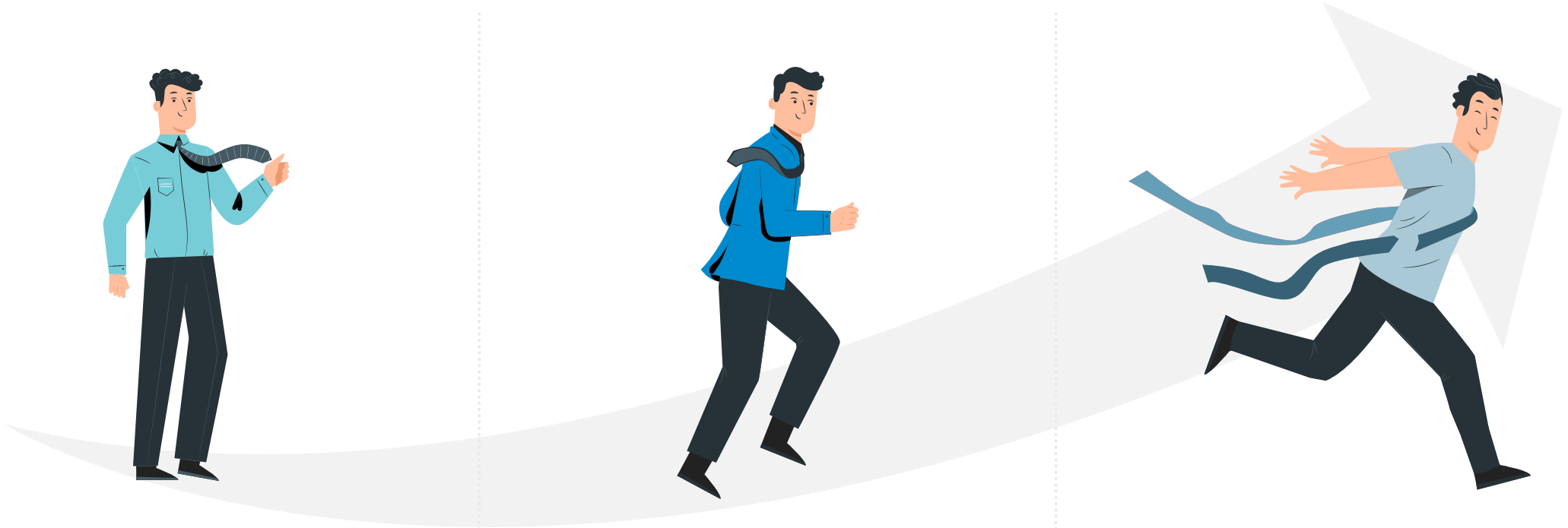
Application Modernization

In Partnership with Microsoft

March 2023

Portfolio Modernization: How to Start and Scale



Number of Applications

Crawl

- Align teams from all stakeholders of the program
- Confirm longer-term objectives, establish acceptance gates, align expectations
- Assimilate data and tune accelerators/tools
- Down-select initial X applications/business cases, using accelerators for pattern definition

Walk

- Apply criteria identified in the Crawl phase to identify the next set of high-priority applications for modernization
- Monitor, participate in, and collect feedback on the modernization delivery for X applications from Crawl

Run

- Execute modernization delivery in the hub and spoke model at scale, promoting a self-service approach
- Continuously classify remaining applications in the portfolio through existing modernization patterns and accelerators
- Leverage the feedback loop to adjust or identify new modernization patterns for classification

