



Data Governance Considerations with S/4

Andrew Evans/Amar Reddy - PwC
Session # 82318

About the Speakers

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Andy has over eighteen years of experience in data transformation engagements. Andy's focus over the last ten years has focused on data migration, master data management, and data governance solutions for large organizations.

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Amar is a Director focusing on data transformation, data quality, data remediation, MDM and Master data governance.

Amar has over 18 years SAP/DATA experience, including 15+ years assisting clients in full life cycle Implementation of enterprise system solutions and large enterprise transformations. Areas of expertise includes SAP ECC, SAP S/4, SAP MDG.

Key Outcomes/Objectives

1. Understand the Importance of Data Governance
2. Different components of Data Governance
3. SAP tool capabilities to enable Data Governance

Agenda

- Challenges and benefits of data governance
- Key data governance components
- Effective implementation approach
- SAP MDG Capabilities
- Q&A

BUSINESS CHALLENGES AND BENEFITS OF DATA GOVERNANCE

Data Governance Considerations – S/4 Business Transformation

As part of typical S/4 business transformation many organizations do not make data governance a priority, mainly due to lack of knowledge of business implications resulting from improper governance of data. Although the S/4 implementation could be successful without data governance, addressing master data governance as an afterthought likely will lead to significant challenges, roadblocks and risk.

Absence of master data governance can result in:

- Incorrect business decisions due to poor quality of data
- Delayed revenue recognition and cash bookings, Loss of customers
- High impact on business efficiency & productivity due to lack of accurate, complete, consistent data
- Non-compliance from lack of enforcement of SOD, Security controls, Roles and Responsibilities
- High total cost of ownership per data record across data dimensions
- Unstructured processes, inconsistent methods from region to region and function to function
- Lack of ownership and accountability
- Inadequate measuring and monitoring of quality metrics. Non-automated checks

Business Challenges

The challenges businesses face due to the absence of an effective Master Data Governance framework can result in numerous costs to a business

Application Landscape:

- Too many systems can create master data
- Significant amount of data management happens on user's desktops or laptop devices

Data Management Technology:

- The enterprise is missing some of the basic leading practice data management functionality
- 70% of Data management is data, process, and people and only 30% enabling technology
- Lack of enterprise data management technology to automate governance rules to prevent creation or maintaining bad data in the future



Governance::

- Partial governance has been implemented through manual methods
- Lack of governance and data ownership at an enterprise level
- Data management issues include process fragmentation, inconsistency, lack of standards, too many users maintaining data

Inconsistent Data Management:

- Life cycle of the data, by domain, is not understood so completeness is an issue
- Master data is not captured at the source
- Lack of enterprise view of data, view from the silos of the sites, functional operations, divisions, and business units
- There are too many variations and practices in the data and processes by division

Benefits of Data Governance

Increased Value Enablement



- Deliver strategic business objectives
- Increased bottom line growth
- Increased productivity
- Stakeholder/customer satisfaction

Increase Operational Excellence



- Avoids redundancy Through single version of truth
- Reduced time to reconciliation, faster entry of product and accounting data
- Reduced errors and costs via automated validations and rules

Decrease Cost



- Reduce head count via automation, standardization
- Reduced time in production, order fulfilment and error reconciliation
- Reduce technology costs

Decrease Risk and Increased Compliance



- Enforced security, tracking, notification. SOX compliance and compliance audit trail for adherence
- Accountability and ownership to endorse
- Data privacy, data security, data

