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An Impetus Product

SOLUTION BRIEF

Intelligent and automated transformation of your enterprise data warehouse to Google Cloud Platform (GCP)

Modernizing legacy ETL and analytics to a cloud-based modern platform like GCP has become a strategic imperative for enterprises struggling with petabytes of unstructured and fast data from multiple sources, and high cost of ownership and operation.

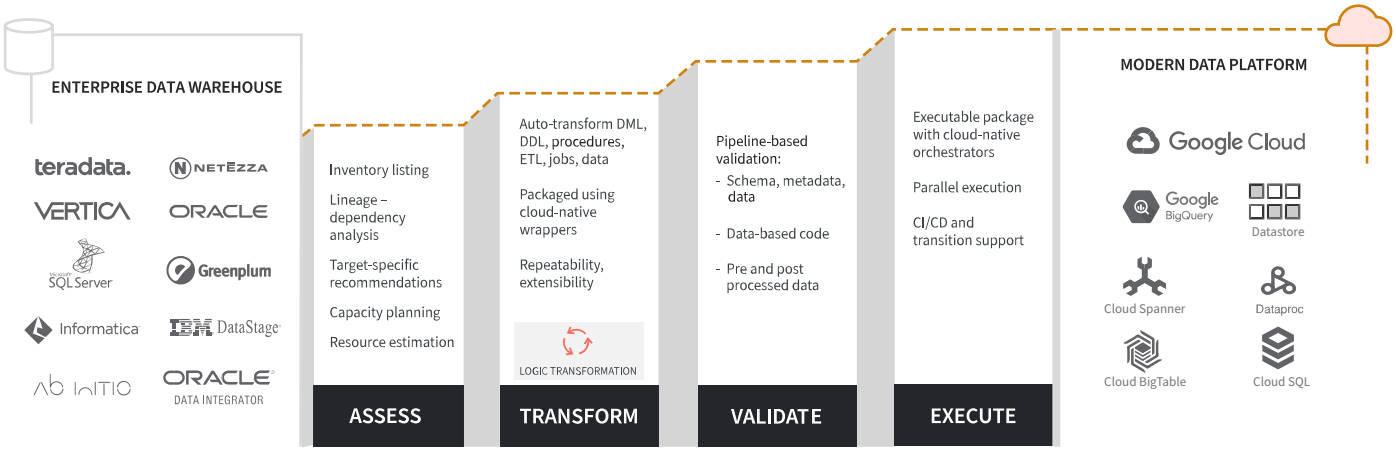
However, enterprises are still skeptical about moving to the cloud. While transforming workloads to the cloud seems easy, businesses have several concerns:

- Will there be any business downtime?
- How do I transform years of complex business logic and code?
- Will my workloads be optimized for the new environment?
- Do I need to identify and prioritize workloads manually?
- How do I ensure seamless operationalization of ETL and analytics workloads on the target environment?

LeapLogic, an Impetus product for automated workload transformation addresses all these concerns. Its intelligent grammar engine enables end-to-end transformation, operationalization, and transitioning of workloads in four steps:

KEY BENEFITS

- 4x faster
- 50% cheaper than manual migration
- Zero business disruption
- Prescriptive recommendations for performance optimization of GBQ code and GCP data models
- Preserve years of business logic, workflows, and execution rules



The 4-step approach to workload transformation

STEP 1: Assessment and prescription

- Automates inventory listing and profiling of legacy data warehouse
  - Assesses ETL scripts, DML and DDL scripts, procedures, scheduler/orchestrator scripts (jobs), shell scripts, analytical workloads (such as SAS scripts), etc.
  - Provides actionable insights and prescriptive recommendations
- Identifies complex interdependencies to group workloads for offload
  - Plots end-to-end lineage showing interdependencies between different kinds of workloads
  - Provides advanced filters according to workload type and an interactive graphical interface to deep dive into certain flows
  - Identifies technical debts
- Provides an advanced blueprint of the target architecture
  - Provides schema optimization recommendations for BigQuery indexing, etc. to strategize partitioning, bucketing, clustering, sorting, and distribution keys to improve CPU usage, memory usage, cache hit ratio, and disk I/O
  - Provides comprehensive, configurable recommendations for workload parallelism to ensure optimum performance on target
  - Categorizes workloads as candidates for as-is migration, optimization, and total re-engineering
  - Provides actionable recommendations for future-state functional component architecture and tech stack components