8-10 weeks

Time

Crawl

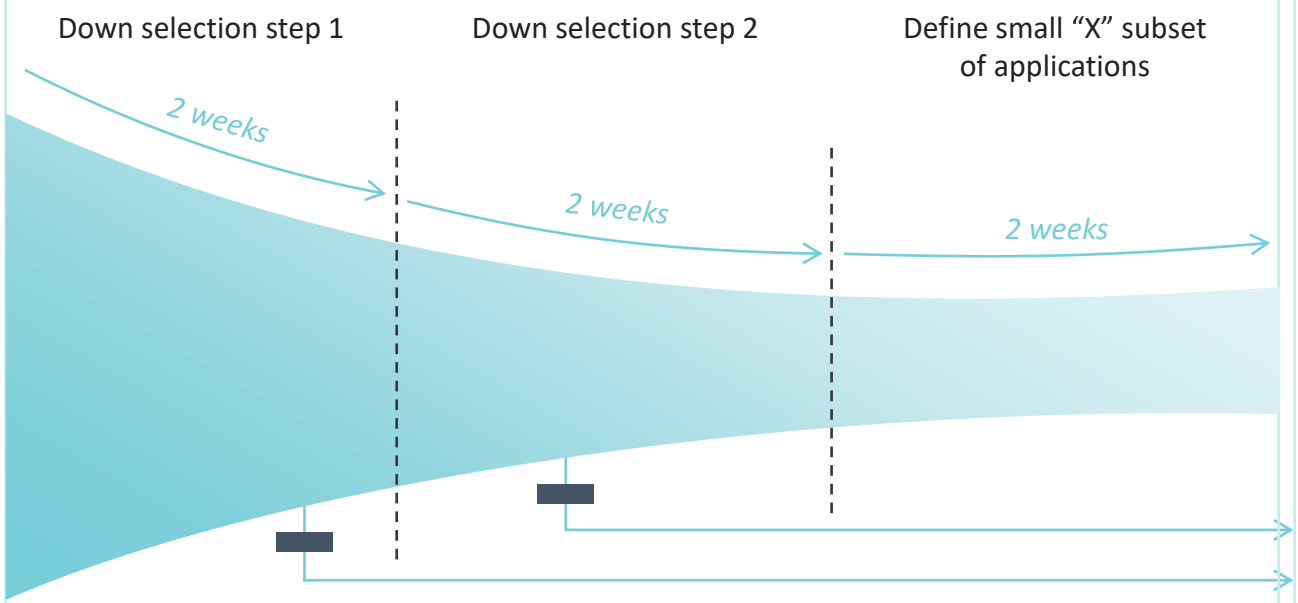
Starting with a full set of all available data, EPAM will apply an iterative approach to downselect X highest priority applications for modernization using the following dimensions: architecture, data, DevTestOps, operations, security, current and projected TCO

Current State

Application Portfolio N+ apps

RE-CLASSIFICATION

Application Modernization Funnel



- Identify data sources
- Conduct basic consistency / integrity checks and clean up
- Identify and justify "Do Nothing" excluding small, non-critical apps or apps with non-significant consumption

- Increase the number of criteria and criteria categories / modernization patterns
- Factor in cost: current & future TCO, cost to achieve
- Validate ability to get fast access to the code base and project artifacts

- Identify applications with stakeholders available / willing to engage
- Conduct automatic code analysis to determine code complexity, quality, and dependencies

"X" apps Deep Dive

2-4 weeks

- In-depth review of project artifacts
- Apply accelerators and manual architecture review to identify X apps with the highest ratio of ROI vs. the initial effort

