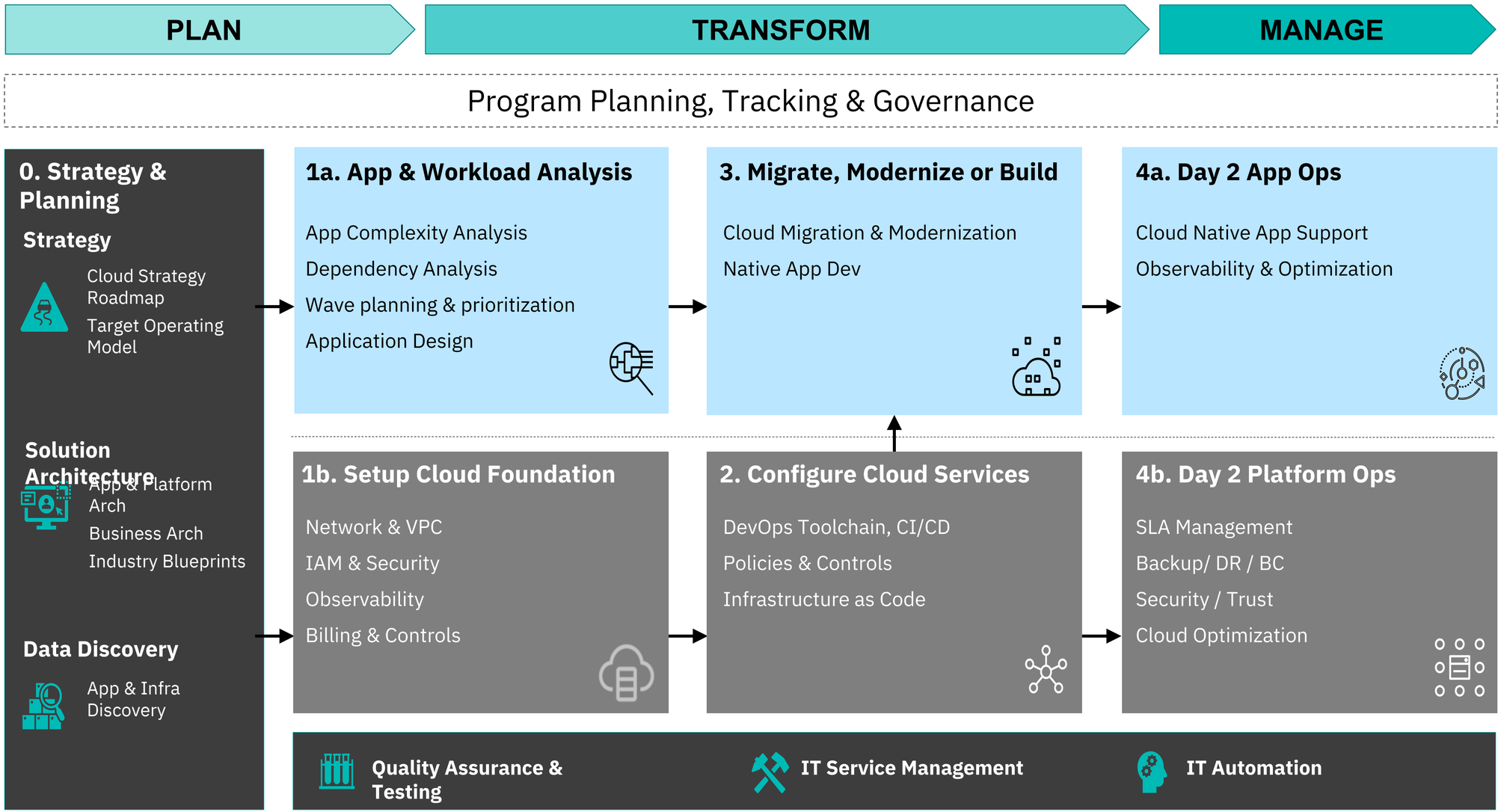
IBM Consulting Advantage for Cloud Transformation

