BALANCING DATA AND PROCESS TO ACHIEVE ORGANIZATIONAL MATURITY

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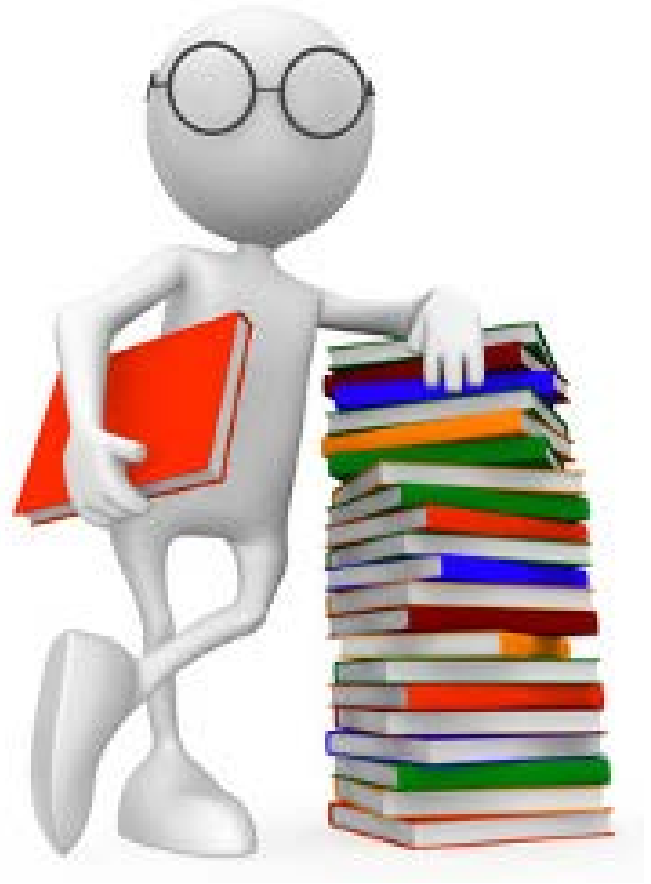
AGENDA

- Organizational effectiveness
- Standards/bodies of knowledge
- Maturity indicators
  - Data Maturity
  - Process Maturity
- Supporting Perspectives
  - Governance
  - Enterprise architecture
  - Architecture complexity
- Summary
- Q&A



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SO MANY STANDARDS AND BOKS!

- CMM: Capability Maturity Model (1988)
  - Sponsored by US Department of Defense
  - Carnegie Mellon University, Software Engineering Institute
  - Used as the basis to derive many other standards
- Other Standards
  - DMM: Data Maturity Model
  - BPMM: Business Process Maturity Model - Object Management Group
  - COBIT: Control OBjectives for Information and Technology 2000
  - ITIL: Information Technology Infrastructure Library 2002
  - TQM: Total Quality Management
  - SPC: Statistical Process Control
- The Bodies of Knowledge
  - DMBOK: Data Management Body of Knowledge
  - BABOK: Business Analysis Body of Knowledge
  - PMBOK: Project Management Body of Knowledge