Increase Business and IT Alignment

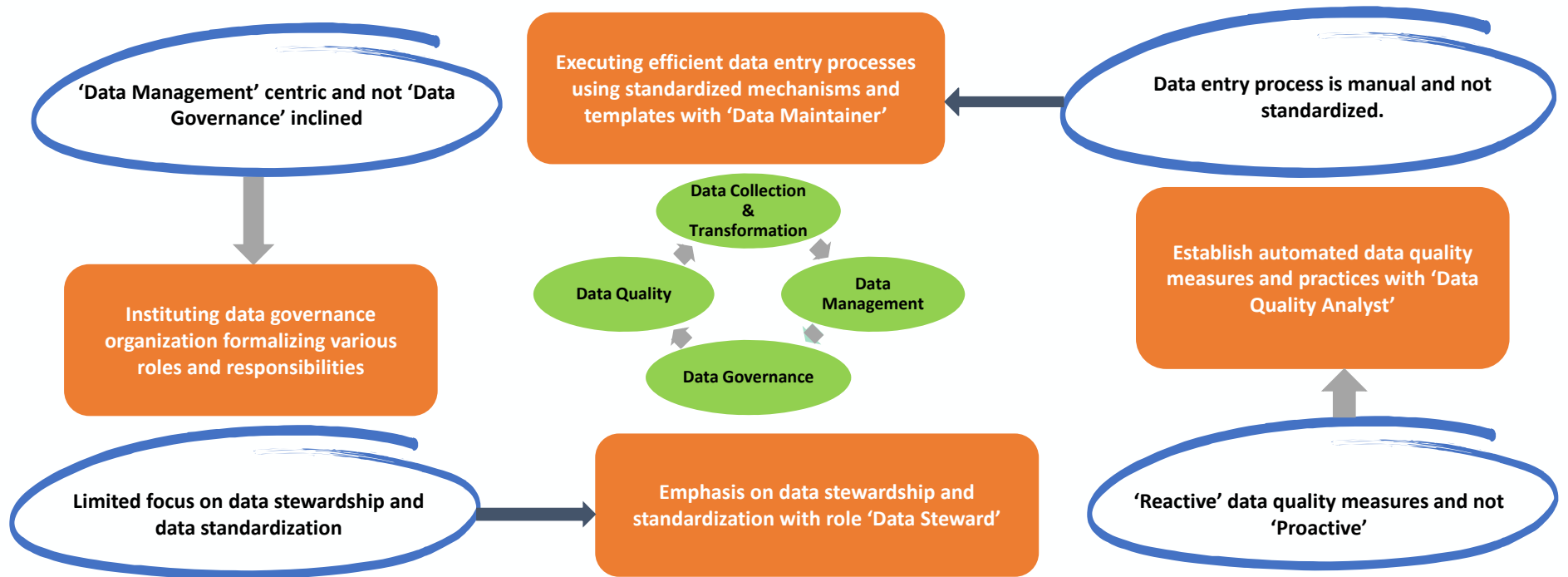


- Reduce resources, redundancy
- Reduce systems and technology complexity
- Streamline and consolidate operational support/services

Governance Transformation

Data Governance

People + Process + Technology = Quality + Accuracy + Completeness

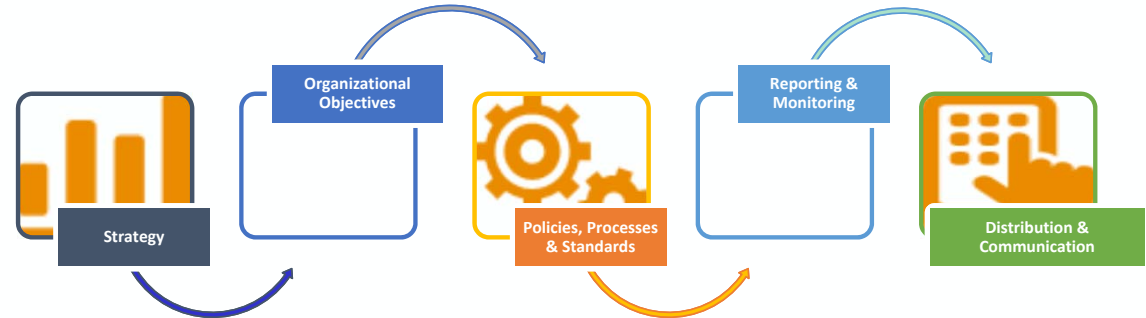


KEY ELEMENTS OF DATA GOVERNANCE

What is Master Data Governance?

Master data governance refers to the overall management of the availability, usability, integrity, and security of the data in an enterprise. A sound master data governance program includes a governing council, a defined set of procedures, and a plan to execute those procedures by enabling technology

Orchestration of people, processes, and technology to manage the enterprise critical master data assets by using roles, responsibilities, policies, and procedures to ensure that data is accurate, consistent, secure, and **aligns with overall enterprise objectives.**



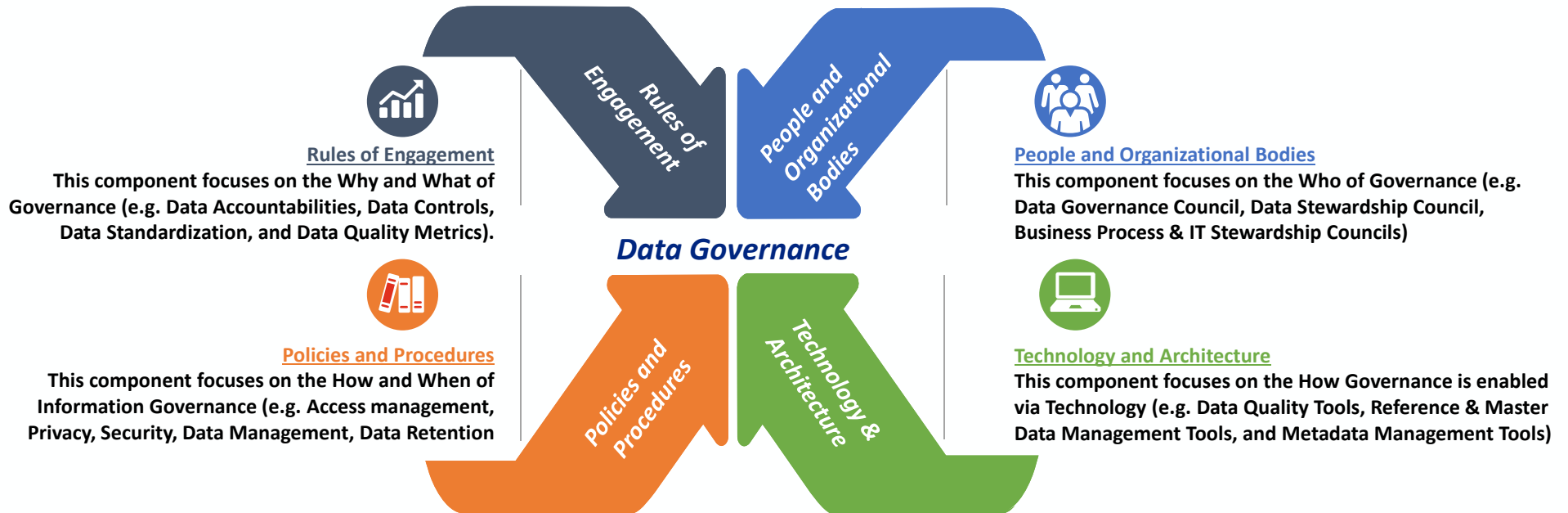
Comprehensive Master Data Governance defines:

- **What is being governed:** Products, Vendors, Customers, Cost Centers, Work Centers, etc.
- **Who is governing:** The roles with decision making rights and responsibilities.
- **How is it governed:** Processes by which guiding principles, policies, and procedures are established, prioritized, deployed, managed, amended, and enforced.
- **When is it being governed:** History of managing the object including the creation, updating, deletion, and who made those updates.

