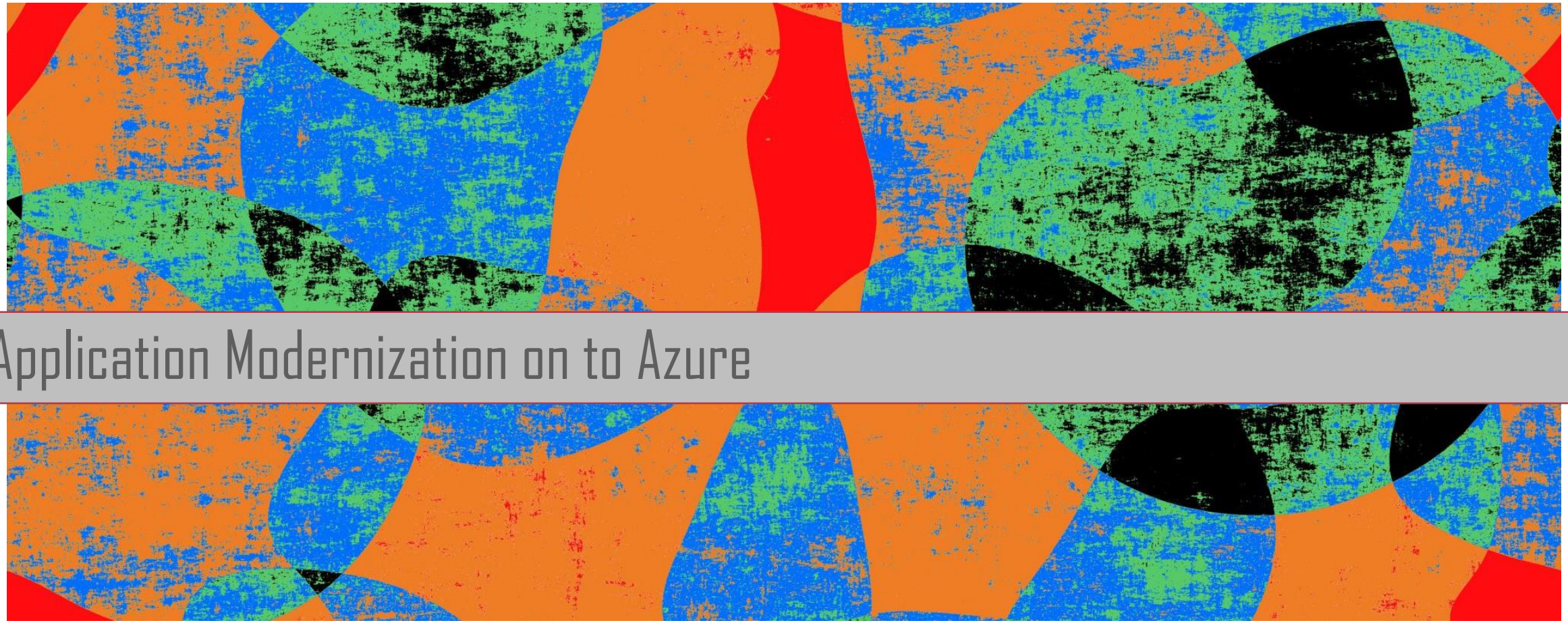


Application Modernization on to Azure

Legacy Systems Impedes the Acceleration to Digital Future

40% — IT projects will create new digital services and revenue streams that monetize data

70% — Of data warehouses are straining the limits of their capacity and performance levels

50% — Data migration projects will exceed budget and/or result in some form of business disruption due to flawed execution by 2019

72% — CxOs say technical debt in legacy systems limits their ability to migrate to new technologies or innovate

70% — Organization's global transactions running on legacy applications

3X — Expected spend to continuously modernize legacy application portfolio by 2025 as compared to 1X investment in innovation.

Source: Gartner, Accenture Research, InformationWeek

Key Benefits of Rationalization & Modernization

Optimized IT Landscape

Reduce redundancies in toolsets and business applications, remove low-value assets.

Automation

Improve efficiency through automation opportunities, such as devops pipelines and automated decision making.

Sustainable Architecture

Modern architecture that provides modular, future-ready capabilities, and leverages cloud infrastructure.

Desired Capabilities

Identifies and introduces new desired capabilities which drive the business.

