

# iCEDQ Datasheet

## Overview

iCEDQ is a DataOps platform designed to automate Data Testing and Production Data Monitoring. Data risk has increased exponentially with the advent of cloud migrations, big data and data lakes. It's nearly impossible to continue manual data testing and monitoring.

iCEDQ software, with its data audit rules-based approach, enables enterprises to automate ETL testing and implement DevOps strategies for data-centric projects and systems.

iCEDQ seamlessly integrates with CI/CD pipelines, enterprise scheduling or orchestration tools, making it easier to adopt across the organization.

## Editions



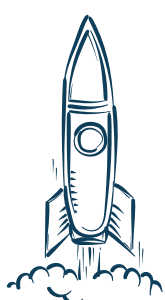
### Standard Edition

Our in-memory Rules engine which can connect to different data sources to identify issues quickly based on the Rules defined. Each Rule occupies a Single Core.



### High Throughput Edition

Our in-memory engine in which a Rule occupies multiple cores on the server. It provides a 3-5x performance improvement over Standard Edition.



### Big Data Edition

Our Apache Spark-based in-memory engine in which a Rule uses the Spark cluster to do all of the data processing. It provides 100x better performance than Standard edition for High Volume Datasets.

## Use Cases



### ETL Testing

Automate the testing of your ETL processes in any data centric project completely.



### Data Warehouse Testing

Verify the Data Warehouse landscape for data accuracy and completeness by implementing end to end test automation.



### Data Migration Testing

Ensure your migrations to cloud databases like Snowflake, Redshift are successful by fully testing the data between legacy and new system.



### Big Data Testing

Use the power of Spark cluster to test data in your data lake or Hadoop ecosystem at scale.



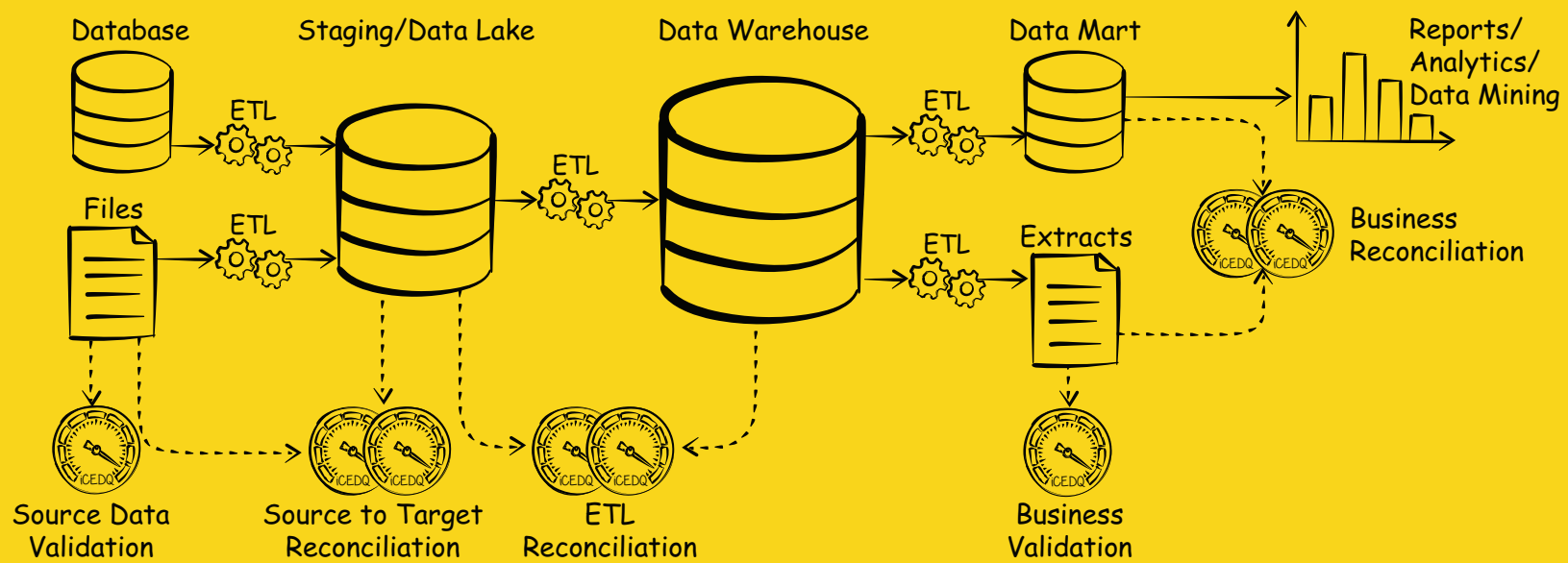
### BI Report Testing

Bring data testing to your BI landscape or reporting tools to ensure data completeness, accuracy and consistency.



### Production Data Monitoring

Increase trust in your data, be proactive and put data quality checks in to your Production environments.

