ADvantage Migrate

Accelerating modernization of the data landscape

The need for data migration and modernization

1 Future-proofing the enterprise

Organizations must invest in appropriate initiatives to keep up with the rapid change of digital change and be ready for the future. These initiatives fall under two key domains:

- Business Applications domain: The use-cases under this domain include keeping the lights on (upgrading / changing the application database), application modernization and adoption of SaaS.

- Data and Analytics domain: Over a period of time the data sources have become varied, and have increased multi-fold, requiring real-time data analysis. Thus, it necessitates migrating data from traditional and expensive data storage systems to modern cloud-based platforms that address these challenges.

2 Simplifying the data & analytics architecture

As the data & analytics architecture complexity is moving towards the tipping point owing to increased enterprise-wide adoption of open-source and commercial products, organizations are scrambling for simplification. These initiatives can be grounded into two main categories:

Data Engineering: Traditional ETL tools cannot cater to today's dynamic data landscape and its requirements. Hence, there's a need to migrate from traditional & expensive ETL tools to modern data processing solutions and consolidate the ETL landscape within an enterprise.

BI Reporting and Dashboards: Organizations over the years have procured multiple BI tools resulting in scattered & non-contextual analytics. But today's enterprises need better visualization, story telling & self-service capabilities and wish to collaborate with the ecosystem by extending the data beyond the organization.

The challenge of simplifying & modernizing the data landscape

Migrating application data from one database to another is not simple. Quite often, the underlying data model gets changed as part of the application modernization. It requires a smart analysis and decision framework to migrate data from the old model to the new one. Even if the data model remains the same, it does not make things easier. Generally, the impact is significant in re-engineering the functions that are developed by leveraging database-specific techniques. Other challenges include:

Existing Data Lakes and Data Warehouses have collected enormous amounts of data over time which is being used for critical enterprise reporting. Migrating this data as-is (lift & shift) will not utilize the capabilities of modern data platforms effectively and changing the data models will have an impact on ETL jobs as well as reporting & analytics layer.

Traditional ETL tools have been used for many years and lot of business logic has gone into those black boxes. There is no clear & automated migration path for transitioning to modern data processing platforms.

Business teams have become used to existing reporting and analytics platforms and they need something more without disrupting what's already running for them.

Introducing ADvantage Migrate

A one-stop solution to modernize the entire data landscape within an enterprise

Business Driven Decisions

1. No change in Application, only modernize/change DB technology
2. Minimize cost and reduce complexity by migrating to consumable and steady system
3. Make data available from a modern system to provide speed, value, or both
4. Modernize Data Processing (ETL/ELT) Tools & Technologies
5. Modernize BI Reporting & Dashboards Tools & Technologies

ADvantage Migrate

HCL's Proposition

Futuristic Data & Analytics Landscape

HCL Technologies' footprint in Snowflake migration patterns

Dimension 1:

Migration of only the Data Storage layer keeping ETL/ELT layer intact | Use Snowflake only for the consumption layer | Include the modernization of Data platform, ETL/ELT and Marketplace & Analytics layer more holistically

Modernize Data platform to Snowflake

No change in Data processing and Reporting layers, only modernize Data platform to Snowflake

Modernize Data Platform as well as Data processing Layer

Modernize Data Platform as well as ETL/ELT Layer keeping the consumption data model and reporting/dashboard layer same

Design another consumption layer using Snowflake on top of existing Data Warehouse

Consumption layer on Snowflake

Modernize Data Platform, ETL/ELT Layer as well as Analytics process

Holistic approach to modernize entire Data & Analytics ecosystem

Dimension 2:

Migration of DW Appliances | Migration Data Lake | Migration of Enterprise DWH | Custom built ODS, DW and DMs | Open Source | Other Cloud Platforms

DW Appliances to Snowflake

Teradata to Snowflake
Netezza to Snowflake
Exadata to Snowflake

Data Lake to Snowflake

Hadoop

Enterprise DWH Products

SAP BW/HANA
Oracle BAW/ BI Apps

Custom built ODS, DW & DMs to Snowflake

Oracle, SQL Server, DB2

Open Source (on-prem & cloud) Platform to Snowflake

Postgres, Greenplum, Red Hat OpenShift

Other Cloud Platforms to Snowflake

AWS Redshift
Azure SQL DB

Migrate to Snowflake leveraging HCL's ADvantage Migrate Suite

Our 3-step automation process with pre-engineered products

Step 1:

Gateway Suite

- Discover, Analyze and Auto convert the legacy code & DB schemas using HCL Gateway Suite
- **Gateway Suite:** Embed automation in Modernization process

Step 2:

Sketch

- Modernize the Data pipelines and migrate data using HCL Sketch
- **Sketch**: Platform agnostic configuration driven data processing

Step 3:

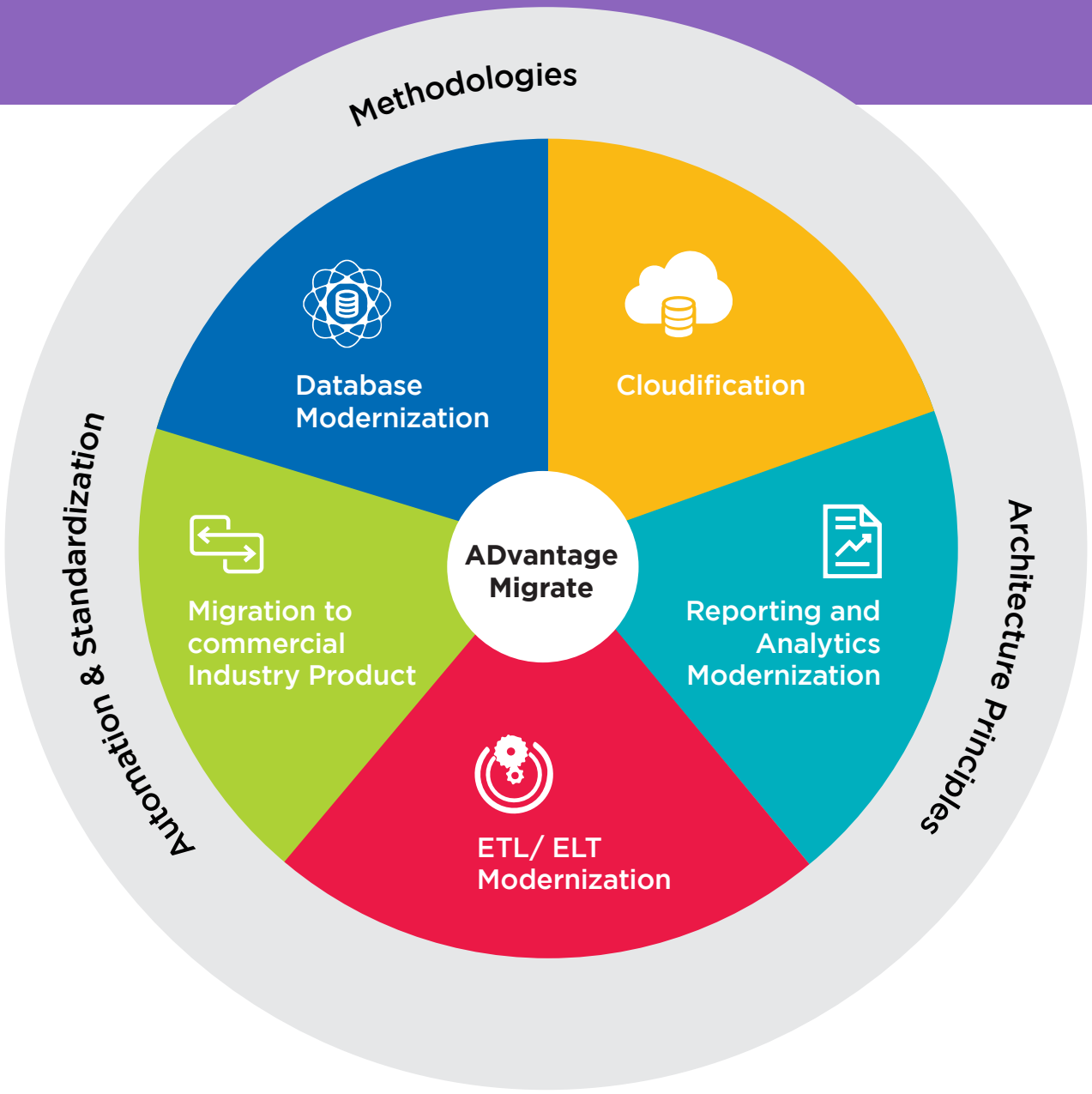
GateKeeper

- Achieve zero-touch automated Data Reconciliation and Testing post migration using HCL Gatekeeper
- **Gatekeeper:** Auto reconcile, test and setup test driven development and continuous testing

Driving results using automated approach

Our experience and expertise in data engineering, cloud along with our proprietary methodologies, architecture principles to embed the standardization in the modernization process.