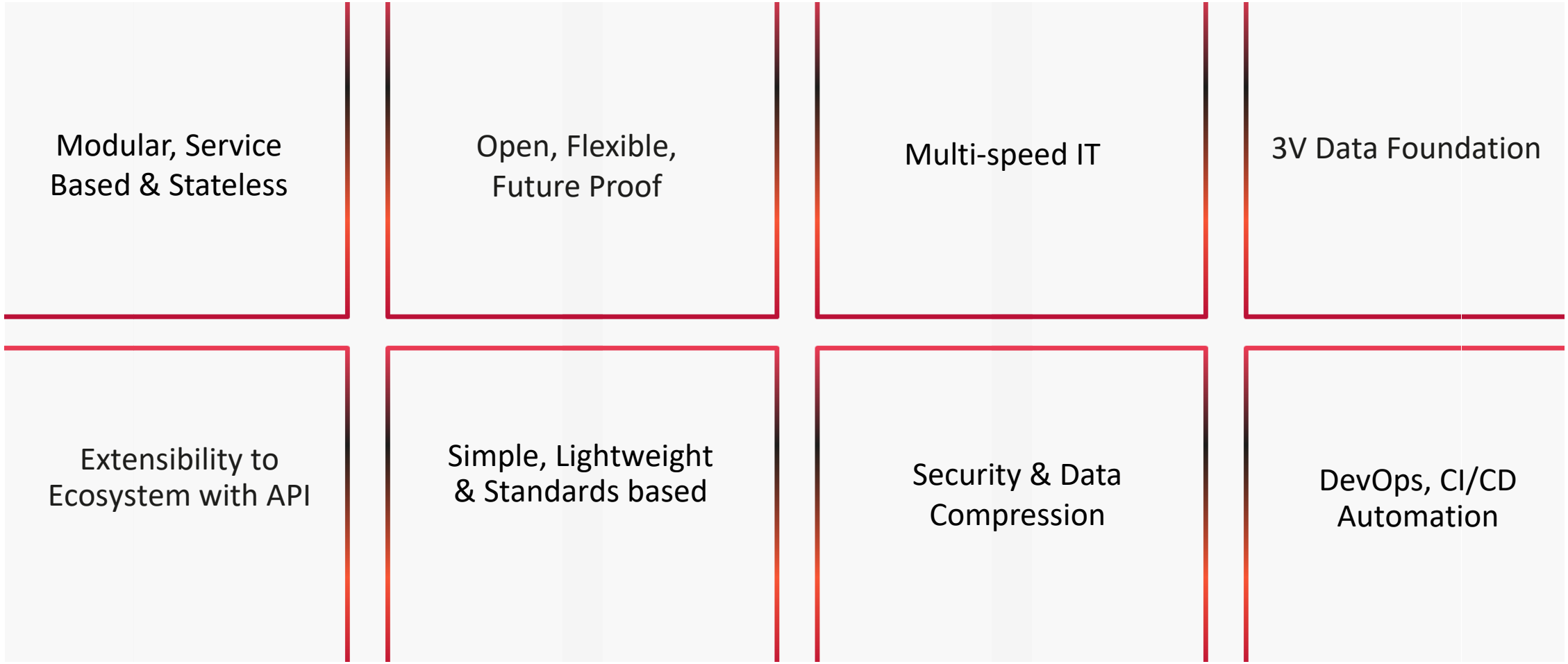
Security

Provides platform-based and standards-based security models.

Reduction in TCO

Reduces total cost of ownership of running the business, and frees budget to grow.

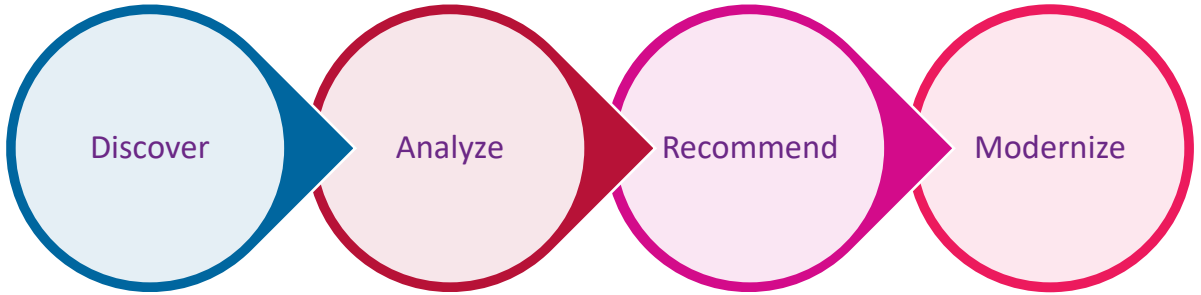
Key Tenets to Define a Future-ready Architecture



Application Modernization Framework

Reducing Total Cost of Ownership | **Improving Agility** | **Enhancing Digital Experience** | **Architectural Flexibility**