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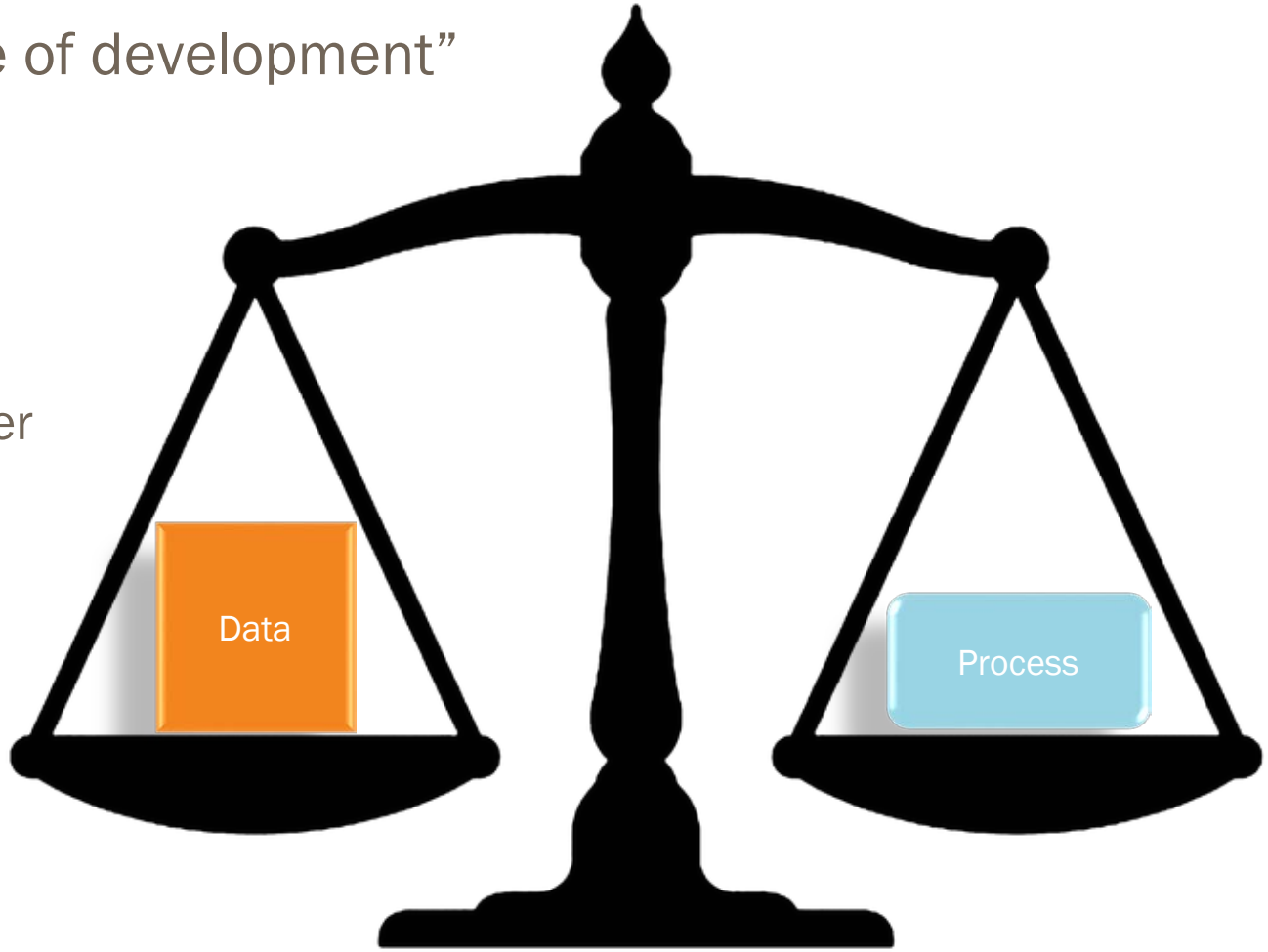
WHAT IS MATURITY?

- Mature
  - “Having reached an advanced stage of development”
- Organizational maturity requires:
  - Data Maturity
  - Process Maturity
    - One cannot be achieved without the other
- They are fundamental to:
  - Enterprise architecture
  - Governance



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	Data Maturity					
	Introduction		Expansion		Transformation	
Level	**0**	**1**	**2**	**3**	**4**	**5**
Description	**None**	**Initial**	**Managed**	**Standardized**	**Advanced**	**Optimized**
Data Governance	None	Project Level	Program Level	Division Level	Cross Divisional	Enterprise Wide
Master Data Management	no formal master data clasification	Non-integrated master data	Integrated, shared master data repository	Data Management Services	Master data stewards established	Data stewardship council
Data Integration	ad-hoc, point to point	Reactive, point-to-point interfaces, some common tools, lack of standards	common integration platform, design patterns	Middleware utilization: service bus, canonical model, business rules, repository	Data Excellence Centre (education and training)	Data Excellence embedded in corporate culture
Data Quality	Silos, scattered data, inconsistencies accepted	Recognition of inconsistecies but no management plan to address	Data cleansing at consumption in order to attempt data quality improvement	Data Quality KPI's and conformance visibility, some cleansing at source.	Prevention approach to data quality	Full data quality management practice
Behaviour	**Unaware / Denial**	**Chaotic**	**Reactive**	**Stable**	**Proactive**	**Predictive**
Technology & Infrastructure	**Primary IT Focus**					**Information & Strategic Business Enablement**
HIGH	**Risk**					**LOW**
LOW	**Value Generation**					**HIGH**

