

Grumpy Old IT Guy Reference Data Framework (GITG-RDF™)

A Practical Enterprise Framework for Trusted Reference Data Management

Version 1.0

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Executive Summary

Reference data is one of the most overlooked assets within modern enterprises, yet it forms the foundation upon which nearly every business transaction depends. Country codes, currency codes, payment methods, customer classifications, product categories, department identifiers, status values, and thousands of other controlled values ensure that applications communicate consistently across the enterprise.

Unfortunately, many organizations maintain reference data independently within individual applications. Different

systems often use different code values, naming conventions, abbreviations, and business definitions for the same concepts. These inconsistencies introduce integration failures, reporting discrepancies, analytical errors, and governance challenges that propagate throughout the enterprise.

The **Grumpy Old IT Guy Reference Data Framework (GITG-RDF™)** provides a structured methodology for designing, governing, maintaining, and distributing trusted enterprise reference data. Rather than treating reference data as an afterthought, the framework positions it as critical enterprise infrastructure supporting data quality, master data management, analytics, regulatory compliance, and artificial intelligence.

The framework combines proven governance practices with Microsoft SQL Server technologies—including **Master Data Services (MDS)**, **Data Quality Services (DQS)**, **SQL Server Integration Services (SSIS)**, and modern governance architectures—to establish a sustainable lifecycle for enterprise reference data.

Why Reference Data Matters

Every enterprise application relies upon predefined values.

Examples include:

- Country Codes
- Currency Codes
- State and Province Codes
- Product Categories
- Customer Types

- Employee Job Codes
- Vendor Categories
- Payment Types
- Tax Codes
- Risk Ratings
- Industry Codes
- Language Codes
- Shipping Methods
- Status Codes

When these values differ between systems, organizations experience:

- Failed integrations
- Incorrect reporting
- Duplicate business rules
- Data cleansing problems
- Poor analytics
- AI hallucinations caused by inconsistent metadata
- Regulatory reporting issues

Reference data serves as the common vocabulary of the enterprise.

The GITG-RDF™ Philosophy

The framework is built upon six fundamental principles:



The GITG-RDF Principles

Standardization

Every enterprise concept should have one authoritative definition.

Governance

Reference data is governed—not merely maintained.

Stewardship

Business experts own business meanings.

Reusability

Reference data should be shared across all systems.

Traceability

Every change is auditable.

Continuous Improvement

Reference data evolves alongside the business.

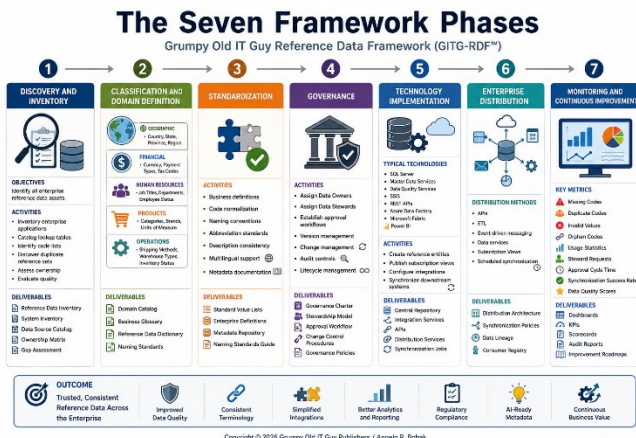
Framework Objectives

The GITG-RDF™ seeks to:

- Eliminate inconsistent code values
- Standardize enterprise terminology
- Reduce integration complexity
- Improve data quality
- Support Master Data Management
- Improve reporting consistency
- Simplify regulatory compliance
- Enable AI-ready metadata
- Improve enterprise interoperability

The Seven Framework Phases

The Grumpy Old IT Guy Reference Data Framework (GITG-RDF™) provides a structured, end-to-end methodology for creating, governing, and maintaining trusted enterprise reference data.



The Seven Phases of the Grumpy Old IT Guy Reference Data Framework (GITG-RDF™)

The framework guides organizations through seven progressive phases, beginning with the discovery and assessment of existing reference data assets and culminating in continuous monitoring and improvement.

Each phase builds upon the previous one, ensuring that reference data is consistently defined, centrally governed, effectively distributed, and continuously aligned with evolving business requirements. Together, these phases establish a repeatable approach for transforming isolated

lookup tables into a governed enterprise asset that improves data quality, simplifies system integration, and supports reliable reporting, analytics, and AI-driven decision-making.

Phase 1 — Discovery and Inventory

Objectives

Identify all enterprise reference data assets.

Activities include:

- Inventory enterprise applications
- Catalog lookup tables
- Identify code lists
- Discover duplicate reference sets
- Assess ownership
- Evaluate quality

Deliverables

- Reference Data Inventory
- System Inventory
- Data Source Catalog
- Ownership Matrix
- Gap Assessment

Phase 2 — Classification and Domain Definition

Reference data should be organized into logical domains.