Result

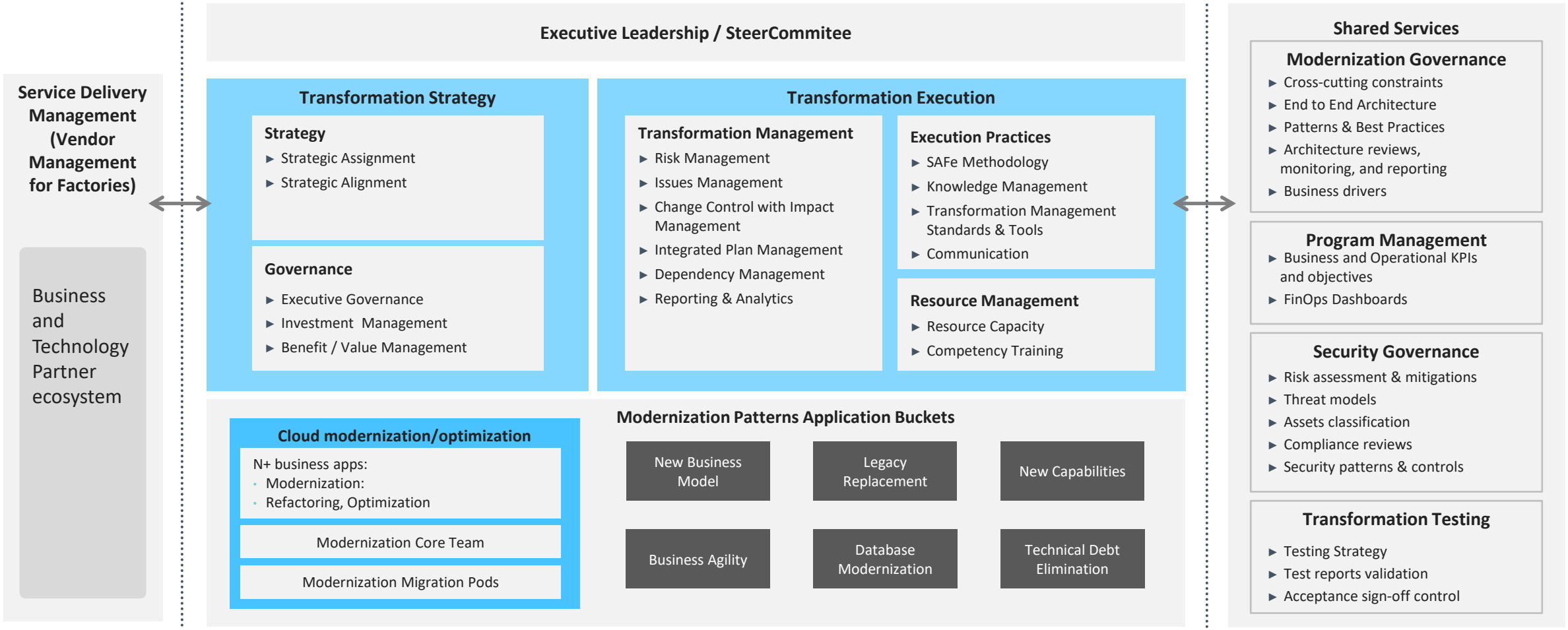
- Review application recommendations
- Plan next steps

Walk: Building the Factory with the Right Governance Model

Crawl **Walk** Run

EPAM envisions a strategic partnership with the client as a key component that will drive substantial value to IT and Business. Overarching governance is critical to orchestrate tight collaboration and partnership across application teams, vendors, and suppliers, to drive modernization objectives, and to define, prioritize, and deliver modernization patterns with the highest impact.

Governance Model



Walk: Using Data to Assign Applications to Buckets

Crawl **Walk** Run

1

Data Sources
- Mega Spreadsheet
- CMDB – various reports
- ITSM Ops Reporting incl app incidents/ downtime, app release/ change logs
- Enterprise & Application Architecture artifacts, including SAD, Drawings
- Application & IaC code analysis
- Financial data sources

Tool Sources*
- SonarQube– source code analyzer
- MigVisor – EPAM DB migration tool
- Network flow logs – raw flow data

Human Sources
- Product/Application Owner/Manager
- Enterprise Architect
- Application/System Support Personnel

* Representative sample – Identify what is in use

2

Data Analysis

Scrub & validate data
Transform data for ingestion

2

RATIONALIZE

Track
- Data Quality
- Data Completeness
- Drivers

Analyze
- Preference
- Dependencies
- Costs
- Dimensions
- Constraints

Considerations (sample)
- Crown Jewel (criticality)
- Feature update frequency
- Stability & Cost of downtime
- Performance & Scalability
- Readiness / Effort to Achieve

2

Manual Inputs and Analysis

3

Modernization Disposition & Prioritization

EPAM Advisory
- Deeper dive into top-priority apps
- Reports incl. Business Case/ROI
- Recommended next steps

