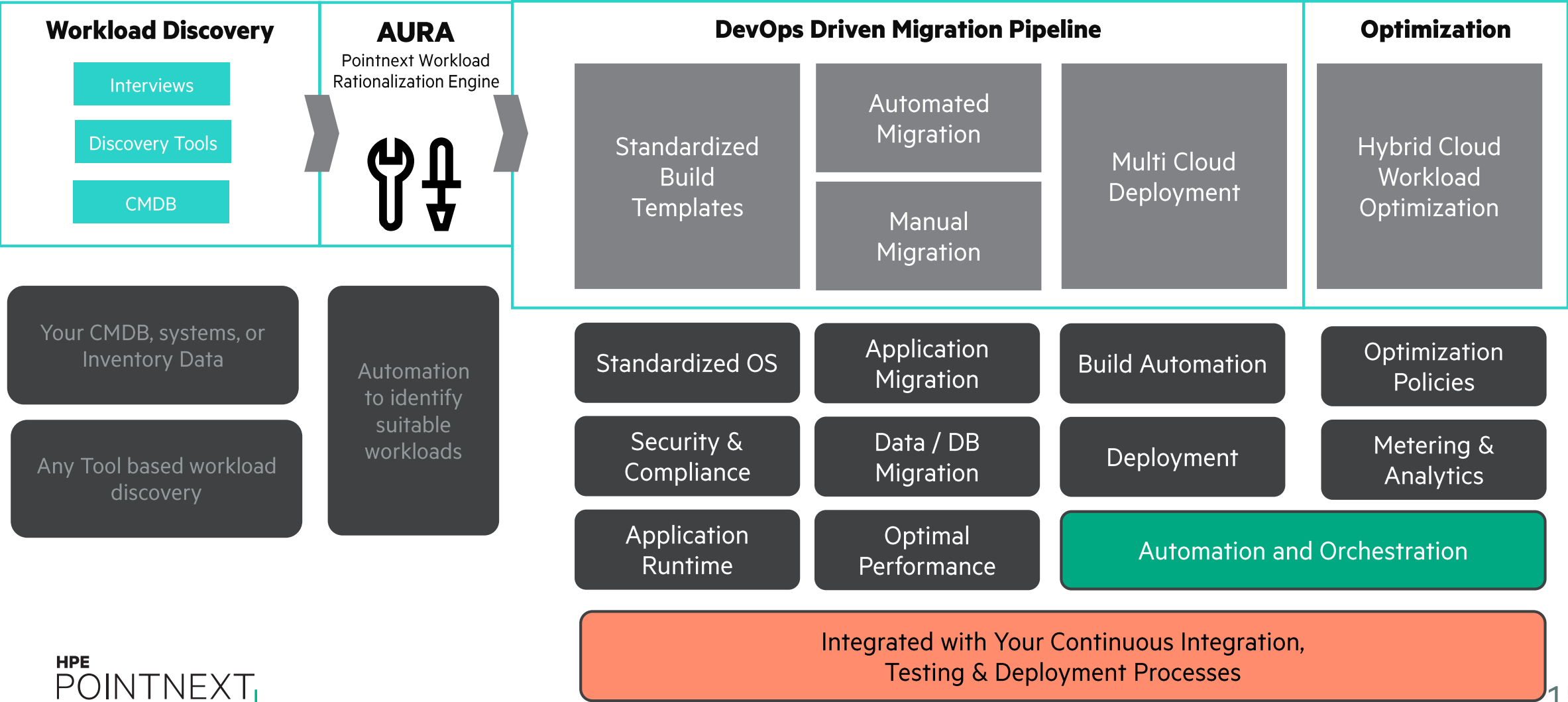
Compute	Container	PaaS	SaaS	Databases	Storage & CDN	Cloud Services	Modernization
							