Contents

IBM Consulting holistic approach helps enterprises de-risk cloud transformation



Our approach is supported by the **Cloud Accelerator** asset, a technical foundation that **automates** & **accelerates** the planning and execution of cloud transformation

Outcome for Organizations:

40%
faster planning

30%
reduced effort

PLAN | **TRANSFORM** | **MANAGE**

Program Planning, Tracking & Governance

0. Strategy & Planning

Strategy
- Cloud Strategy Roadmap
- Target Operating Model

Solution Architecture
- App & Platform Arch
- Business Arch
- Industry Blueprints

Data Discovery
- App & Infra Discovery

IBM Consulting Cloud Accelerator

Lifecycle

Data Gathering Analysis	App Design / Platform Design	Cloud Foundation Setup	Migrate and Modernize / Build / Configure Cloud Services	Day 2 Ops (App) / Day 2 Ops (Platform)

Orchestration Engine

Security | Expert Rules | Recommendation Engine | Financial Benchmarks | Sizing Models | Platform Automation | Reference Implementation | Playbook | Usage Metrics

Journey Framework with Accelerators

								Effort Reduction
Rehost	Migration Tool: Delivery Curator	Infrastructure as Code: Nordcloud Automation	Rehost Framework: Neudesic Calidris	Rehost Apps: Red Hat MTV	AWS: AWS SCN, DMS, AMS, DataSync	Azure: Azure Migrate, ASR Zinstall Winserv, DMA	GCP: Google Migrate, DMS	20-30%
Example Journeys:	*Linux apps*	*Windows apps*	*VM workloads*	*Databases*	*Virtualized Apps*	*Infra Services & Packaged Apps*		
Replatform	Code Analysis: Red Hat MTA, IBM CTA	Visualization: CTI	Code Remediation: Code Transporter	CI/CD + Custom Automation: ICCA Migration Tools	Data Platform Migration: Neudesic Kinisi	.NET Modernization: .NET Upgrade Assistant	Move to OCP: Move2Kube	20-30%
Example Journeys:	*App Servers (Tomcat, Weblogic, WebSphere)*		*Messaging & Integration Platforms (Apache AMQ, Tibco, MuleSoft)*		*Microsoft workloads (.NET, SQLServer)*	*Replatform Databases (MySQL, PostgreSQL, Oracle, Sybase, NoSQL)*		
Refactor / Build	Code Analysis & BRE: ARC	Visualization: CTI	Context Analysis: MAM	Mainframe Code Analysis: IBM ADDI	Microservices Design: CMA	Microservices Build: DMB	Microservices Orchestration: DSB	10-15%
Example Journeys:	*Cloud Foundry Applications*	*Mainframe Applications*	*Cloud Native Modernization*	*Cloud Native Build*	*Serverless Apps*	*5G/Edge Applications*	*Industry Solutions*	

Quality Assurance & Testing | **IT Service Management** | **IT Automation**

Organization Enablement and Change Management

App-centric | Platform-centric

IBM Consulting Advantage for Cloud Transformation unique Journey Framework enables organizations to migrate a wide range of mission critical applications & technologies with consistent & predictable outcomes

REHOST

Rehost Apps

- *Rehost App Workloads to other platforms
- *App Logical Rehost to other platforms
- Rehost infrastructure services to OCP
- Rehost virtualized apps to OCP
- Rehost Linux Apps

Rehost VMware Workloads

- Rehost Windows VMs
- Rehost VM Workloads
- Rehost VMware Workloads

Rehost Databases

- *Common Rehost Journey to Cloud
- *Rehost DB Workloads to other platforms
- *DB Logical Rehost to other platforms
- Rehost Oracle DB
- Rehost SQL DB

REPLATFORM

Replatform Web & App Servers Apps

- *Containerize Web & App Server Apps
- Replatform Web & App Server Apps on Azure App Svc
- Replatform Apps on Cloud Foundry
- Replatform Apps on EKS/AKS to OpenShift
- Containerize JBoss Apps
- Containerize JBoss Apps to Liberty
- Containerize Tomcat Apps
- Containerize WebLogic Apps
- Containerize WebSphere Apps to Liberty
- Containerize WebSphere Apps to Tomcat
- Containerize WebSphere Apps to JBoss