Data Governance Framework

Data Governance is the development and **FORMAL** enforcement of standards, policies, and processes to assign clear accountability for enterprise data assets.

Key Components Needed to Establish Data Governance



Key Elements of Data Governance – Rules of Engagement



The rules of engagement of an data governance program define the Why and What of the program

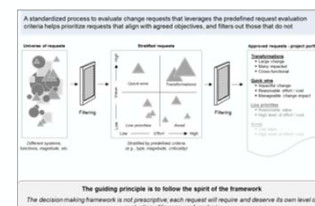
The components that deal with Rules & Rules of Engagement are:

1. Mission & vision of the program: A mission statement and a clear vision for the data governance program needs to be developed and socialized.
2. Goals, success measures, funding strategies: SMART (Specific, Measurable, Actionable, Relevant, & Timely) Goals and metrics need to be developed to measure the progress of the governance program.
3. Data Standards, Rules & Definitions: Data related policies, standards, compliance requirements, and definitions need to be developed.
4. Decision Rights: The decision making framework needs to be defined – who gets to make the decision, when, and using what process?
5. Accountabilities: For activities that cross into responsibilities of multiple departments, information governance programs may be expected to define accountabilities that can be incorporated into organization processes.
6. Controls: Controls related to access to information, change management, policies, training, information retention need to be developed.

Illustrative Examples



Data Standard Guidance Document



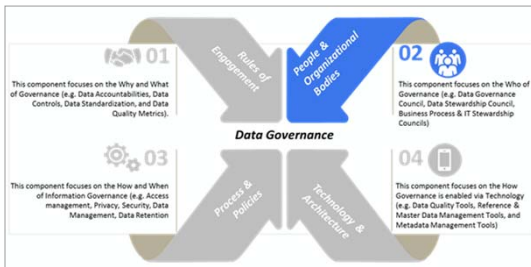
Decision Making Framework

Issue and Action Types	DM Head	DM Sponsor	DM Analyst	DM Approver	DM Reviewer	DM Approver	DM Reviewer
Master Data Changes							
Master Data Access							
Master Data Reporting							
Master Data Integration							
Master Data Archiving							
Master Data Retention							
Master Data Security							
Master Data Compliance							
Master Data Governance							
Master Data Stewardship							
Master Data Quality							
Master Data Performance							
Master Data Risk							
Master Data Innovation							

DG Operations RACI



Key Elements of Data Governance – People and Organizational Bodies



The people & organizational bodies element defines the Who of the data governance program

A data governance program will need to account for the governance requirements of various business functions and potentially define an organization body (e.g. Data stakeholders, Data Stewardship Council, and Data Governance Office).

Samples Roles

1. **Data Stakeholders:** Data stakeholders exist across the organization. These include groups that create data, those who consume data & information, and those who set rules and requirements for data & information. As each of these stakeholders affect and are affected by data related decisions, their expectations must be addressed by the data governance program
2. **Data Governance Office (DGO):** The DGO facilitates and supports governance related activities like collecting metrics & measures and reporting on them to stakeholders, providing ongoing stakeholder care in the forms of communication, access to information, record keeping, and education/support
3. **Data Stewardship Council:** The stewardship council consists of stakeholders who come together to make data related decisions. They may set policies and specify standards, and craft recommendations that are acted on by higher level governance board

Illustrative Examples

Task	HR Data Governance Steering Committee	HR Data Stewardship Council	HR Data Management Office	HR Data Management Working Group	HR Business Stakeholders	HR Data SMEs
Define HR Data Governance Strategy	R	A	I	C	C	I
Define HR Data Governance Framework	I	C	I	A	C	C
Define HR Data Governance Policies	I	C	I	A	C	R
Define HR Data Governance Standards	I	I	R	I	I	A
Define HR Data Governance Metrics	I	I	R	I	I	I
Define HR Data Governance Roles	I	I	R	I	I	I

Data Governance Operating Model

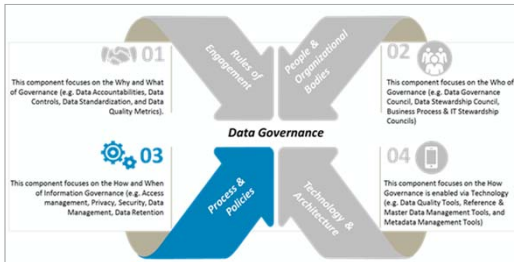
2.3.1 HR Data Governance Steering Committee - The Steering Committee has responsibility for providing leadership, oversight and guidance on the practices and procedures for HR data management.

The committee's primary responsibilities are to:

- Ensure alignment of data management services to key HR initiatives and strategies
- Approve the objectives and scope of responsibility for HR data management
- Approve policies, standards and procedures for the collection, maintenance, delivery, updating and use of HR data file functions
- Establish clear guidelines specifying the accountability of data inputs and records management for HR functions
- Through the HR data management request and ECT processes, make decisions on high-priority, cross-functional data management areas that impact the HR organization or business processes
- Set priorities and provide guidance to the Data Management Working Group
- Approve or review decisions for HR data definitions, subject area relationships, the critical data element HR quality tolerances, and system of record designations for high value HR data assets
- Monitor summary data quality metrics, track improvements, and recommend remediation actions

Roles & Responsibilities

Key Elements of Data Governance – Process and Policies



The processes and policies element defines the How and When of the data governance program

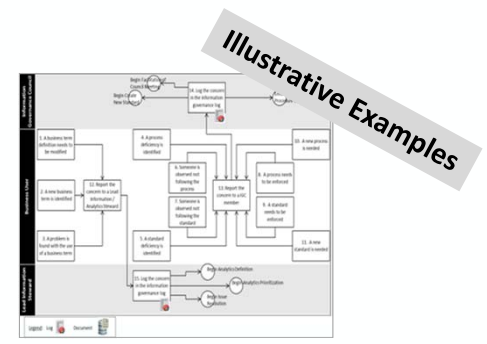
The process and policies element focuses on the methods used to govern data. Ideally, such processes and policies are standardized, well documented, and repeatable.