VMware OpenStack AWS EC2 Azure VM Baremetal & Virtual	Docker AWS ECS Mesos Azure Container Service	AWS Beanstalk AppEngine Stackato Heroku	Enterprise COTS	Oracle MySQL MS SQL Server Data Warehouse (TDB)	Storage Migration	Public Cloud - AWS - Google Cloud Platform	Enterprise Application Modernization

HPE Pointnext Workload Portability Services

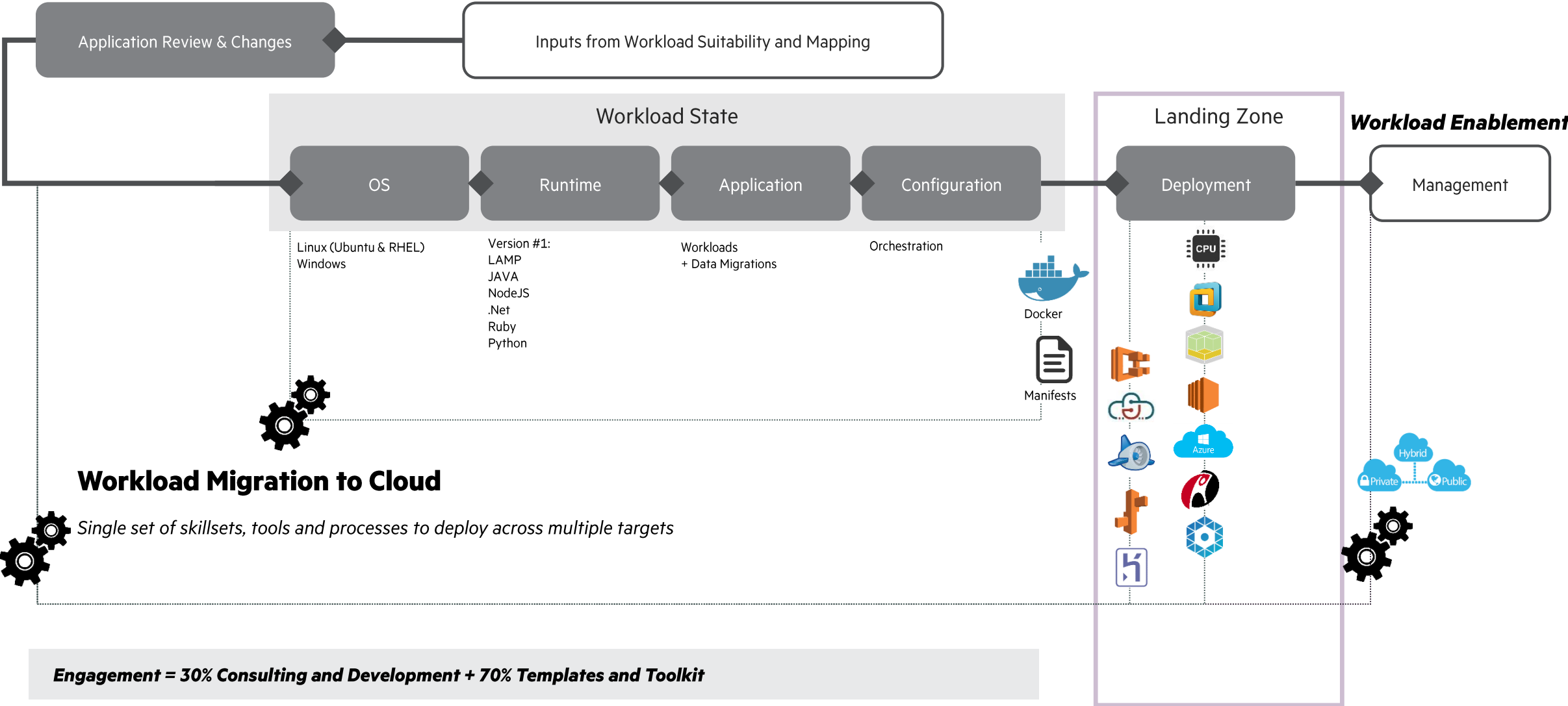


DevOps Style Migration Pipeline – Engagement Process

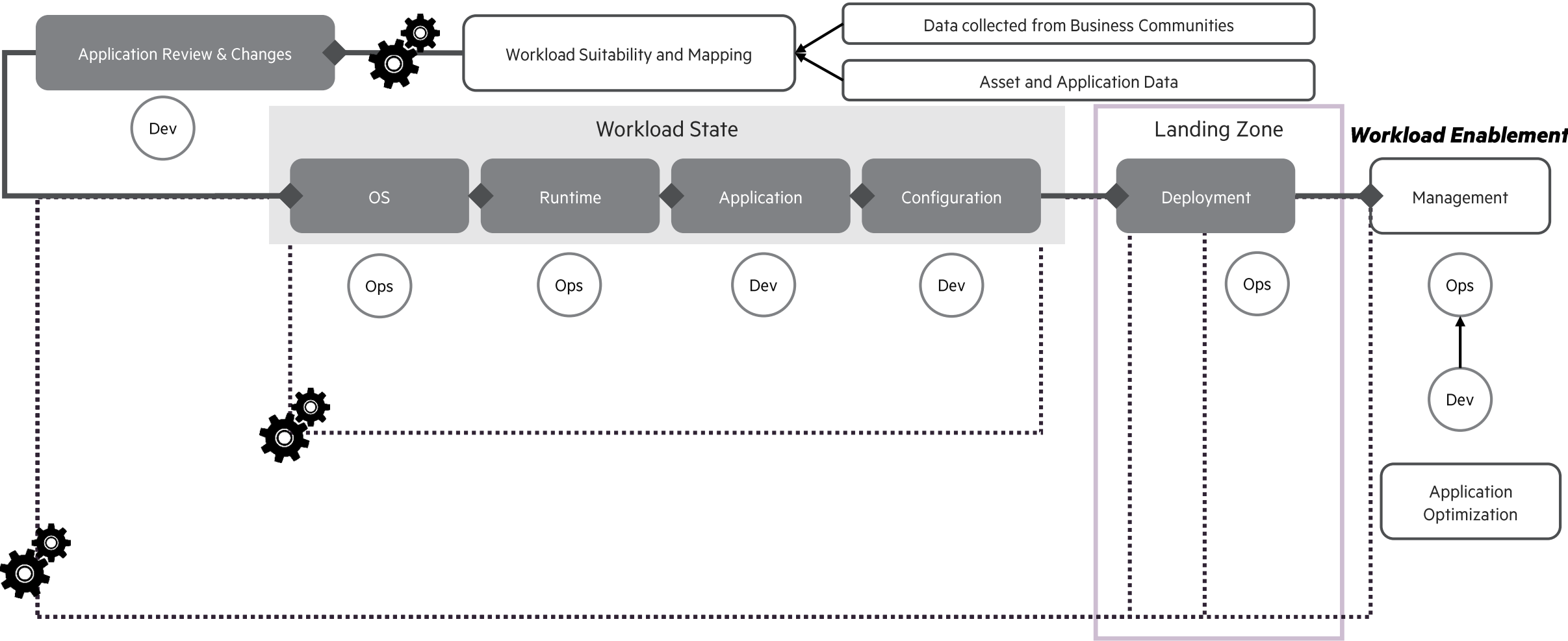
Migration process integrated with application development lifecycle



DevOps Pipeline for Workload Migrations



DevOps Pipeline for Workload Migrations



Hands on Lab : Objectives

- Code Walkthrough
- Application deployment on Virtual Machine
- Container Build
- Container Deployment
- Challenge Build

Hands on Lab: Step by Step

- You will perform all the steps in a system hosted as a Azure VM
- Access system from your desktop using SSH client
- Clone source code from - <https://github.com/vedanta/dmp>
- Step by step notes : <https://github.com/vedanta/dmp/blob/master/Exercise.md>

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