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Description: Legacy application code and data migration

Organizations face the challenge of containing costs while delivering new technologies, increasingly complex services, and providing consistently higher levels of customer service. To address these challenges companies create transformation strategies which include the migration of legacy systems, application source code modernization and consolidation, and data migrations to a Pre-Cloud and Cloud-Ready state. The strategies that are created are typically well thought out from a technology blueprint perspective, but often end up being too costly to execute due to lengthy assessments, overall project duration, and the number of resources required to execute the proposed initiative.
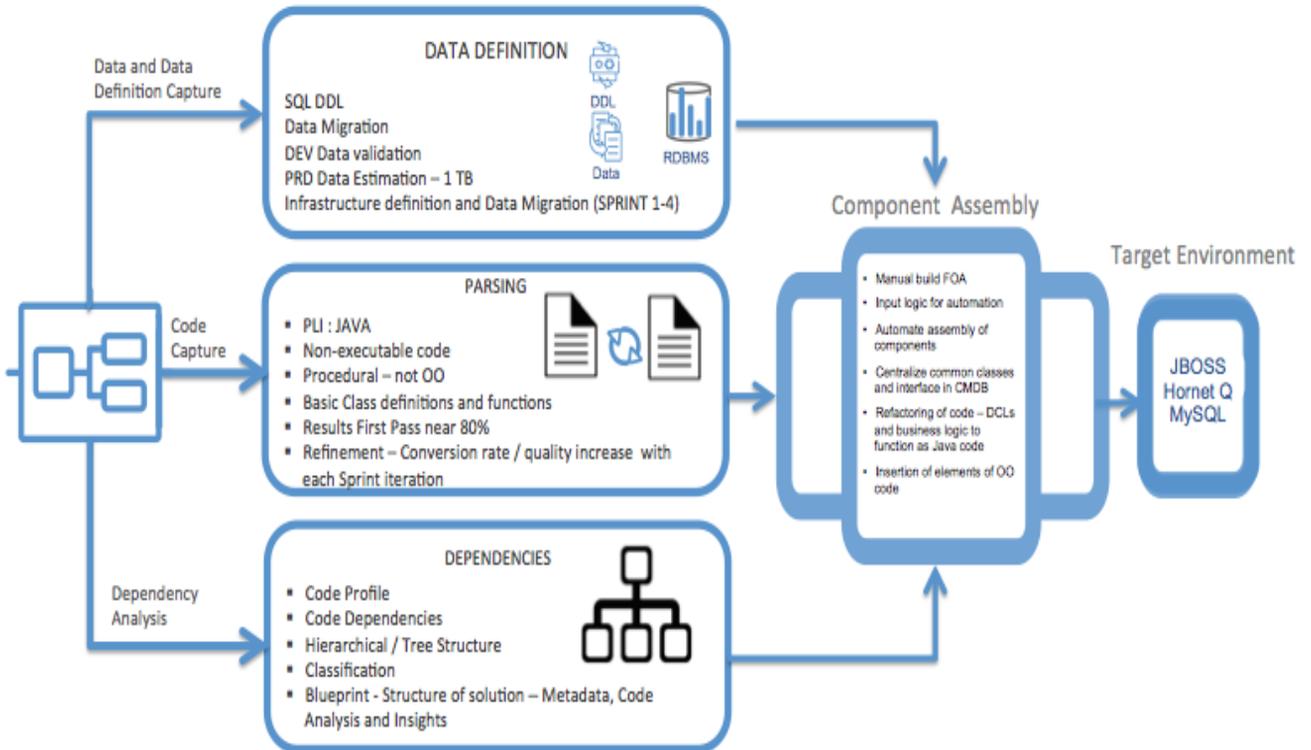
Cloud-Edge Advantage

With Cloud-Edge's modernization platform clients will reduce their modernization initiative costs by utilizing our efficient platform to reduce overall project cost associated with time and resources. With our efficient platform, clients will quickly realize the efficiency of migrating applications from costly platforms like mainframe, dedicated servers, and under-utilized equipment, to a high density Cloud platform in a timely and efficient manner as outlined in our approach below:

The Cloud-Edge platform and methodology takes a unique approach to a reverse engineering process for all legacy objects (i.e. code, data, metadata), and ingests the objects for cataloging and inventory within the Cloud-Edge repository. Once in the Cloud-Edge repository, the advanced analytics engine is utilized to quickly determine the path for the target state application. There are three targeted end-states the Cloud-Edge technology and methodology will drive towards namely:

- *Code assessment (Advanced analytical assessment on ingested legacy objects and target application)*
- *Code modernization (ex. Cobal, PL1, RPG, Assembly to Java)*
- *Data Migration (data structure and definition, data) – legacy structures to relation; legacy data to target*
- *Rationalized/Consolidation legacy functions to existing applications including the decommission of legacy modules (ex. UAT/regression testing)*
- *Cloud Enablement.*

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Cloud-Edge Application Modernization Process Flow

Data and Data Definition Capture

DATA DEFINITION
SQL DDL
Data Migration
DEV Data validation
PRD Data Estimation – 1 TB
Infrastructure definition and Data Migration (SPRINT 1-4)

DDL
Data
RDBMS

Component Assembly

Target Environment

Code Capture

PARSING
- PLI : JAVA
- Non-executable code
- Procedural – not OO
- Basic Class definitions and functions
- Results First Pass near 80%
- Refinement – Conversion rate / quality increase with each Sprint iteration

- Manual build FOA
- Input logic for automation
- Automate assembly of components
- Centralize common classes and interface in CMDB
- Refactoring of code – DCLs and business logic to function as Java code
- Insertion of elements of OO code

JBOSS
Hornet Q
MySQL

Dependency Analysis

DEPENDENCIES
- Code Profile
- Code Dependencies
- Hierarchical / Tree Structure
- Classification
- Blueprint - Structure of solution – Metadata, Code Analysis and Insights

Results and Business Advantage

With Cloud-Edge's capabilities our clients are quickly and efficiently enabled to migrate applications to an agile and cost effective Cloud infrastructure.

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Results and Business Advantage cont'd

Below is a sample system profile and the comparison between Cloud-Edge Automation vs. Manual Modernization approach.

Sample System Profile			
Lines of Code	**Code Type**		**Database**	**User Layer**
			IMS: 340 databases and indexes	145 screens on the 3270 emulators
	PL/1 – 71%	Job Control Language - 1 %	WRS: 96 tables and 137 indexes	100 screens on the Web Application
3.68 million lines of code	C – 12%	SQL – 1%,	WCAM: 19 tables and 20 indexes	
	JAVA – 10%	FOCUS – 1%	C/S DCM TCP: 24 tables and 29 indexes	
	UNIX Shell Scripts - 2%	Assembly/macro - 1%	TSP: 26 tables and 34 indexes	

Cloud-Edge Automation vs. Manual Modernization				
Activity	**Cloud-Edge (Automation)**		**Non – automated**	
	Developers	**Time (hrs.)**	**Developers**	**Time (hrs.)**
Data Definition	2	2	3	24
Parsing	2	2	3	16
Dependencies	1	3	3	16
Assembly	1	2	3	16
Deployment	2	2	2	8
Total	8	11	14	80
Automation Savings	43% Less Developers	86% Less Time		