Example Processes:

- Data Classification
- Data Standards Creation and Modification
- Data Creation, Modification, and Deletion
- Issue Resolution
- Change Management and Communications

Example Policies:

- Access Management
- Data Security

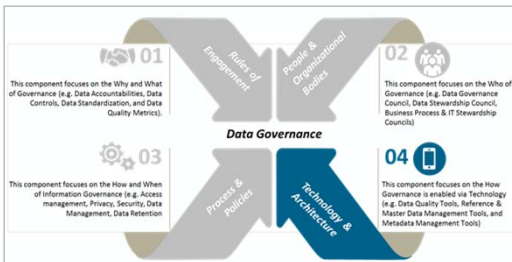


Governance Process Flow



Governance Policy Document

Key Elements of Data Governance – Technology and Architecture



The technology element focuses on the tools and technologies used to govern data. The architecture element focuses on how the tools will be integrated into existing ecosystem.

Reference & Master Data Management

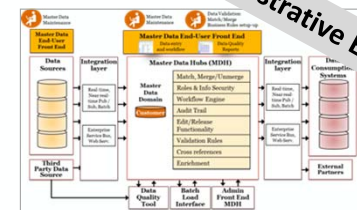
- Define, maintain & enforce Business Rules around Reference & Master Data
- Reconcile reference and master data across disparate systems
- Implement Master Data security access rules

Data Quality Management

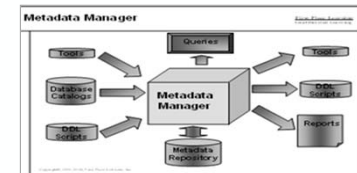
- Correlate Data Errors with measurable business impacts
- Prioritize & Remediate Data Issues
- Monitor performance with respect to data policy compliance

Metadata Management

- Capture and Maintain Metadata
- Notify stakeholders when metadata changes
- Allow consumers to select data for agile consumption



Master Data Management



Metadata Management

Illustrative Examples

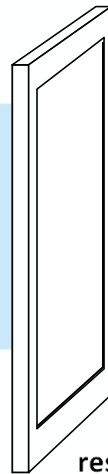
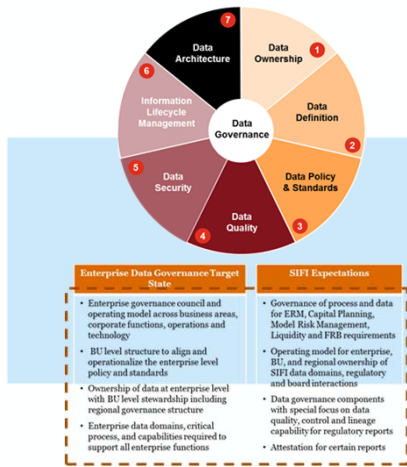
EFFECTIVE IMPLEMENTATION APPROACH

Approach starts with what you are governing and evolves into how will you govern it

What you need?

How you will operate?

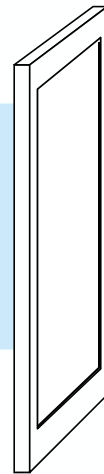
How you will implement?



resulting in specific governance dimensions, process, and capabilities...

Key inputs

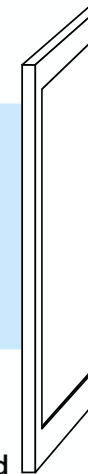
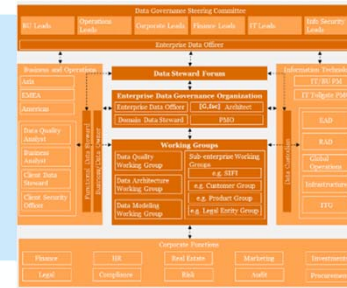
- Initial hypothesis of required capabilities
- Gap analysis from interviews
- Validation of target capabilities
- Change management considerations
- Interaction model



which can them be operationalized across the enterprise, BUs, and regions...