Replatform Integration Middleware Apps

- *Containerize Integration Middleware Apps
- *Replatform Integration Middleware Apps
- Containerize MuleSoft Apps (ESB CloudHub to RTF)
- Containerize MuleSoft Apps (ESB VM to RTF)
- *Containerize Messaging Middleware
- *Replatform Messaging Middleware
- Containerize ActiveMQ
- *Replatform API Management Middleware Apps
- *Containerize Data Ingestion Middleware
- *Replatform Data Ingestion Middleware

Replatform Databases

- *Replatform Legacy Relational Databases
- Containerize Oracle to EDB Postgres
- Replatform Oracle to PostgreSQL RDS on AWS
- Replatform Oracle to Aurora PostgreSQL on AWS
- Replatform DB2 LUW to PostgreSQL RDS on AW
- Replatform SQL Server to Aurora PostgreSQL on AWS
- Replatform SQL Server to RDS SQLServer on AW
- Replatform SQL Server to Azure SQL Serve
- Containerize SQL Server 2019 on OC
- Containerize SQL Server on Linux to ROS
- *Replatform Open-source Relational Databases
- Replatform PostgreSQL to Azure DB for PostgreSQL
- *Containerize Open-source Relational Databases
- Containerize MySQL
- Containerize PostgreSQL

Replatform non-Java Apps

- Containerize .NET Framework 3.x
- Containerize .NET Framework 4.x
- Containerize .NET Framework to .NET Core
- Containerize unsupported .NET Core Apps

Replatform BPM Middleware

- *Containerize BPM Middleware

REBUILD/ BUILD

Rebuild Apps

- Rebuild monolith to microservices
- Rebuild TIBCO BusinessWorks Apps

Build Apps

- Build Serverless Apps
- Build Cloud Native Apps
- Build Business Microservices
- Build Adapter Microservices
- Build BFF Microservices
- Build User Interface

Mainframe Modernization

- Build API for Mainframe Apps
- Replatform Easytrieve to COBOL
- Analysis and business rules extraction
- Design and build of microservices for Mainframe Apps

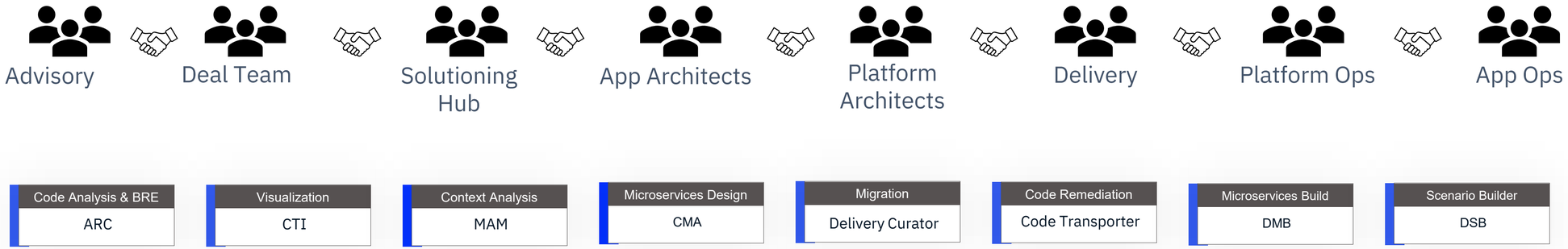
IBM Consulting Advantage for Cloud Transformation

Current Solution Process

- Dependence on different SMEs with multiple handoffs
- Manual rework with changes in assumptions and scope

Current Delivery Process

- Multiple standalone tools with limited usage guidance
- Implementation manual and non-standard leading to time delays



ICA4CT Benefits

- E2E Solutioning and Delivery
- Standardized Solutioning
- Prescriptive Journey execution steps address skills shortage
- Asset Harvesting provides continuous innovation and IBM differentiation