Application Modernization Methodology



STRATEGIC DIRECTION, PRIORITIES & EXPECTED OUTCOME

Multi-Dimensional Alignment
Strategic Alignment | Business Process Fitment| Functional Fitment | Technology Alignment| Cloud Fitment | Operations Efficiency | Digital Readiness

Application Assessment
Tool based discovery | Survey templates | Interviews | Focus groups | Workshops

Pod Based Agile Development
Microservices | DevSecOps| Automation | Cloud Native Development

Governance
Schedule | Cost | Reporting | Cadence | Communication | Risk

TEAM WITH DEEP EXPERTISE IN LARGE APR

Improving Business Opportunities

- Technical Debt Remediation
- Modernization Initiatives
- Standardization Opportunities
- Application Consolidation
- Application Decommissioning
- Skills Optimization
- New business avenues
- Software Composition Analysis

Application Portfolio Discovery

1 Discover

The objective is to gather the Applications Inventory based on the Interview / Survey with Application team, Business and SMEs. Determine the category of grouping of application and assign each application to a category

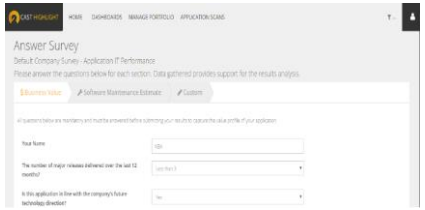
Executive Sponsor

Discovery Phase Key activities

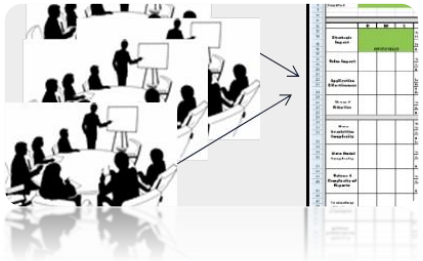
- Strategic Alignment
- Stakeholder identification
- Sponsor Communication
- Toolkit setup
- Rollout plan
- Project Governance

Techno-Functional Team

Surveys



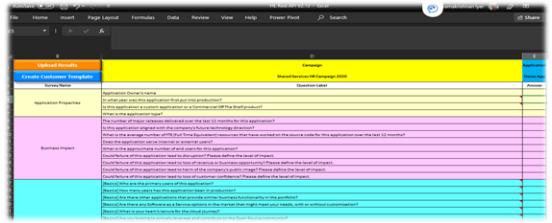
Workshops & Interviews



Tools

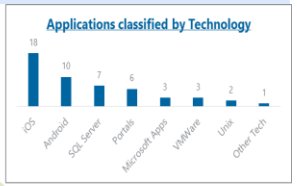
Code Scans

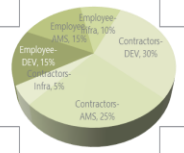
Data Sets from Tools

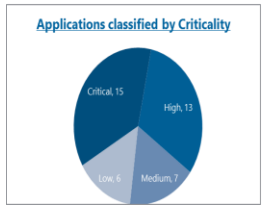


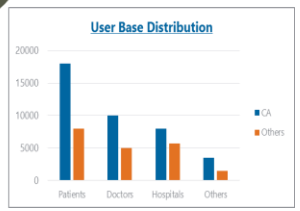
Outcome

- App modernization strategy
- IT budget considerations
- Cloud readiness
- APR decision parameters
- KPIs & Success Criteria





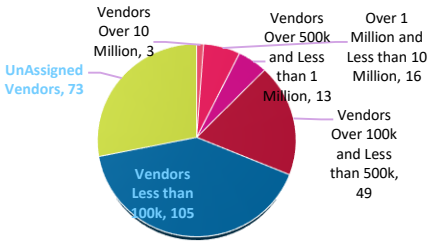




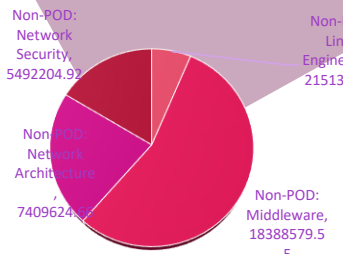
Business Criticality Analysis

	Applications	Top Application Categories			Retain	Replace	Cloud	Retire	High Criticality	Major Pain Points		
										TD	PF	DL
LOB 1	56	Custom 40%	COTS 35%	SAP 10%	35%	20%	10%	15%	14%	40%	5%	15%
LOB 2	51	Custom 45%	COTS 20%	SaaS 15%	50%	25%	5%	0%	20%	35%	10%	5%
LOB 3	114	COTS 35%	Custom 25%	SAP 20%	40%	25%	10%	5%	26%	40%	10%	15%
LOB 4	46	SAP 30%	COTS 30%	Custom 30%	55%	25%	5%	10%	35%	30%	15%	15%