Key inputs

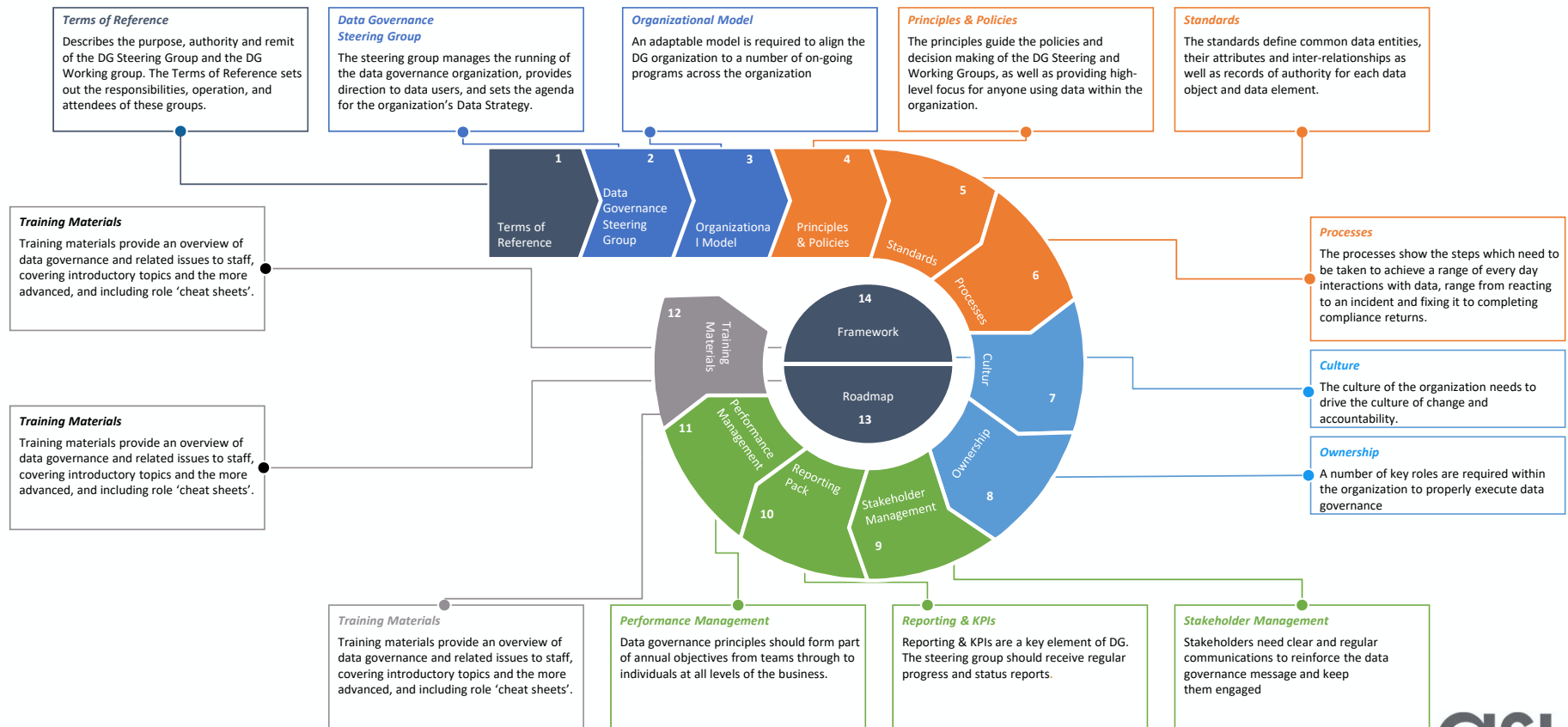
- Organization model
- BU and regional level governance across enterprise functions
- Communications and training requirements



and consistently delivered.



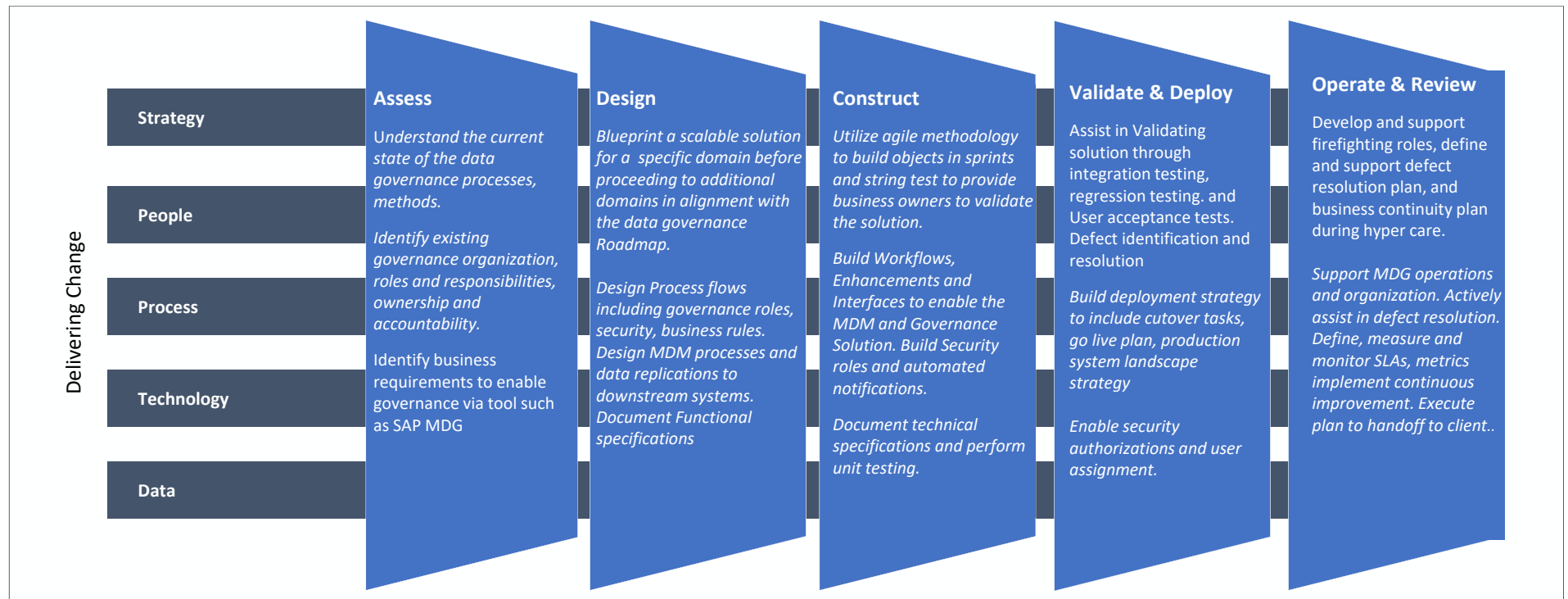
Framework for Global Data Management must address a variety of factors in order to be successful



MDG Implementation Approach

Approach to Implementing SAP MDG Solution includes five (5) distinct stages:

Assess, Design, Construct, Validate & Deploy and Operate & Review.



