**🧾 Service Catalog: Data Quality & Governance**

**🌐 Section Title:**

**Trusted, Governed, and Reliable Data for Confident Decision-Making**

Establish a solid data foundation through robust governance frameworks, centralized master data, and continuous quality monitoring.

**🧩 1. Master Data Management (MDM)**

**🔹 Overview:**

Create a “single source of truth” across critical business domains like customers, vendors, products, and accounts.

**✅ Key Services:**

* Identification and consolidation of master data entities
* Golden record creation via matching, merging, survivorship rules
* Master data modeling and reference data hierarchies
* MDM tool implementation (Informatica MDM, Talend, Semarchy, Reltio)
* Data stewardship workflows and UI integration

**🎯 Outcomes:**

* Elimination of duplication and inconsistency
* Enterprise-wide consistent data definitions
* Seamless integration with operational and analytical systems

**🧩 2. Data Lineage & Traceability**

**🔹 Overview:**

Track and visualize the end-to-end flow of data — from ingestion to consumption — across systems and transformations.

**✅ Key Services:**

* Data mapping and impact analysis documentation
* Automated lineage extraction (via Apache Atlas, OpenLineage, Collibra, etc.)
* Integration with data lakes, ETL tools, BI platforms
* Visual dashboards for lineage graph and audit trails
* Regulatory traceability (GDPR, HIPAA, BCBS 239)

**🎯 Outcomes:**

* Full visibility into data transformations
* Reduced debugging and change impact risk
* Compliance-readiness with audit trails

**🧩 3. Data Profiling & Quality Management**

**🔹 Overview:**

Continuously assess and improve data accuracy, completeness, consistency, and timeliness through automated profiling and validation.

**✅ Key Services:**

* Column-level and cross-table profiling for patterns, outliers, nulls
* Business rule configuration (valid ranges, formats, dependencies)
* Data quality scoring and monitoring dashboards
* Integration with quality tools (Great Expectations, Talend DQ, Ataccama, etc.)
* Alerts and workflows for data anomalies and failed validations

**🎯 Outcomes:**

* Improved trust in enterprise data
* Early detection of data issues before they impact analytics
* Measurable improvement in data SLA metrics

**🧩 4. Data Governance Framework Implementation**

**🔹 Overview:**

Establish policies, processes, roles, and tools to manage data as a strategic enterprise asset.

**✅ Key Services:**

* Governance operating model and data ownership definition
* Data cataloging and metadata management setup
* Policy templates: classification, retention, access control
* Stewardship council facilitation and change management
* Integration with data governance platforms (Collibra, Alation, Data.World)

**🎯 Outcomes:**

* A structured and repeatable governance model
* Reduced risk of data misuse or non-compliance
* Improved collaboration across business and IT

**📌 Optional Add-ons:**

* **AI-Enhanced Data Observability**: Anomaly detection in data flows using ML models.
* **Governance Portal**: Custom portal/dashboard for stewardship, policy approval, and metrics.
* **Cross-border Compliance Support**: Tailored governance for data localization or regional privacy laws.