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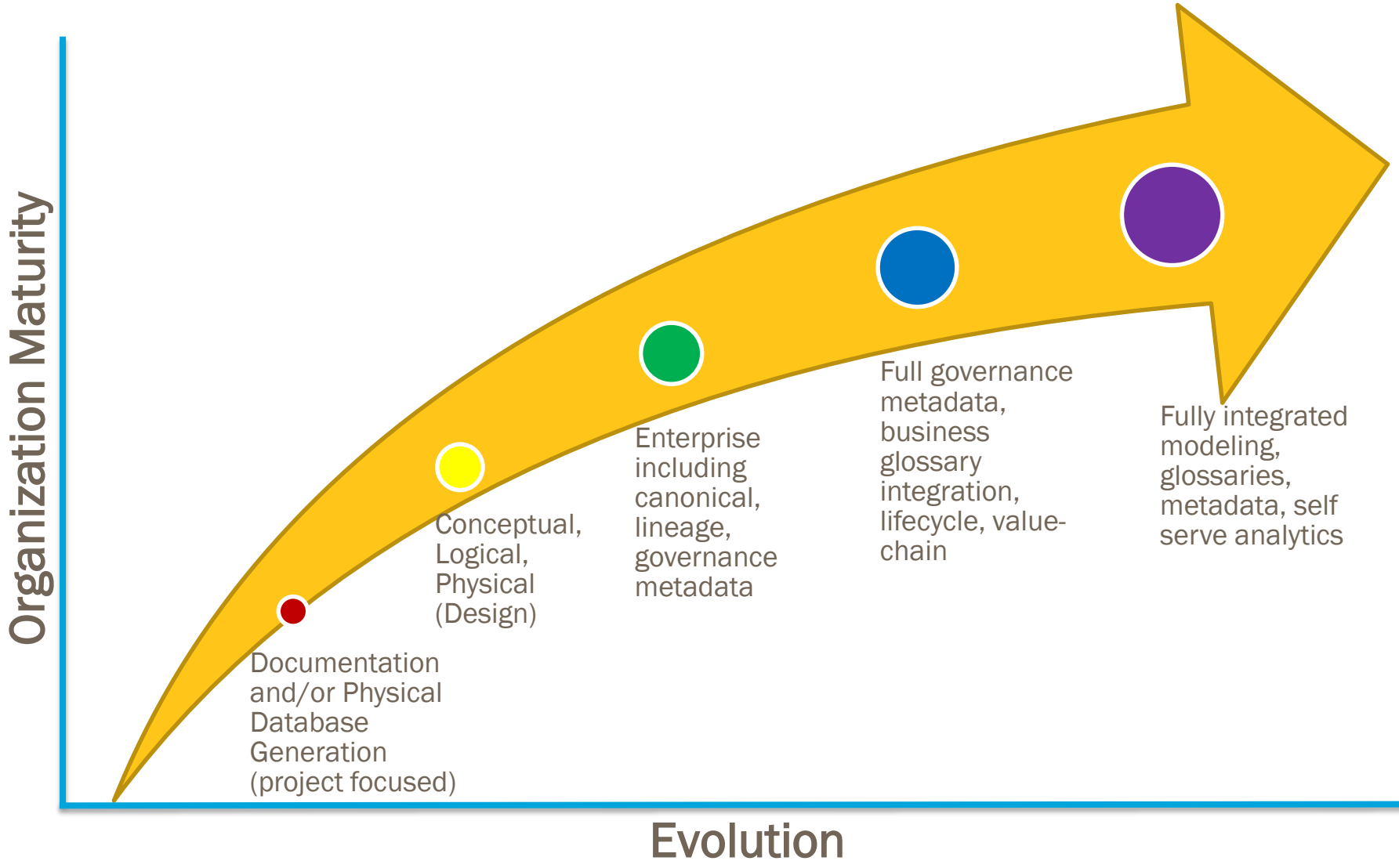
DATA MODEL UTILIZATION