4

APP MODERNIZATION POD

5

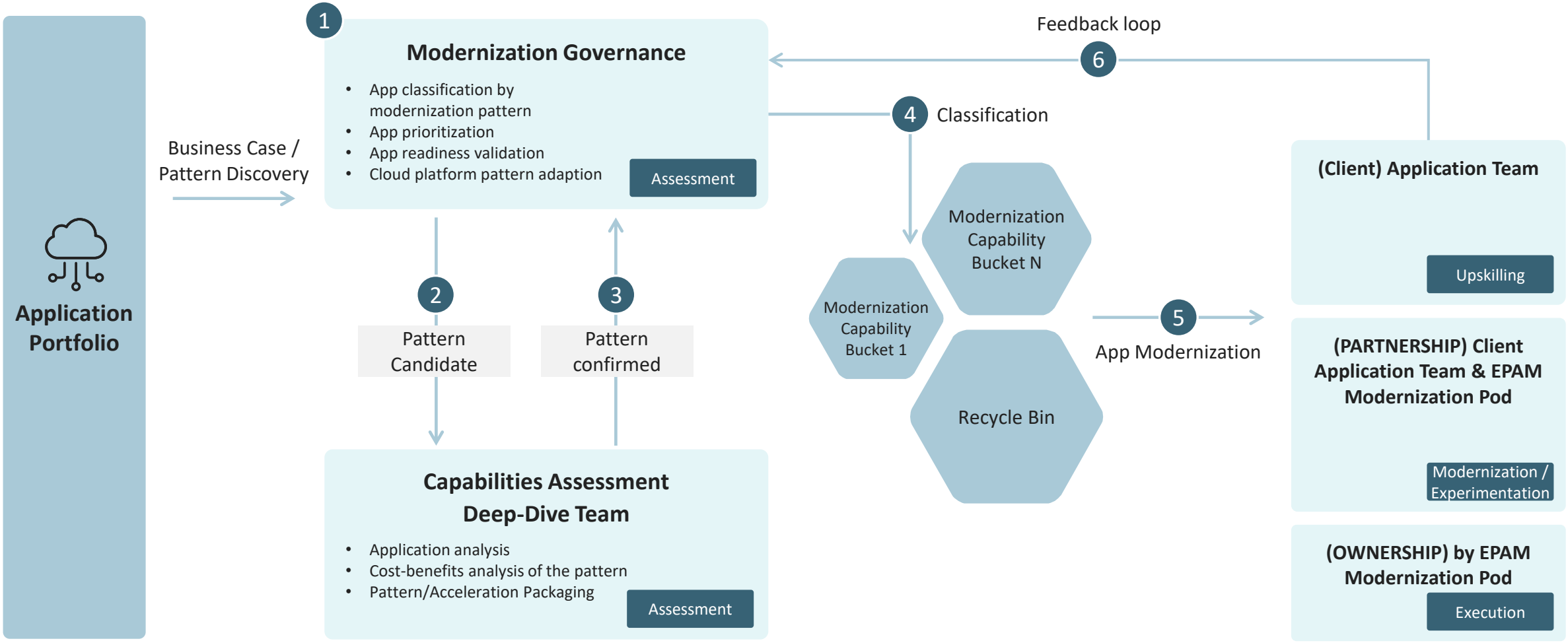
CONTINUOUS IMPROVEMENT

6

Migration Cycle

Run: Hub & Spoke Model

We are proposing the Hub & Spoke model as a repeatable, industrialized approach for executing modernization objectives. This model will help you modernize applications according to defined modernization patterns and business cases.