Examples include:

Geographic

- Country
- State
- Province
- Region

Financial

- Currency
- Payment Types
- Tax Codes

Human Resources

- Job Titles
- Departments
- Employee Status

Products

- Categories
- Brands
- Units of Measure

Operations

- Shipping Methods
- Warehouse Types
- Inventory Status

Deliverables

- Domain Catalog
- Business Glossary

- Reference Data Dictionary
 - Naming Standards
-

Phase 3 — Standardization

Once domains have been identified, values must be standardized.

Activities include:

- Business definitions
- Code normalization
- Naming conventions
- Abbreviation standards
- Description consistency
- Multilingual support
- Metadata documentation

Deliverables

- Standard Value Lists
 - Enterprise Definitions
 - Metadata Repository
 - Naming Standards Guide
-

Phase 4 — Governance

Reference data requires governance throughout its lifecycle.

Activities include:

- Assign Data Owners
- Assign Data Stewards
- Establish approval workflows
- Version management
- Change management
- Audit controls
- Lifecycle management

Deliverables

- Governance Charter
- Stewardship Model
- Approval Workflow
- Change Control Procedures
- Governance Policies

Phase 5 — Technology Implementation

Implement centralized reference data repositories.

Typical technologies include:

- SQL Server
- Master Data Services
- Data Quality Services
- SSIS
- REST APIs
- Azure Data Factory
- Microsoft Fabric
- Power BI

Activities

- Create reference entities

- Publish subscription views
- Configure integrations
- Synchronize downstream systems

Deliverables

- Central Repository
- Integration Services
- APIs
- Distribution Services
- Synchronization Jobs

Phase 6 — Enterprise Distribution

Reference data becomes valuable only when consistently distributed.

Distribution methods include:

- APIs
- ETL
- Event-driven messaging
- Data services
- Subscription Views
- Scheduled synchronization

Deliverables

- Distribution Architecture
- Synchronization Policies
- Data Lineage
- Consumer Registry

Phase 7 — Monitoring and Continuous Improvement

Reference data requires ongoing monitoring.

Key metrics include:

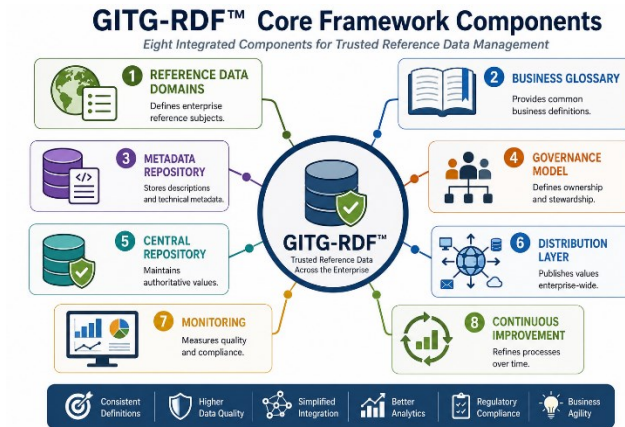
- Missing Codes
- Duplicate Codes
- Invalid Values
- Orphan Codes
- Usage Statistics
- Steward Requests
- Approval Cycle Time
- Synchronization Success Rate
- Data Quality Scores

Deliverables

- Dashboards
- KPIs
- Scorecards
- Audit Reports
- Improvement Roadmaps

Core Framework Components

The GITG-RDF™ consists of eight integrated components.



GITG-RDF – Core Framework Components

Reference Data Domains

Defines enterprise reference subjects.

Business Glossary

Provides common business definitions.

Metadata Repository

Stores descriptions and technical metadata.

Governance Model

Defines ownership and stewardship.

Central Repository

Maintains authoritative values.

Distribution Layer

Publishes values enterprise-wide.

Monitoring

Measures quality and compliance.

Continuous Improvement

Refines processes over time.

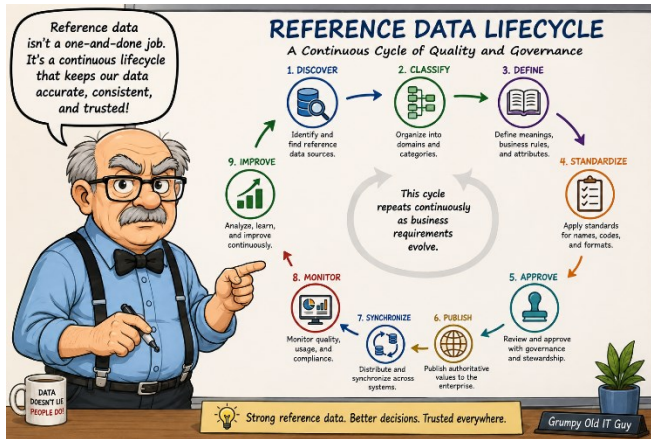
Roles and Responsibilities

To implement this framework, the following roles need to be defined and filled:

Role	Responsibilities
Executive Sponsor	Strategic oversight
Data Governance Council	Policies and standards
Business Owner	Owns reference domains
Data Steward	Maintains values
DBA	Repository administration
Integration Architect	Distribution mechanisms
Application Owners	Consumer integration
Quality Team	Validation and monitoring

Reference Data Lifecycle

The lifecycle is a continuous loop:



GITG-RDF Reference Data Life Cycle

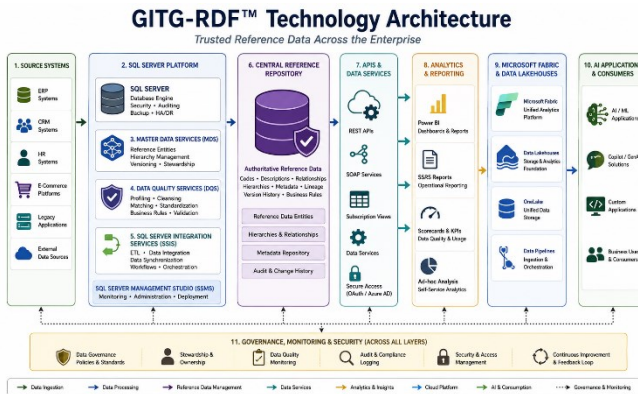
The framework manages reference data through a continuous lifecycle:

1. Discover
2. Classify
3. Define
4. Standardize
5. Approve
6. Publish
7. Synchronize
8. Monitor
9. Improve

The cycle repeats continuously as business requirements evolve.

Technology Architecture

This reference data architecture and framework is based on the Microsoft SQL Server technology stack:



SQL Server Reference Data Technology Stack

The framework supports both traditional SQL Server environments and modern cloud architecture.

Typical architecture includes:

- Source Systems
- SQL Server
 - Master Data Services
 - Data Quality Services
 - SSIS
- Central Reference Repository
- APIs
- Power BI
- Microsoft Fabric
- Data Lakehouses

- AI Applications

Key Performance Indicators

Recommended enterprise KPIs include:

KPI	Target
Duplicate Reference Codes	<0.5%
Invalid Reference Values	<0.2%
Missing Required Codes	<0.1%
Synchronization Success	>99.9%
Steward Approval Time	<3 Days
Business Rule Compliance	>99%
Consumer Adoption	>95%
Metadata Completeness	>98%

Benefits of GITG-RDF™

Organizations implementing the framework typically realize:

- Improved data quality
 - Consistent enterprise terminology
 - Reduced integration effort
 - Better analytics
 - Higher reporting accuracy
 - Simplified regulatory reporting
 - Reduced maintenance costs
 - Improved AI readiness
 - Faster application integration

- Stronger governance maturity

Relationship to Other GITG™ Frameworks

The **GITG-RDF™** complements the broader Grumpy Old IT Guy data management portfolio and serves as the authoritative foundation for controlled vocabularies and enterprise code sets.

- **GITG-DQF™ (Data Quality Framework)** uses trusted reference values to validate, standardize, and monitor data quality across operational and analytical systems.
- **GITG-DCF™ (Data Cleansing Framework)** applies approved reference data during standardization, correction, and enrichment processes.
- **GITG-RMF™ (Record Matching Framework)** relies on standardized reference values to improve entity resolution, reduce false matches, and increase matching accuracy.
- **GITG-MMF™ (Match Monitoring Framework)** measures the impact of reference data quality on ongoing matching performance and stewardship activities.
- **GITG-MDF™ (Master Data Foundation Framework)** uses governed reference data as supporting metadata for trusted master domains and Golden Records.

Together, these frameworks create a cohesive enterprise ecosystem in which reference data provides the

standardized vocabulary that enables consistent governance, high-quality master data, reliable integration, and trustworthy analytics.

Conclusion

Reference data is far more than a collection of lookup tables—it is the standardized language that enables enterprise systems, business processes, and analytics to operate consistently and reliably. Without disciplined governance, organizations face inconsistent terminology, fragmented integrations, poor reporting, and diminished trust in their data.

The **Grumpy Old IT Guy Reference Data Framework (GITG-RDF™)** provides a practical, technology-neutral methodology for establishing, governing, and maintaining trusted reference data throughout its lifecycle. By combining sound governance practices with SQL Server technologies such as MDS, DQS, SSIS, and modern cloud integration patterns, organizations can create a single, authoritative source for enterprise reference data.

As part of the growing family of **Grumpy Old IT Guy™** governance frameworks, GITG-RDF™ helps organizations build a sustainable foundation for data quality, master data management, regulatory compliance, AI readiness, and enterprise-wide information consistency. It transforms reference data from a collection of isolated code tables into a governed strategic asset that supports informed decision-making across the enterprise.

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