IBM Consulting Advantage for Cloud Transformation

PLAN | **TRANSFORM** | **MANAGE**

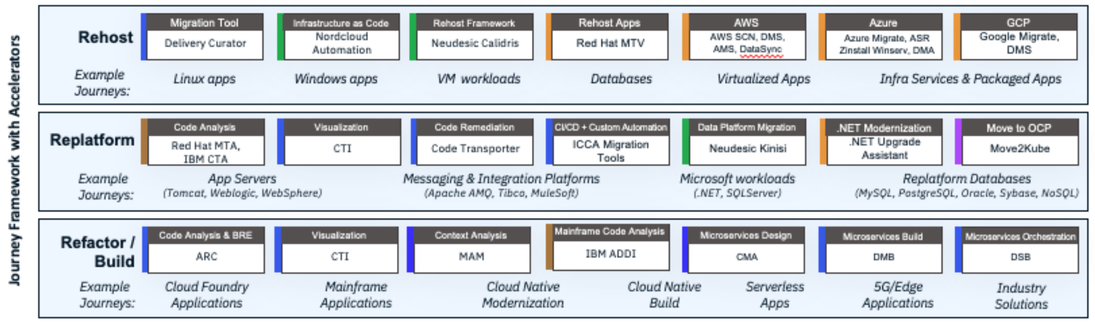
Automated Solutioning

User collects & uploads app data in ICA4CT

- **ICA4CT Recommendation Engine** automatically assess and recommends the most optimal modernization path
- **ICA4CT automatically provides Estimated Effort** with detailed Work Breakdown Structure and Staffing Plan
- **ICA4CT calculates ROI** and provide a business case

Automation-led Delivery

ICA4CT Journeys provide specific automation tooling, reference implementation and playbook enabling accelerated delivery with lower bands.



Reference Implementation

Playbook

Major Airlines

Client challenges

Major Airlines has an ongoing large Cloud Transformation program, where 600+ mission critical applications are identified to migrate, containerize, modernize from on-prem to AWS. Many of the applications use legacy SOAP protocol for exchanging messages leveraging WSDL for communication between consumer and provider. These need to be refactored into REST-based microservices, leveraging JSON to send and receive data. This involved transformation of the many Consumers of the SOA/SOAP Provider applications to use the Provider's new REST interface without disruption to the business.

IBM solution

To meet the primary goal of moving the applications to AWS without disruption, a like-for-like SOA2API strategy was adopted. This involved maintaining the same data structure and names in the REST interface (JSON format) as in the SOA/SOAP interface without refactoring the business logic of the SOAP application.

Creating a like-for-like Swagger specification from WSDL was fundamental to this strategy. IBM brought in the **IBM Consulting Cloud Accelerator (ICA4CT) wsdl2swagger** asset to automate the creation of Swagger specifications from WSDL. This significantly reduced work for both transforming the SOAP providers and the SOAP clients to REST with minimal code changes. The WSDLs are very large and very complex; many are over 10,000 lines long. To transform these manually takes weeks. The ICA4CT wsdl2swagger asset does it in minutes.

Additionally, it needed a number of additional features to accommodate different client-specific requirements for the REST APIs described by Swagger. The ICA4CT wsdl2swagger asset added the changes as customizable rules. This is a key differentiator of the tool. There are some wsdl to swagger tools out there, but they do not have the features needed by its apps. Without these customizable rules, the manual effort for airline specific modifications were taking an additional 32-40 hours per each generated swagger.

Client value

- Over 70 provider applications with approximately 600 SOAP operations were converted to REST Services, impacting over 600 client/consumers.
- SOA2API transformation (without business logic) with estimated savings of 72 hours per application, over 5000 total hours saved.
- The Client and IBM were both in agreement that like-for-like strategy with the fundamental reliance on the wsdl2swagger asset saved time and effort, which otherwise would have resulted in many significant code changes as experienced in other Provider that did not use this strategy.