Services Spectrum



HCL Accelerators

gatekeeper	Sketch	iSee
ETL Gateway	Data Marketplace	BI Gateway

60% improvement in time-to-market

Configurable and reusable components library

40% reduction in overall migration effort

Database Modernization – Services Catalogue

Transformation

Legacy to Modern DB Technologies

Transactional to Transactional-Analytical Data Applications

Relational to NoSQL Database Architecture

Re-Platform

Re-Platform to Cloud PaaS

Heterogeneous Database Migration

Refactor Rehosted/ Upgraded Database

Consolidation

Data Center Consolidation

Database Portfolio Optimization

Database Technology Rationalization

End Of Life Management

Database Upgrades

Database Modernization

Discovery To Strategy

Current DB State, Usage and Issues

Drivers for DB Modernization

Strategy and Roadmap

Discovery Bots

Evaluation To Plan

Technology Evaluation

PoC

Migration Plan

Database Evaluation Framework

Execution To Target State

Implementation

Test

Cutover and Warranty

Sketch GateKeeper

Cloudification – Services Catalogue

Hybrid Cloud Snowflake -

- Assessment & Establishment of Migration Factory
- Migrate Raw data to AWS S3, Azure Data Lake, GCS and build DW on Snowflake
- Utilize Glue/ADF, Databricks, Spark for Data Processing
- Implement DataOps
- Provide end-to-end support

AWS

- Assessment & Establishment of Migration Factory
- Migrate Raw data to AWS S3 and build DW on Redshift
- Utilize Glue, Databricks, Spark for Data Processing
- Implement DataOps
- Provide end-to-end support

Microsoft Azure

- Assessment & Establishment of Migration Factory
- Migrate Raw data to Azure Data Lake and build DW on Synapse
- Utilize ADF, Databricks, Spark for Data Processing
- Implement DataOps
- Provide end-to-end support

Discovery To Strategy

- Current Data Landscape
- Drivers for Cloudification
- Strategy and Roadmap

Evaluation To Plan

- Cloud Technologies Evaluation
- Cloudification Plan

Execution To Target State

- Implementation
- Test
- Cutover and Warranty

iSee

Evaluation Framework

Sketch gatekeeper

ETL/ELT Modernization – Services Catalogue

Re-Host & Re-Platform

Re-Platform the ETL tool to different Operating System

Re-Platform the ETL tool to Cloud PaaS

Upgrade

Upgrade the ETL tool to a new on-premise version

Upgrade the ETL tool to a Cloud Native version

Consolidation & Conversion

Consolidate multiple ETL/ELT tools to a single tool

Convert from one ETL tool to another

Re-Architect & Re-Design

Re-Design ETL tool processing to Cloud native services provided by AWS, Azure and GCP

Re-Design batch ETL process to real-time data processing

Discovery To Strategy

- Current ETL tools usage and bottlenecks
- Objectives and Drivers
- Strategy and Roadmap

Evaluation To Plan

- Technology Evaluation
- PoC
- Migration Plan

Execution To Target State

- Implementation
- Test
- Cutover and Warranty

iSee

Evaluation Framework

ETL Gateway · Sketch · gateKeeper

BI Modernization – Services Catalogue

Re-Host & Re-Platform

Re-Platform to different Operating System

Re-Platform to Cloud PaaS

Upgrade

Upgrade the tool to a new on-premise version

Upgrade the tool to a Cloud Native version

Consolidation & Conversion

Consolidate multiple BI tools to a single tool

Convert from one BI tool to another

Re-Architect & Re-Design

Re-Design BI tool to Cloud native services provided by AWS, Azure and GCP

Re-design BI process for Consumption based Analytics

Discovery To Strategy

- Current BI Platform Usage Analysis
- Objectives and Drivers
- Strategy and Roadmap

Evaluation To Plan

- BI and Analytics Tools Evaluation
- Reports & Dashboards Rationalization
- Migration & Modernization Plan

Execution To Target State

- Implementation
- Test
- Cutover and Warranty

iSee

Evaluation Framework

ETL Gateway

Data Marketplace

HCL Technologies (HCL) empowers global enterprises with technology for the next decade today. HCL's Mode 1-2-3 strategy, through its deep-domain industry expertise, customer-centricity and entrepreneurial culture of ideapreneurship™ enables businesses to transform into next-gen enterprises.

HCL offers its services and products through three lines of business - IT and Business Services (ITBS), Engineering and R&D Services (ERS), and Products & Platforms (P&P). ITBS enables global enterprises to transform their businesses through offerings in areas of Applications, Infrastructure, Digital Process Operations, and next generation digital transformation solutions. ERS offers engineering services and solutions in all aspects of product development and platform engineering while under P&P. HCL provides modernized software products to global clients for their technology and industry specific requirements. Through its cutting-edge co-innovation labs, global delivery capabilities, and broad global network, HCL delivers holistic services in various industry verticals, categorized under Financial Services, Manufacturing, Technology & Services, Telecom & Media, Retail & CPG, Life Sciences, and Healthcare and Public Services.

As a leading global technology company, HCL takes pride in its diversity, social responsibility, sustainability, and education initiatives. As of 12 months ending on December 31, 2021, HCL has a consolidated revenue of US $ 11.2 billion and its 198,000 ideapreneurs operate out of 52 countries. For more information, visit www.hcltech.com

www.hcltech.com