Key Learnings

When considering developing a data governance framework within your organization, it's important to consider some key points:

Organization

- **Business ownership with IT support**
- **Executive sponsorship is key**
- **Involvement of the right stakeholders at the local and global level**
- **Include change management/training as part of operationalization**

Process

- **Have the business part of the process design sessions**
- **Remember process design for the non-record updates**

Strategy

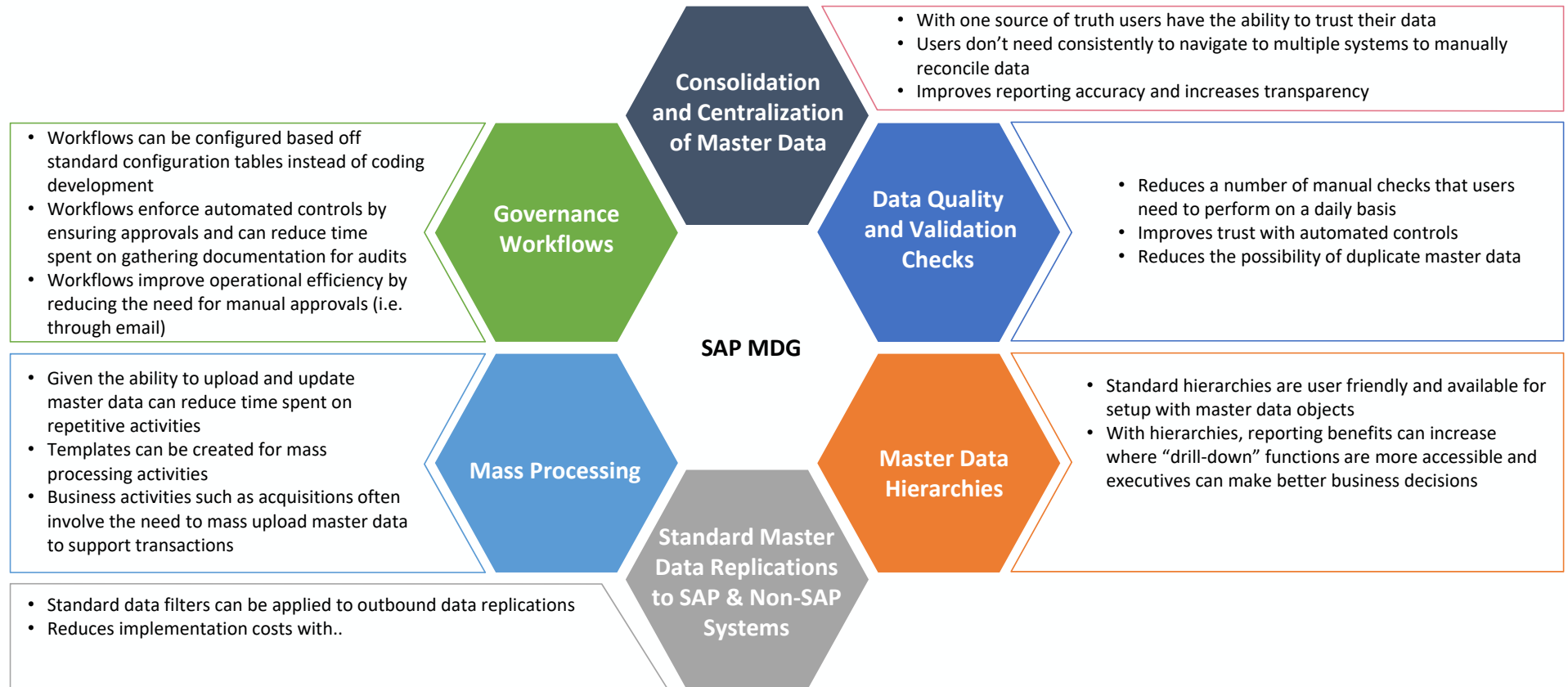
- **Align your governance approach with your overall data strategy**
- **Consider a pilot data object to establish new controls around your data**
- **Perform a strategy assessment including the state of data quality across key data domains to be able to prioritize activities**

Technology

- **Review data architecture in order to optimize data governance**
- **Focus on establishing standards, policies and procedures and an organization structure before building out the technology**