25-33%

Productivity improvement in converting WSDL to Swagger

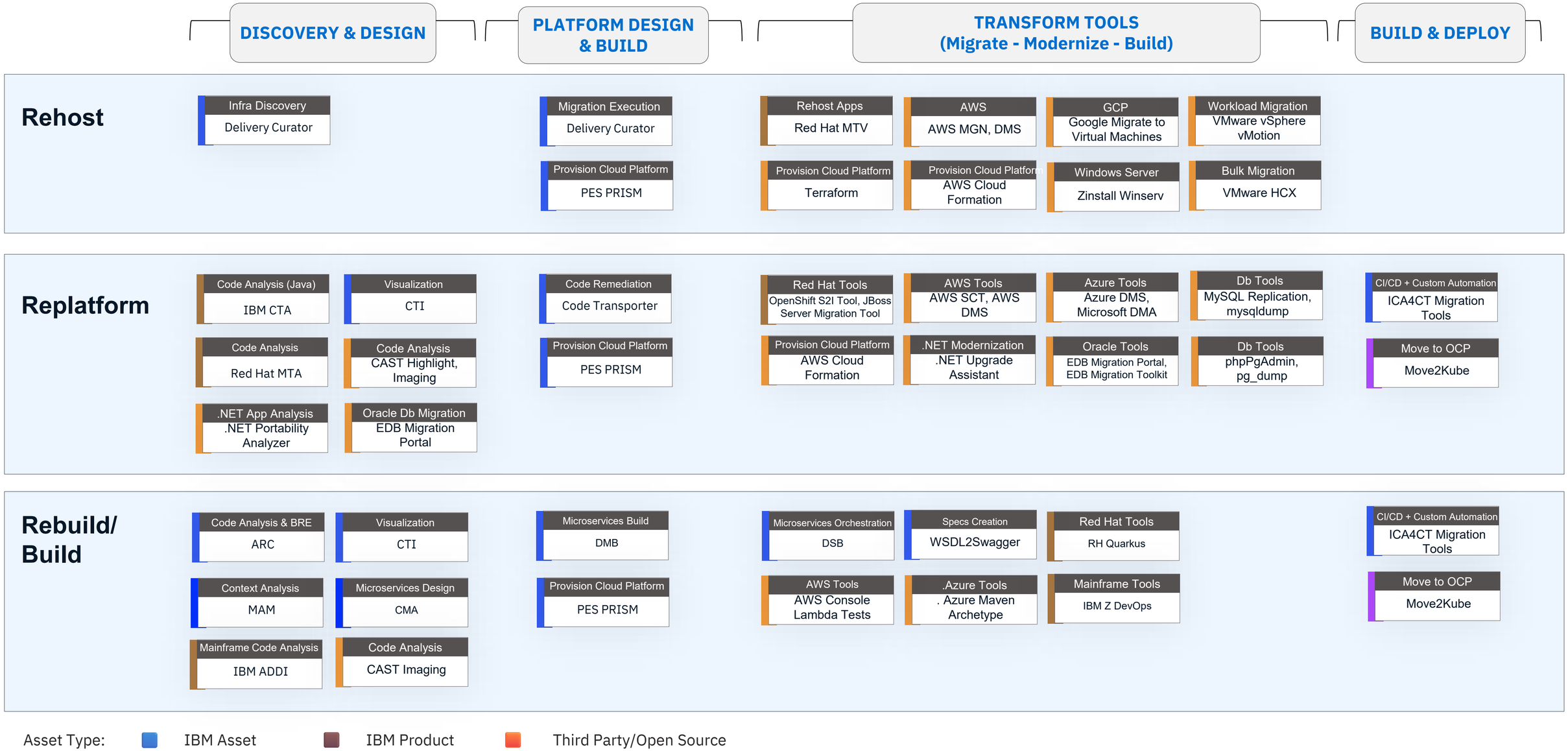
5000+ hrs

of effort saved across 70+ applications

ICA4CT Accelerators

- wsdl2swagger

ICA4CT Automation Tools by Journey type



ICA4CT Accelerators by Journey