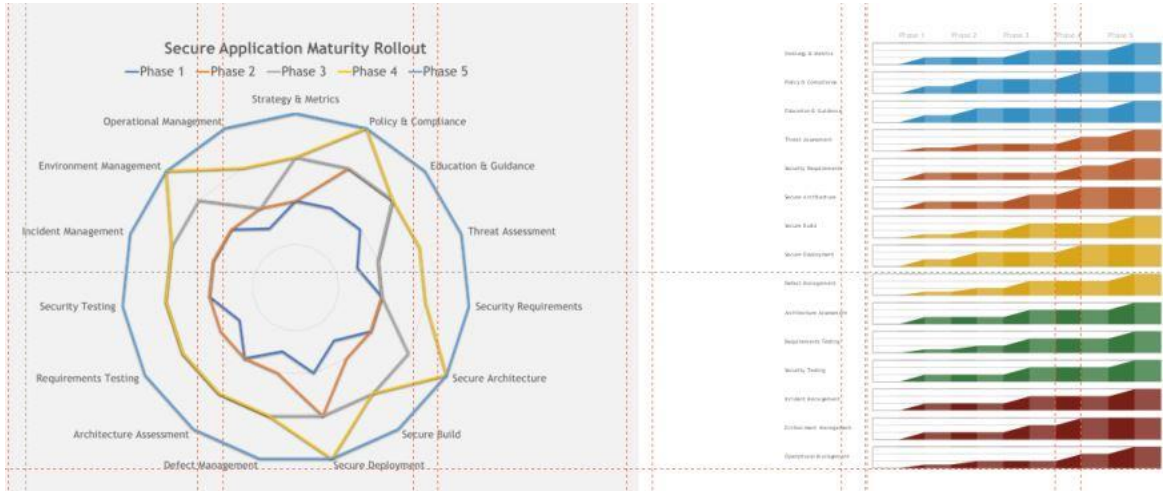


Deliverables

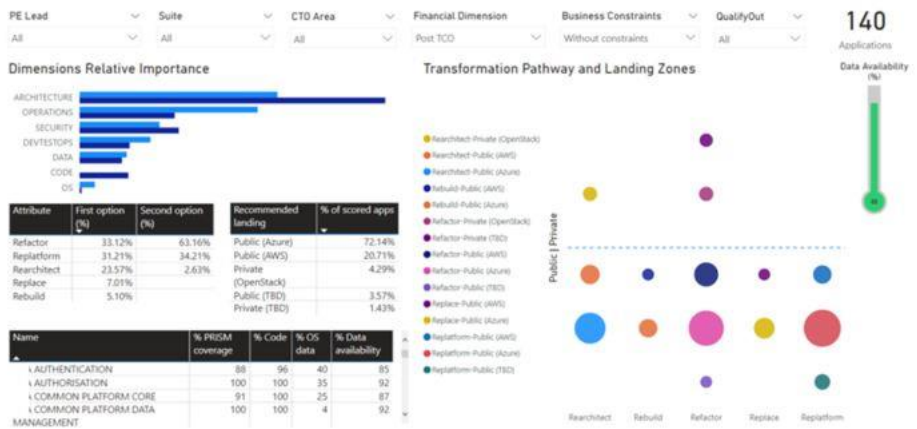
Deliverables: Discovery

Infrastructure & Applications Inventory

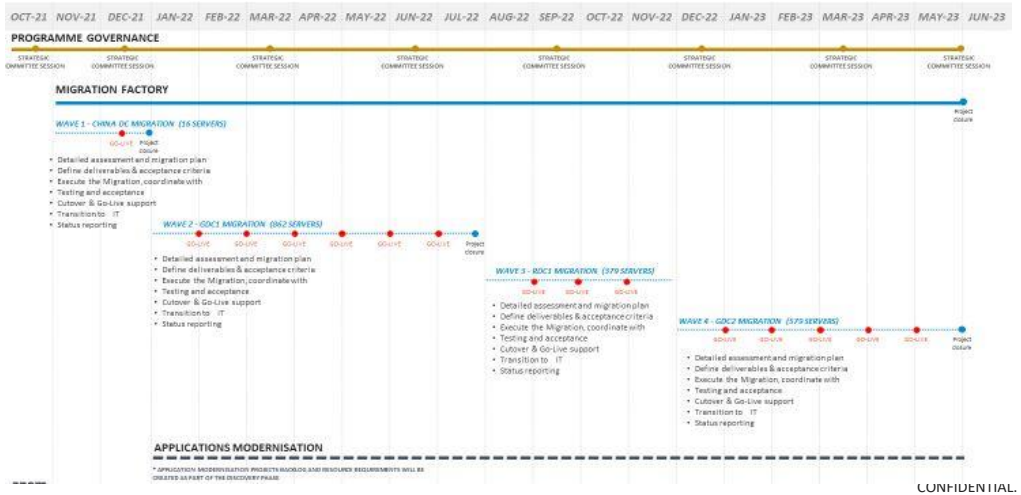
Gap Analysis & Findings Report



Migration Strategy Based on 7R Disposition Methodology

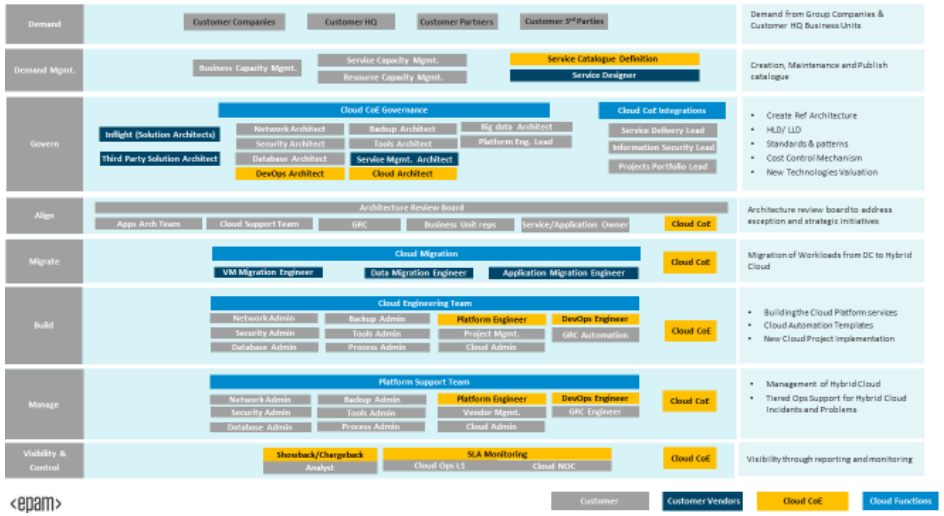


Migration Roadmap

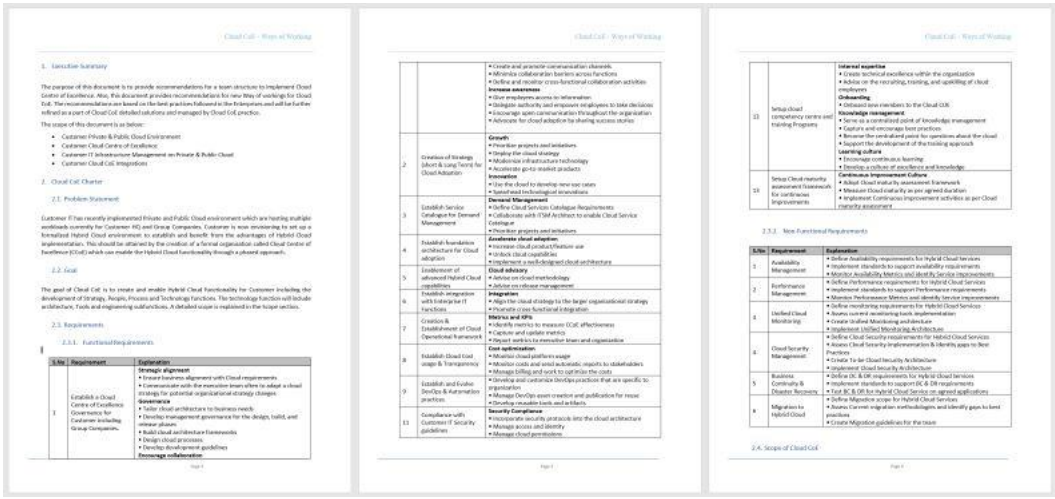


Deliverables: Cloud Strategy & Operating Model

Cloud CoE Operating Model & Interfaces



Cloud CoE Ways of Working Document



Cloud Operating Model: Key Functions

Area	Functions	Details
Demand & Request fulfill management	Cloud Resources Demand Initiator	Customer HQ & Customer Group Companies
	Cloud Resources Demand Approver	Customer HQ & Customer Group Companies
	Cloud Resources Fulfilment	Customer Cloud Operations
	Cloud Resources Forecasting	Customer HQ
	Cloud Resources Chargeback	Customer HQ
Service Delivery Framework	ITIL based ITSM Framework	Incident Management Change Management Problem Management Release Management Capacity Management Configuration Management Hybrid Service Catalogue
	Continuous Integration & Continuous Delivery	DevOps using Azure DevOps Automation Release management
Service Delivery Locations	Onsite Locations	Customer HQ
	Nearshore Locations	Etisalat Office
	Offshore Locations	Vendor offices
Cloud Service Support Functions	Service Support Timings	24x7x365 (As per Support SLA)
	Cloud Service Support Levels	Customer NOC (L1) Customer Hybrid Cloud Support (L2) Customer Hybrid Cloud Escalation Support (L3) Vendor Support (i.e. VMware, Microsoft, Palo Alto & Cisco)
	Cloud Service Support SLA	Business Critical Service Mission Critical Service Non Critical Service
Projects Functions	Cloud Platform Projects Onboarding	Cloud CoE Project Management
	Cloud Platform Migration	Cloud CoE PM & Migration PM