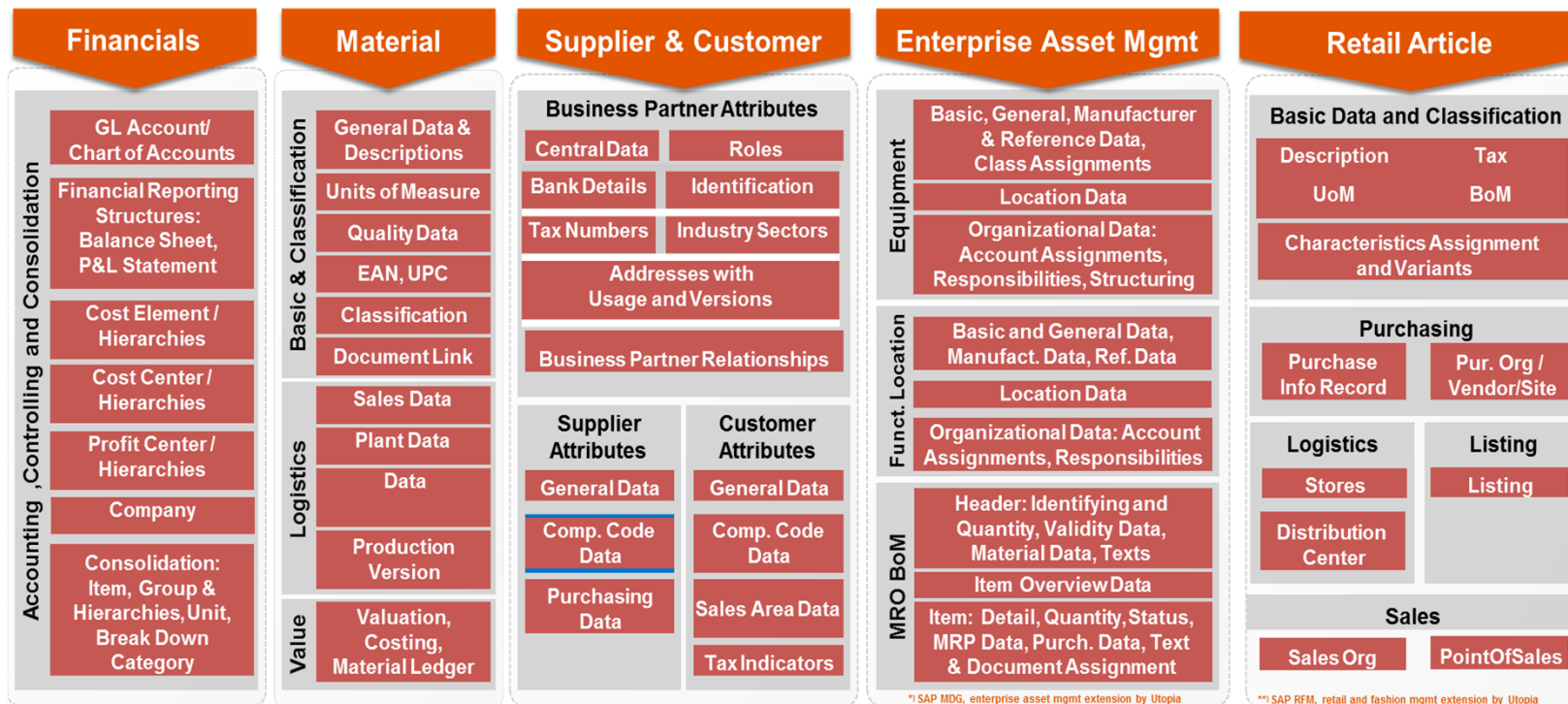
SAP MDG CAPABILITIES

SAP MDG Capabilities



SAP MDG Standard out of the box Data Models

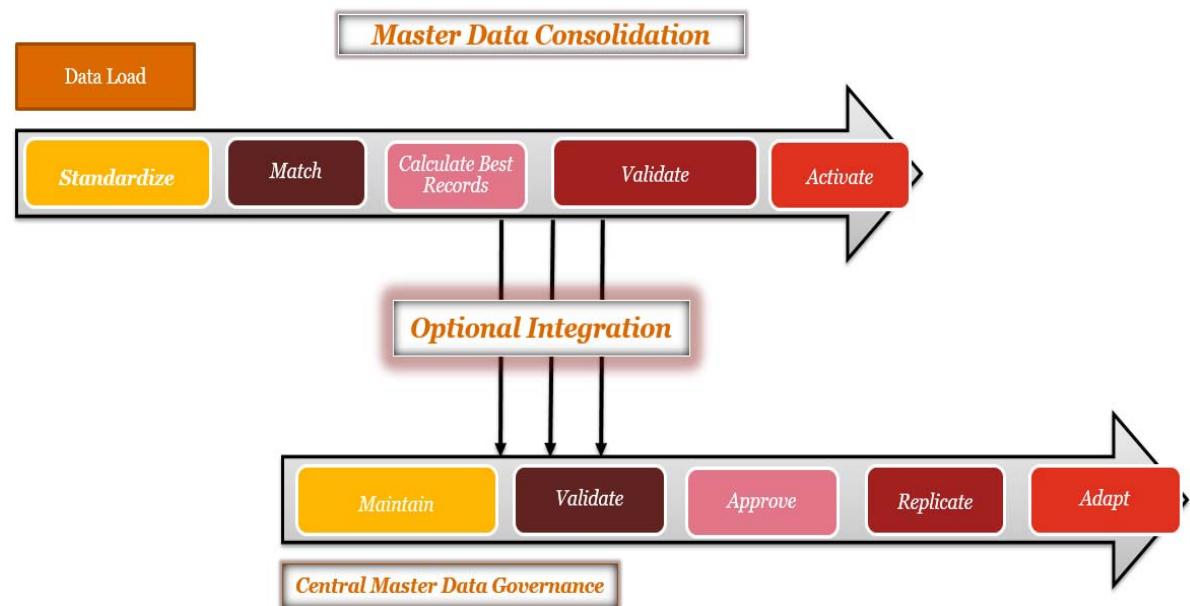
A data model in Master Data Governance is comprised of various elements (entity types, attributes, and relationships) to enable model master data structures of any complexity in the system. These elements are described below