STEP 2: Transformation

- Transforms diverse workloads and migrates schema and data to GCP
  - DML scripts, DDL scripts, ETL scripts, scheduler scripts, stored procedures, etc.
  - Historical and incremental data ingestion to Bigtable
  - Ensures automated schema conversion and data migration
  - Converts complex ETL scripts automatically
- Ensures end-to-end packaging
  - Transforms core business logic to GCP-native wrappers or orchestrators
  - Ensures end-to-end transformation of scheduler/orchestrator scripts to production-ready jobs on target
  - Ensures end-to-end execution on staging and production environments after system integration testing
  - Handles data types, nested views, intervals, loops, UDFs, procedures, complex constructs, etc.
  - Tunes performance and optimizes queries for GCP

KEY FEATURES

- ML-based assessment and recommendation for the target architecture and tech stack
- Automated legacy code translation to GCP with multiple query engine support
- Business logic conversion
- End-to-end transformation to GCP
- End-to-end packaging, orchestration, and execution for GCP
- Code optimization and query validation to avoid business disruption
- Cost-performance ratio optimization
- Data governance and security compliance

STEP 3: Validation

- Pipeline-based automated validation of the transformed code and migrated data on GCP
  - Ensures syntactical and data-based validation of scripts and queries on automatically generated or user-provided datasets
  - Validates code at the row and cell-level and reports errors
  - Instantly verifies the transformed code with a pluggable validation tool

- Data-based validation of the transformed code
  - Auto-generates sample dataset based on complex query conditions – ideal for unit testing of the transformed queries
  - Feeds the customer-provided dataset for testing on real datasets – suitable for integration testing of the transformed queries

STEP 4: Operationalization

- Delivers a target-specific executable package
  - Cloud-native orchestration and execution on production

- Ensures optimal performance through parallel execution
  - Provides parallel execution recommendations
  - Generates the required artifacts in the transformation output
  - Executes the generated artifacts in parallel on production

- Ensures end-to-end operationalization
  - Supports end-to-end transitioning into production and operationalization
  - Optimizes capacity to control price-performance ratio
  - Stabilizes environment through a minimal parallel-run period
  - Ensures implicit data governance and compliance on GCP
  - Ensures continuous integration and delivery (CI/CD)
  - Monitors operations through interactive dashboards
  - Provides runbook documentation, training, and handholding

LeapLogic, an Impetus product for automated workload transformation is built to efficiently assess, migrate, validate, and move complex workloads from legacy data warehouse systems to the Google Cloud Platform. Based on a sophisticated grammar engine capable of translating the most complex functions, this automated conversion tool helps you kick-start your digital transformation journey while opening a world of big data analytics for your business.

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LeapLogic is a product owned by Impetus Technologies Inc. Impetus Technologies is focused on enabling a unified, clear, and present view for the intelligent enterprise by enabling data warehouse modernization, unification of data sources, self-service ETL, advanced analytics, and BI consumption. For more than a decade, Impetus has been the 'Partner of Choice' for several Fortune 500 enterprises in transforming their data and analytics lifecycle. The company brings together a unique mix of software products, consulting services, and technology expertise. Our products include industry's only platform for the automated transformation of legacy systems to the any modern or cloud-native stack and Gathr – a self-service ETL and machine learning platform.

To learn more, visit **www.leaplogic.io** or write to **inquiry@impetus.com**.