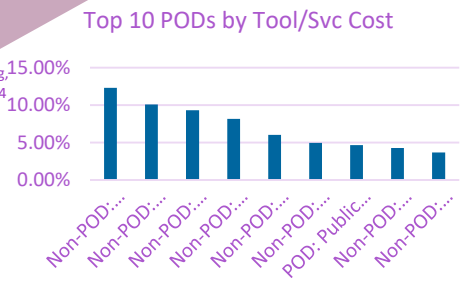
Vendor Category by Cost



Cost by Account



Cost by POD



- 68% of cost Spent on 22 Vendors' Tools with over 1 million annual expense
- These 22 Vendors supports 68 Tools
- 15% of cost Spent on unassigned Vendors
- Top most expensive Vendor is IBM, USD 27 Million

Legend

TD – Technical Debt

PF- Performance

DL – Functional duplication

Mindtree's Transformation Strategy

Analysis Framework

Utilize analysis framework for Modernization – app complexity, sequencing and modernization recommendations

Initial study and assessment for modernization

Retain

Already on Cloud / SaaS apps

Portfolio Analysis

Application complexity	**Scoring** based on business criticality, tech, size, age, stability, compatibility, integrations & maintainability
Transformation roadmap sequencing	**Business impact** (Customer Facing, CORE - Priority) **Application complexity** **Transformation strategy**

Modernization Recommendations

3 Recommend

Cloud Redeploy / Lift & Shift

- Compatible for lift and shift (ex: container ready)
- Relatively stable application

SaaS Enablement

- Availability of Cloud native services
- Availability of commercial SaaS products

Re-platform

- Adopt cloud services with minor configuration changes
- Give recommendation to tolerate / invest