Area	Functions	Details
Hybrid Cloud Management Tools	ITSM Tools	Service Now for all ITIL Processes
	Unified Hybrid Cloud Monitoring	Private Cloud Platform Monitoring Public Cloud Platform (i.e Azure) Monitoring Operating Systems Monitoring Application Monitoring Cloud PaaS Services Monitoring
	Hybrid Cloud Automation	ITSM Tool (i.e ServiceNow integration with Cloud Automation APIs)
	Unified Monitoring Dashboard	Single Monitoring Dashboard showing the events generated from Hybrid Cloud as per agreed metrices.
	Hybrid Cloud Backup & DR	Single Backup Management tool to manage backups on Private & Public Cloud environment.
	Hybrid Cloud Cost Control	Single Cloud Cost View & Management tool to show back and chargeback from Business Units and Group Companies
	Hybrid Identity Access Management	Unified Identity and Access Management capabilities to enforce access Policies (i.e Customer AD and Customer Azure AD)
	Hybrid Cloud Security Management	Unified Hybrid Cloud Security Management Tool (i.e Azure Security Center)
	Hybrid Cloud Logs Management	Single tool to view and analyze Hybrid Cloud platform and resources logs
Architecture Functions	Cloud Adoption Framework	Cloud Center of Excellence Enterprise Architecture to define the scope of
	Cloud Architecture	Cloud CoE Architecture for Solutions
	Cloud Security	Customer Corporate Security Guidelines
	Cloud ITSM Architecture	Customer Enterprise IT
HR Function	Cloud Skills Assurance	Customer HR & Skills
	Cloud Skills Trainings	Customer Trainings

Cloud Strategy Scope

Topic	Details
Executive Summary	• Overview of the full strategy with drivers, challenges and business goals • Cloud council team members with holistic roles coverage in the organization
Cloud Computing Baseline	• Common internal cloud nomenclature • Cloud delivery model (public/private/hybrid/multi) • Current adoption details • **Training and communication plans**
Business Baseline	• Business strategy summary • Desired business outcomes and goals • Cloud adoption Benefits (Bimodal) • Risks (Security/Compliance/etc.) • **Business goals to cloud adoption mapping**

Service Strategy	• Use cases for IaaS/PaaS/SaaS:
	  ▪ What to consume from clouds
	  ▪ What to build internally
	  ▪ When to be a broker
	• How to manage/secure/govern hybrid env. (hybrid operation model)

Financial Models	• Pricing & Payment Models (pay-as-you-go/long term contracts) • Chargebacks and Discounts Strategy • Capex vs Opex

Topic	Details
Principles	• Workload vs Application based • **Cloud Adoption principle** (Cloud-first, Cloud only, SaaS-first, Best of breed) • **Cloud Architecture principle** (Cloud-native, Multi-cloud) • When to Lift-n-Shift (last resort) • Vendor considerations
Inventory Assessment	• **Full inventory of workloads/applications** • Workloads characteristic analysis (on-going work) • Cost analysis • **Bimodal placement for workloads**
Security	• Key security principles • Roles and responsibilities (internal org vs public cloud providers) • Governance and compliance • **Alignment with global Security Strategy**
Supporting Elements	• Alignment with data center, security, architecture and other IT strategies • Cloud strategy alignment with org resources/staffing requirements • Any other org group dependencies related to Cloud Strategy success
Exit Strategy	• Contracts, T&C, SLAs • Data ownership, backups, portability, data movements • Vendor lock-ins and other legal dependencies • Technical factors (development/architectural/service/infra/etc.) • **Multi-cloud strategy as option to evolve**

Solving real world problems
at the speed of software