

Data Cosmos_ Agentic DQ Resolver

AI-Driven Data Quality Solution Artifact

Part of the Coforge Data Cosmos™ Platform | Nebula™

Portfolio

Coforge Limited | Data HBU

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Solution Overview

Data Cosmos_ Agentic DQ Resolver is Coforge’s AI-driven data quality technology artifact designed to diagnose, validate, and remediate data issues with agentic AI and intelligent automation. It automates data quality profiling, rule generation, issue fixing, and reporting with GenAI-driven capabilities — enhancing data trust by improving visibility and reducing data quality issues by up to 40%. The platform supports APIs, flat files, and RDBMS inputs through a microservices-based architecture.

Enterprise data teams today struggle with reactive, manual data quality processes that are time-consuming, error-prone, and impossible to scale. Rules are siloed across systems with no unified repository, quality checks run inconsistently, and there’s no centralized visibility into data health for compliance and audit purposes. The Agentic DQ Resolver transforms this by bringing GenAI-powered intelligence to every stage of the DQ lifecycle — from automated profiling and anomaly detection to smart rule generation, auto-correction, and audit-ready reporting — all through a unified, self-service platform.

Challenges Addressed

Challenge	Impact
Manual & Error-Prone Processes	Time-consuming data quality checks requiring extensive manual effort with high human error rates
Siloed & Inconsistent Rules	Lack of a unified rules repository leads to variable data quality standards across systems and teams
Lack of Visibility & Audit Trails	Difficulty in tracking data health trends and providing compliance-ready evidence for regulators

Core Capabilities

Capability	Description
Deep Data Profiling	Automated insights into data types, distributions, missing values, outliers, anomalies, and PII detection across all connected sources — providing a comprehensive baseline of data health
Smart DQ Rules	AI-generated regex rules, pre-defined templates, and GenAI-suggested rules intelligently tailored to each dataset’s structure and semantics — eliminating manual rule authoring
Automated DQ Fixes	Rule-based corrections at table or column level for missing values, outliers, format inconsistencies, and referential integrity violations — executing fixes at scale with full traceability
DQ Scorecards	Clear metrics on missing values, uniqueness, outliers, completeness, accuracy, and validity — with configurable thresholds for continuous health assessment

Comprehensive Reports	Reconciliation and audit-ready reports capturing detected issues, applied fixes, and final DQ outcomes — ensuring governance teams have complete visibility
Enterprise Scalability	Built to run across flat files, databases (RDBMS), APIs, and cloud platforms via a microservices-based UI architecture

Value Delivered

Metric	Value
~40% Faster DQ Detection	Reduced manual effort improving data reliability instantly
~30% Compliance Improvement	Better regulatory alignment through automated audit trails and scorecards
Enterprise Scalability	Built to run across files, databases, and cloud platforms
Audit Readiness	Full visibility ensuring reconciliation and compliance

Industry Applications

Banking & Financial Services

Use Case	Example
Credit Risk Data Quality	A bank runs automated DQ profiling on credit risk data across 200+ tables feeding BCBS 239 regulatory reports. The resolver auto-generates quality rules for counterparty completeness, exposure amount validity, and risk rating consistency. Scorecards provide real-time visibility into data health. When missing counterparty identifiers are detected, the auto-fix engine applies reference data lookups — reducing manual DQ remediation by 45% and providing audit-ready evidence for OCC examinations.
AML/KYC Data Quality	The resolver profiles customer onboarding data for AML compliance, auto-detecting incomplete KYC fields (beneficial ownership, source of funds) and generating compliance scorecards for the risk team.

Insurance

Use Case	Example
Claims Data Quality Assessment	An insurer runs DQ profiling on claims data from Guidewire, detecting 12% missing policyholder fields, duplicate claim records, and inconsistent loss-type codes. The auto-fix engine standardizes codes, deduplicates records, and populates missing fields from policy master data — ensuring actuarial teams receive clean data for reserve calculations.
Underwriting Data Integrity	DQ scorecards continuously monitor underwriting data quality across third-party risk feeds (LexisNexis, Verisk), flagging anomalies in risk scores and coverage limits before they impact pricing models.

Travel, Transportation & Hospitality

Use Case	Example
Booking Data Quality	A global airline applies DQ profiling across Amadeus/Sabre GDS feeds, detecting duplicate booking records, missing fare-class fields, and inconsistent passenger name formats. Automated fixes standardize records and ensure revenue reporting accuracy across 2M+ daily transactions.
Loyalty Data Cleansing	DQ rules auto-detect orphaned loyalty accounts, inconsistent tier status, and missing contact information — improving guest engagement campaign targeting accuracy by 25%.

Healthcare & Life Sciences

Use Case	Example
Patient Data Quality & HIPAA Compliance	A healthcare provider profiles patient data across Epic and Cerner, auto-detecting PII/PHI fields and generating HIPAA compliance reports. DQ scorecards track completeness of clinical codes (ICD-10, CPT) critical for claims processing. Auto-fix engine corrects malformed codes and standardizes provider identifiers.
Clinical Trial Data Integrity	A pharma company profiles clinical trial datasets, validating completeness of endpoint measurements and detecting statistical outliers that could compromise trial validity.

Target Audience

- Data Quality Teams
- Data Governance Officers
- Chief Data Officers (CDOs)
- Compliance & Risk Teams
- Data Engineers
- Data Stewards

Azure Compatibility

Agentic DQ Resolver integrates with Azure SQL Database, Azure Data Lake Storage, Azure Databricks, and Microsoft Purview. It complements Purview's data governance capabilities with deep DQ profiling, automated remediation, and audit-ready reporting. Part of the Coforge Data Cosmos Nebula portfolio.