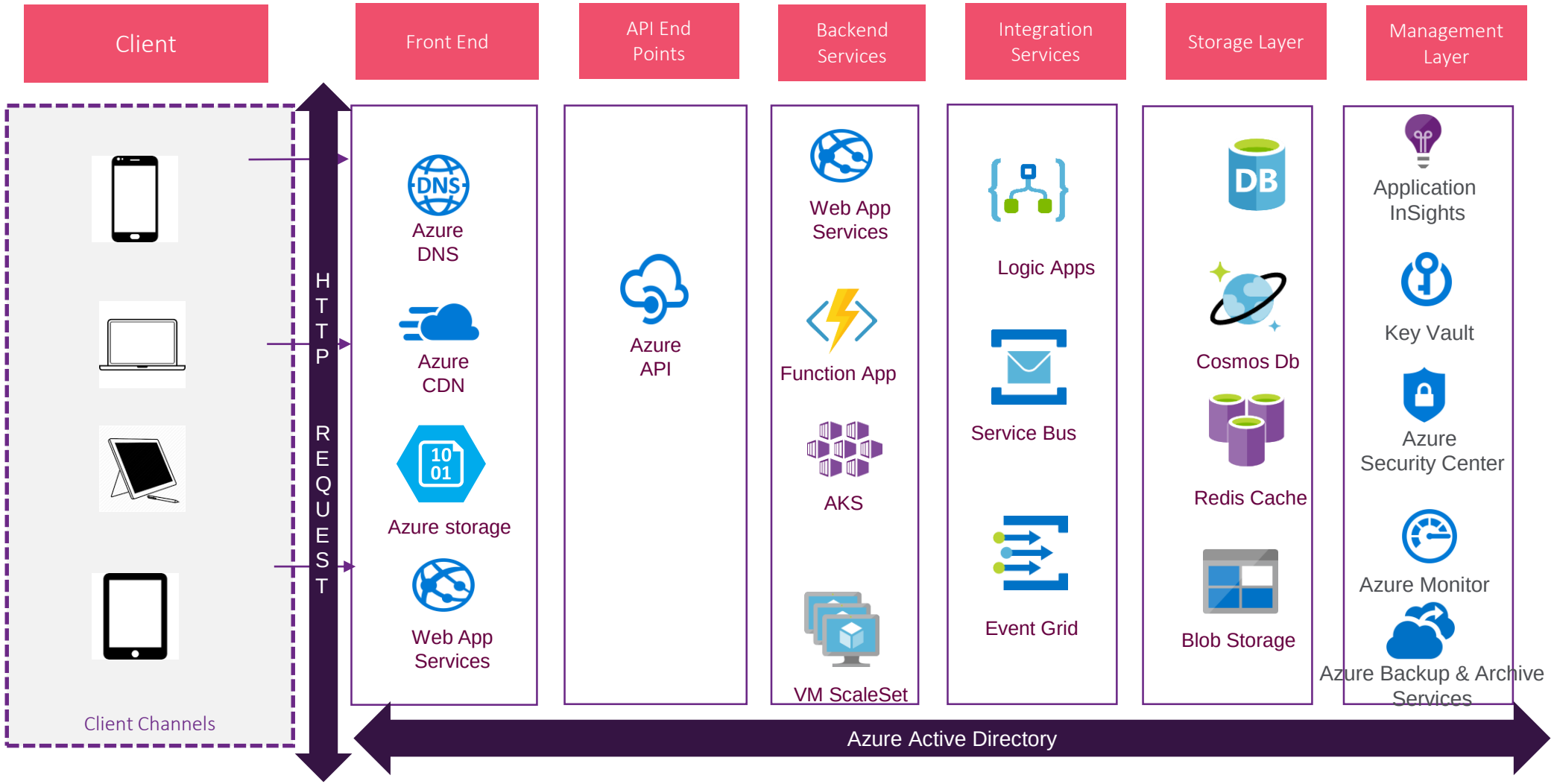
Rewrite / Re-Architect

- Need for business transformation
- Custom apps, with a mix of multiple technologies
- Give recommendation to invest

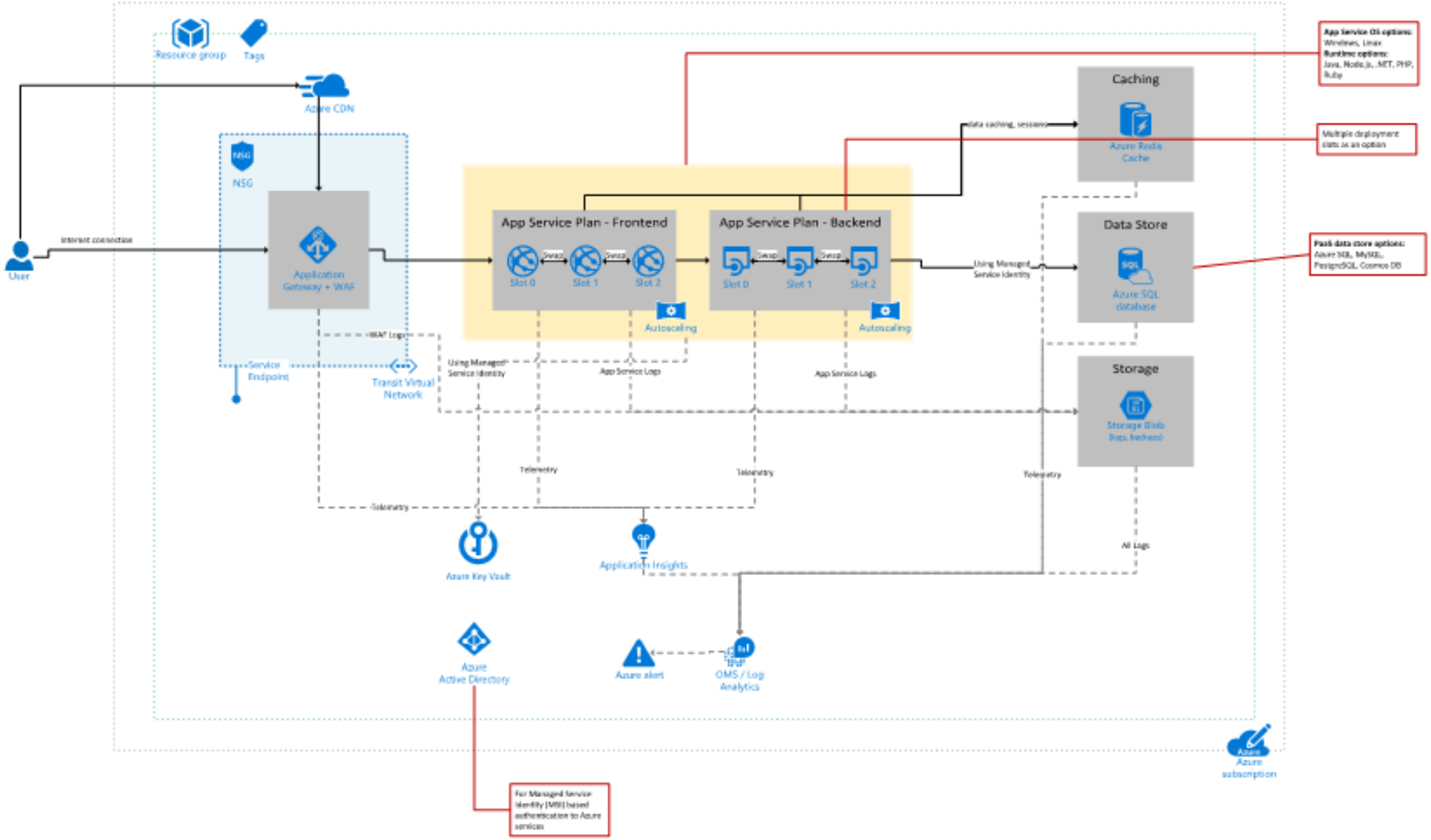
Retire/Sunset

- Old applications, low business value
- Duplicate & unused features
- Give recommendation to retire

Reference Architecture for App Modernization



Reference Architecture (External Web App PaaS)



Step by step **re-platform** journey

Auto-discovery of application dependencies on infrastructure components and configuration with minimal or zero intervention from existing teams.