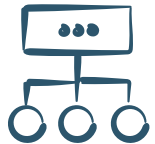


## Types of Rules



### Checksum

The most basic type of test in iCEDQ that allows a user to compare two numeric (aggregated) values between any data sources. The most common use case for the Checksum Rule is count check.



### Reconciliation

The Reconciliation rule enables a user to compare data row by row, column by column, between any database, file, or a Rest API. Users can test either the full volume of the data or parameterize the rules to only test the deltas.

Below are some use cases of the Recon Rule:

- Comparing Schema
- Data Transformation, Conversion or Calculation Testing
- Identifying missing records



### Validation

This type of Rule allows a user to validate a single data set. It can be a source data validation, outgoing feed file validation, or even a business validation.

Below are some of the examples of Validation Rule:

- Null Value and Format Check
- Type II Dimension testing
- Duplicate Data Check



### Script

If a user wants to perform a task before or after the execution of the Rule itself, then they should use the Script Rule. It allows a user to write a custom Apache Groovy script.

Below are some of the examples of Script Rules:

- Execute DDL/ DML statements to generate test data
- Pick up values from database to be passed as parameters to other rules

## Benefits



### Improve Productivity

Improve the productivity of your teams by 70%. The in-memory engine compares the full volume of the data enabling the users to focus on analyzing and fixing the issues rather than spending time to test them manually.



### Increase Test Coverage

Increase Test Coverage by 200%. Users can create tests and test suites in bulk and automate the execution of all these tests through schedulers or by integrating with their data pipelines.



### Decrease Project Timeline

Decrease the project timelines by 33%. An in-memory engine that compares millions of records in just a matter of minutes enabling teams to reduce their test cycle executions.

# Features

Performance	STANDARD	HT	BIG DATA
In Memory Engine - Single Core Processing <i>Uses one core per rule to evaluate the data.</i>	✓	✓	✓
In Memory Engine - Multi Core Processing <i>Uses multiple core per rule to evaluate the data.</i>		✓	
In Memory Engine - Cluster Processing <i>Uses Spark Cluster to evaluate data at scale.</i>			✓

Connectivity			
Standard Connectors <i>Prepackaged JDBC connectors for databases and files.</i>	✓	✓	✓
Custom Connectors <i>Read from non standard data sources using custom JDBC drivers.</i>	+	+	+
BI Connectors <i>Test BI reports using our custom developed data connectors.</i>	+	+	+

Support Features			
Parameterization <i>Parameterize any test and pass values at runtime.</i>	✓	✓	✓
Regression Suite <i>Create test suites by grouping different tests for execution.</i>	✓	✓	✓
Scheduler <i>Create daily, weekly or monthly schedules for tests.</i>	✓	✓	✓
Alerts <i>Configure tests to send notifications on success or failure.</i>	✓	✓	✓

Integration			
Test Lab <i>Out of the box integration with test case management tools.</i>	✓	✓	✓
Integration Hub <i>Build your own integration using our webhook.</i>	✓	✓	✓
Rest API <i>Use our API's to intgerate with CICD, Scheduling or Workflow tools.</i>	✓	✓	✓
CLI <i>Use our CLI utility to trigger jobs from any enterprise tool.</i>	✓	✓	✓

# Features

Reporting	STANDARD	HT	BIG DATA
Dashboards Create dashboards using pre-defined templates and charts.	✓	✓	✓
External Reporting Tool Use any industry standard BI Reporting tool to create dashboards.	✓	✓	✓

Security			
Role Based Access Control Grant access to users & groups on different types of resources.	✓	✓	✓

Scalability			
RuleGen <i>Accelerate creation of tests using predefined excel templates.</i>	+	+	+
Load Balancer <i>Distribute workload across servers and make it highly available.</i>	+	+	+

Software Requirement

- OS (Windows/ Linux)
- Java JDK
- DB Schema (Oracle/ MSSQL/ Postgres)

Hardware Requirement

- 1 CPU (8 Core) minimum
- 8 GB Memory minimum
- 500 GB HDD minimum

Standard Connectors

- AS400
- Athena
- Analysis Services
- Apache Drill
- Cassandra
- Composite
- DB2
- Excel File
- Flat Files
- Greenplum
- Hive
- HP Vertica
- Impala
- JDBC-ODBC
- MongoDB
- MySQL
- Netezza

- Open Edge
- Oracle
- PostgreSQL
- Redshift
- Snowflake
- SQL Server
- Sybase
- Teradata
- Databricks Spark SQL

Custom Connectors

- Google Spreadsheet
- JSON
- Rest API (Get)
- S3 Bucket
- Salesforce
- SAP ECC
- SAS Dataset
- XML
- Azure Blob
- Cosmo DB

BI Connectors

- Tableau
- SAP Business Objects
- Micro Strategy (In development)

Test Tool Integration

- HP ALM (12.50)
- X-Ray
- QTest (On roadmap)
- TFS (On roadmap)
- ALM Octane (On roadmap)