Data Centralization/Consolidation

Consolidation of master data is key to provide a single source-of-truth

- **Comprehensive view** of all master data objects
- **Up-to-date** consistent information that's reflected across all connected systems
- Reliable data helps **increase reporting accuracy**
- **Reduced time** spent on reconciling master data discrepancies

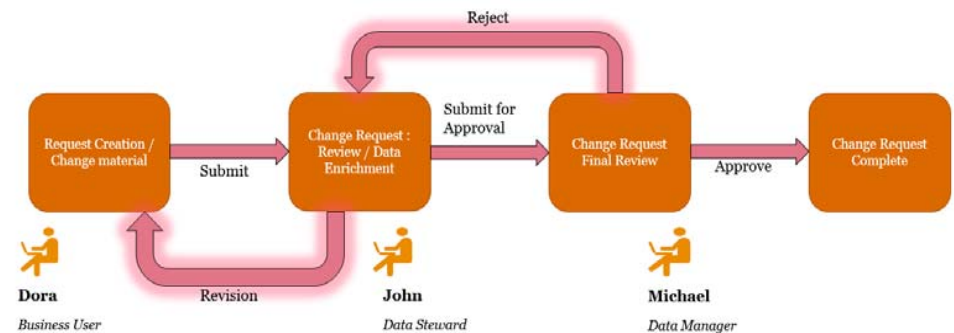
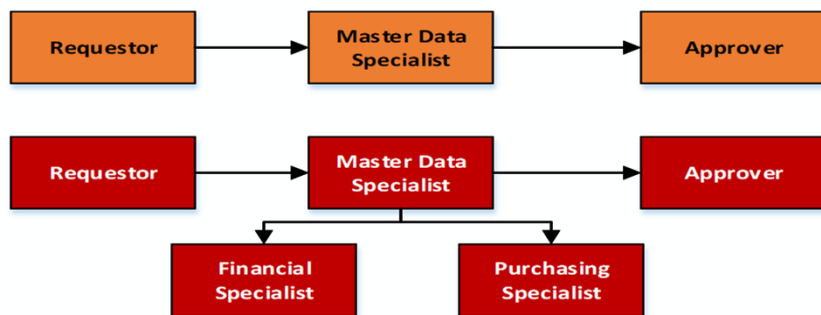


Governance Workflows

Adaptable - Workflow is adaptable based on business requirements. Most clients have taken advantage of the of the role based and rule based workflows as adapts to any business requirement whether it standard or complex approval procedures.

Linear or Distributed - Workflow can be configured as linear or distributed as the clients requirements. Hence, majorly the clients do you use both which fits the business requirement.

Distributed Workflow – Commonly used when the business requirement is complex in nature, which helps the business to fit any kind of process multiple levels of approvals, by using the MDG BRF (Business rule framework) clients have been able to achieve flawless results.

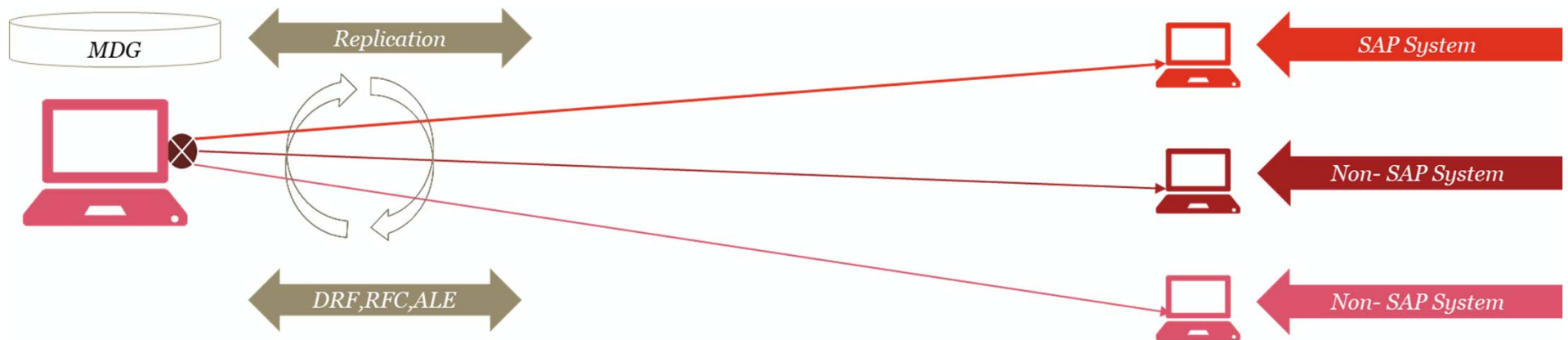


Data Staging - Data that is in process will reside in a separate staging area and will not be replicated to operational databases until after final approval.

Business Rules - Business Rules can be embedded within processes. (i.e. if a supplier's bank data is changed, the request should route to a treasury specialist before final approval this can be achieved by harmonizing the present business process with MDG's out-of-box Business Rule framework (BRF))

Data Replication Framework

- **Filters** can be applied to the replication where only specified data is sent to each system
- **Key mappings** can be leveraged to map object IDs between systems, if IDs differ (i.e. business is upgrading to S/4 HANA and has new vendor IDs in S/4 than used in legacy systems – mapping of legacy IDs to new S/4 IDs can be maintained in MDG)
- **Value mappings** of different fields between systems can be transformed through MDG (i.e. payment method value “T” in system A = value “C” in system B)
- Standard replication monitoring capabilities to support **error handling**
- **Multiple replication methods** can be used (RFC, ALE, SOA) based off capabilities of connected systems



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Presentation Materials

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Q&A

For questions after this session, contact us at Andrew.p.evans@pwc.com and Amar.reddy@pwc.com

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