ComPass

MVC Blueprints Template Library
Library of templates crafted with enterprise standard hardening with monitoring & security enabled

DIA & Performance Engineering
with Integrated test automation

Azure API Integration Services

Application performance monitoring platform

Multi-cloud monitoring platform

Intelyzers

Mindtree Machine Learning Accelerators

REPLATFORM

Infrastructure assessment

New Runtime Platform

Minimal Code Changes

Performance Improvement

Integration

Observability

NoOps

DIGITAL AGILITY

Security Uplift

Elasticity Uplift

Resilience Uplift

Well-Architected Framework

Continuous Optimization
Cost management, Policy and Advisor

Cloud Readiness

DevOps

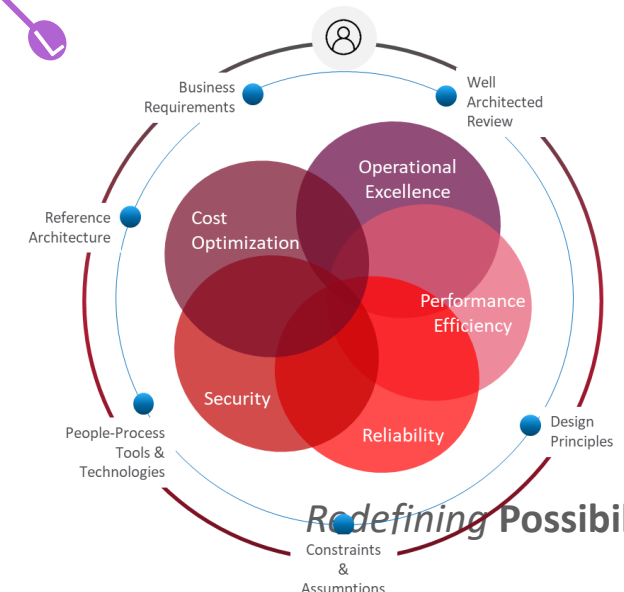
DataOps

CAST HIGHLIGHT

Application cloud readiness assessment & early identification of risks and blockers

Azure DevOps **Automation platform**

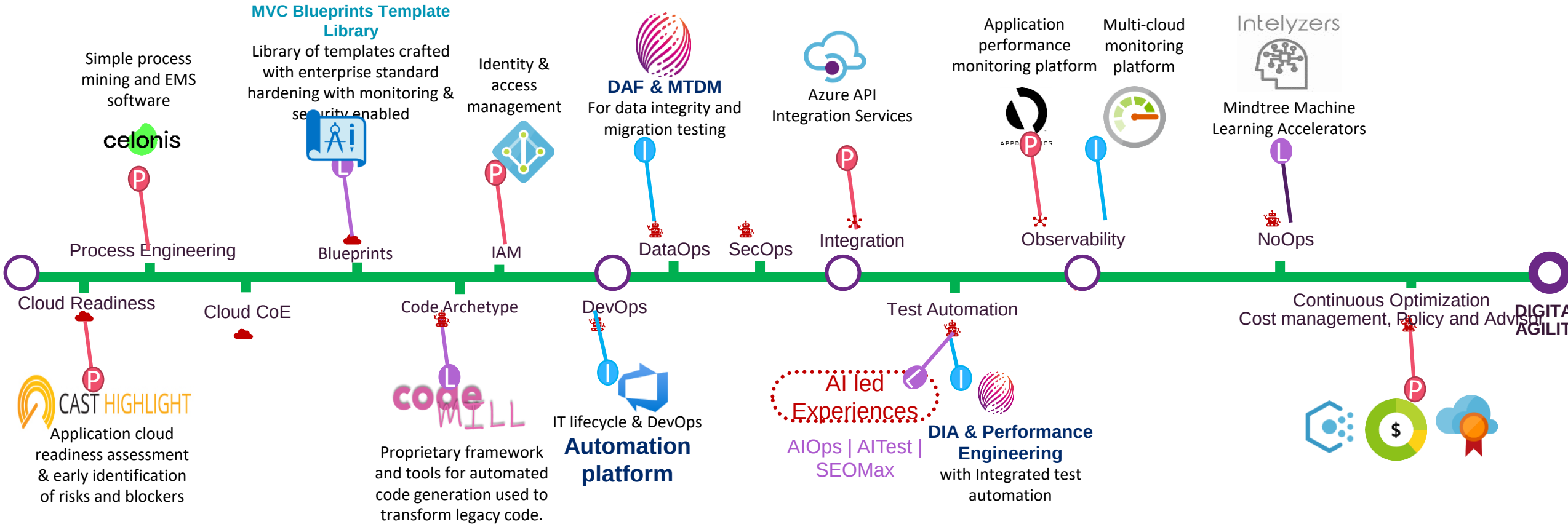
DAF & MTDM
For data integrity and migration testing



Mindtree MINDTREE CONSULTING

Redefining **Possibilities** *for* **Tomorrow**

Step by step **re-architecture** journey



Mindtree | Mindtree

P Partnership L Library I Mindtree IP

Technology coverage

Business Layer


Core java

.Net Core


App Services


AKS


Function App

Presentation Layer

React


Angular


App Services

Persistence Layer


Cosmos

Azure SQL

Integration Layer

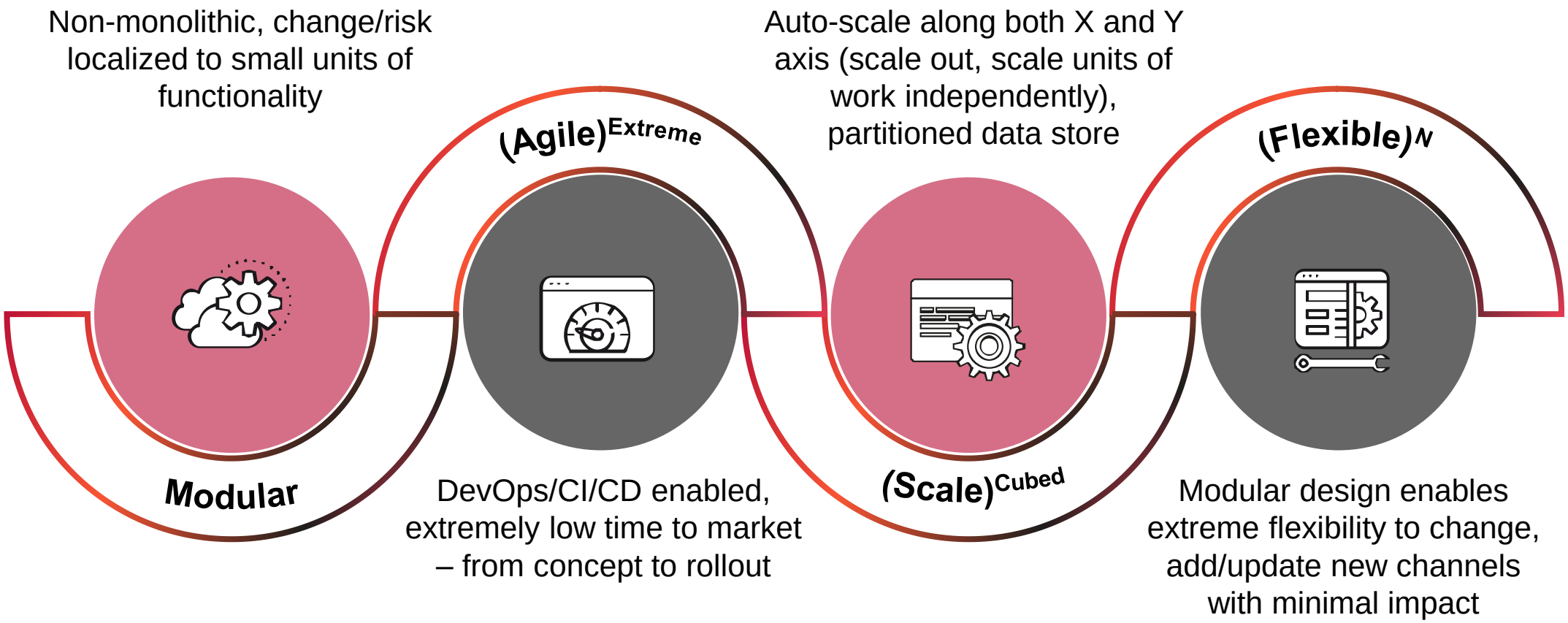

Logic Apps


APIM


Service Bus

Hosting Platform

Modernization Approach



Execution Methodology

Detailed Design

- Solution Approach
- Requirements Validation & Detailing (Backlog Prioritization)
- Solution Document
- Definition of Done

Commercial Models that we support

Ticket/Unit Based Model

- The customer is charged on the number of work units delivered
- Commitment for a minimum number of work units per month by Customer
- Cost for each unit is calculated based on the effort, complexity and nature of work e.g. number of reports delivered, number of test cases executed etc.

Time & Material

- Resource allocation
- Customer owns resource
- Customer owns project delivery
- Customer owns deliverables
- Customer owns reporting
- People based pricing

FIXED PRICE

- Fixed team
- Known and fixed scope of work
- Complete project ownership with Mindtree
- Milestone based payment

Outcome Based Model

- Set of outcomes at multiple levels are mutually agreed upon and signed off in consultation with the Customer
- Sample Measurable Outcomes based on predetermined goals e.g. ROI Realization in X Months; Reduce TCO by Y%
- Requires high degree of engagement maturity

Fixed+ Variable/ Slab based

- Fixed fee for a fixed volume of services, with variations on fees for volumes above or below target thresholds.
- Viable for a range of volume
- Pricing mechanisms will define the top and bottom limit beyond which there will need to be a re-pricing negotiation.

Manage with Autonomous Service Management Capabilities

Continuous Availability
- Rolling Updates with Zero Downtime using Kubernetes
- Continuous Resource availability for business-critical Services

Self-optimizing & Self-managing
- Resource management frameworks like Apache Mesos & Kubernetes

Fault Tolerant & Fail Fast
- Circuit Breaker using Hystrix, Linkerd etc.

Self-healing
- Auto restart of Services to fix issues

Self-monitoring & Self-configuring
- Process management using Kubernetes

Your Anchor Partner for Cloud Transformation

Speed and agility through Mindtree accelerators for data analysis, pre-modernization and post-modernization

Accelerating enterprise legacy modernization & analytics with Insights Sandbox

'Intelligent Automated Refactoring' to achieve fully automated migration

Automation led End-to-end data testing with 'Test Early–Test Often' approach

Reimagining customer journey powered by digital studios

Modernizing the Legacy Core for Insights-led Digital Evolution

Reducing technical debt by retiring mainframe dependencies and moving to a scalable platform on cloud to ensure architecture flexibility

Transforming legacy data flow to enable applications to ingest data from disparate sources in real-time for new analytics capabilities

$20M expected cost savings. Improve ROI by decommissioning mainframe. Increase earnings by improving yield with real-time decisions.

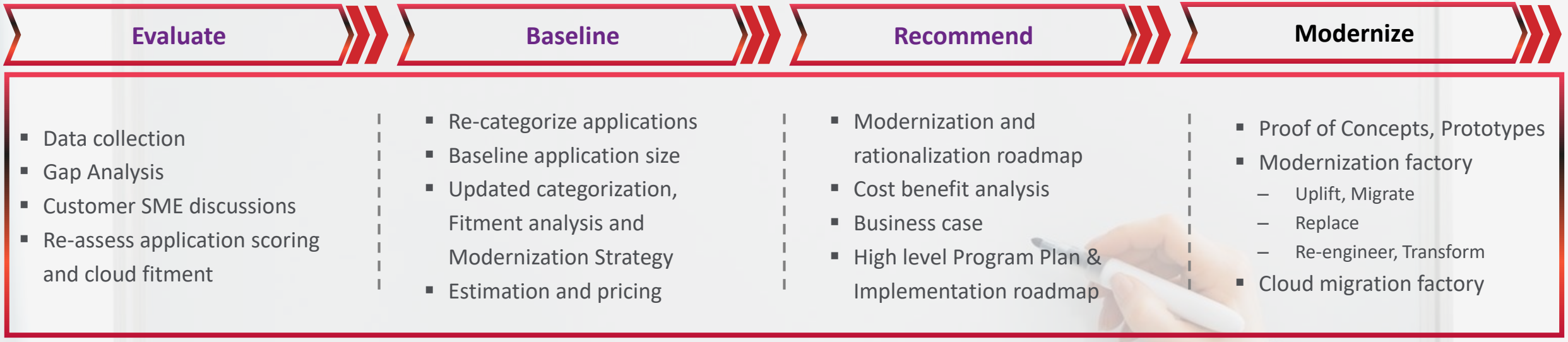
Re-architected a Multi-tenant Airline Reservations Platform

Current applications on legacy platform, being used by 150+ airlines. Weak architecture due to legacy platform and application design leading to high TCO

Re-architected the platform to be future ready with a multi-tenant based on SOA and using API

Improved resilience and agility for the airlines. Ease of integration, onboarding of new airlines, onboarding time reduced from months to days

So, Where do you Start?



MAKE DIGITAL 

Mindtree