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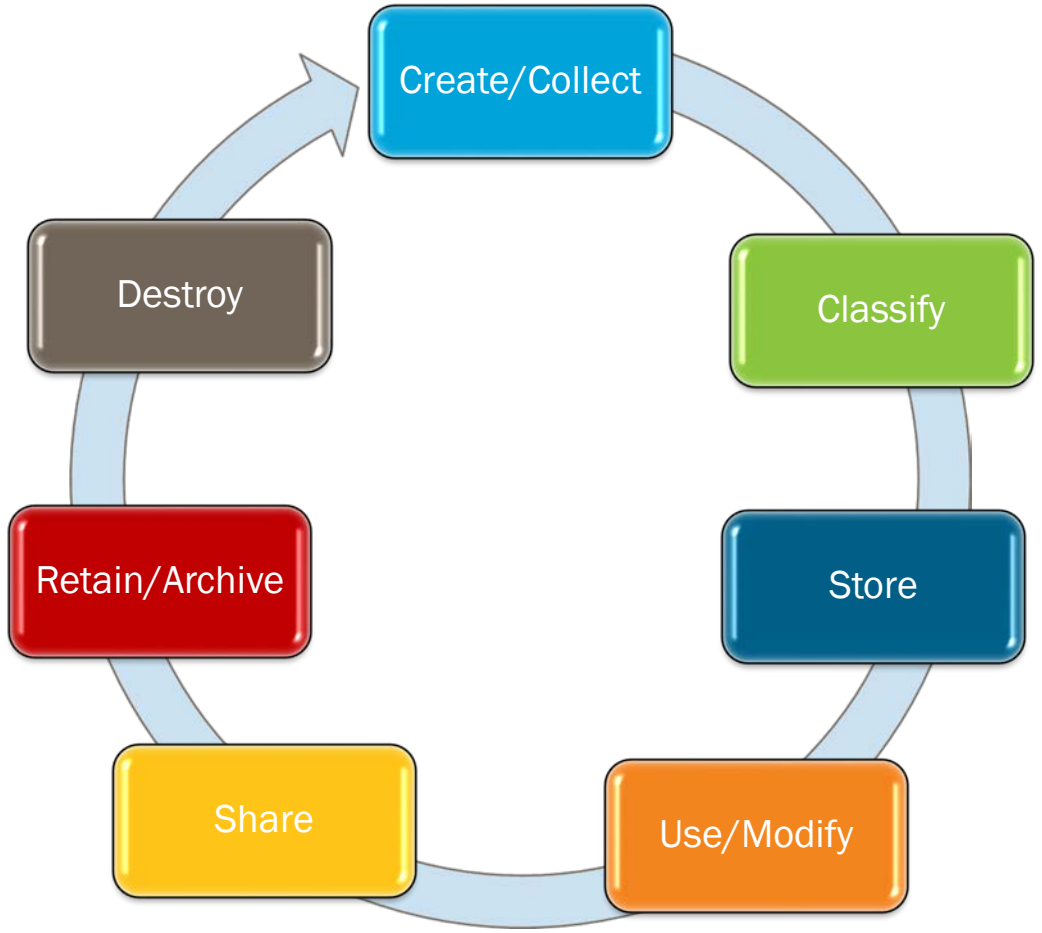
DATA - LIFECYCLE

- Describes how a data element is created, read, updated, deleted (CRUD)
- Many factors come into play
  - Business rules
  - Business processes
  - Applications
- There may be more than 1 way a particular data element is created
- Need to model:
  - Business process
  - Data lineage
    - Data flow
    - Integration
    - Include Extract Transform and Load (ETL) for data warehouse/data marts and staging areas



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	Process Maturity				
	Introduction		Expansion		Transformation
Level	**1**	**2**	**3**	**4**	**5**
Description	**Initial**	**Managed**	**Standardized**	**Advanced**	**Optimized**
Focus	Individual: people rely on personal methods to accomplish work	Proactive: management take responsibility for work unit operations and performance	Integrated: standard processes based on best practices in work units	Stable: variation reduced - re-use, mentoring, statistical management	Systematic: improvements evaluated and deployed using organizational change management
Work management	Inconsistent: little or no preparation for managing a work unit	Managed: balance commitments with resources	Adaptable: standard processes tailored for best use in different circumstances	Empowered: staff have the process data to evaluate and manage their own work	Continual: individuals and workgroups continuously improve capabilities
Efficiency	Inefficient: few measures for analyzing effectiveness	Repeatable: work units use procedures that have proven to be effective	Leveraged: common measures and processes. Promote organization wide learning.	Multi-functional: advance from functional processes to role based business processes. (ownership)	Aligned: performance aligned across the organization to attain strategic objectives
Culture	Stagnant: no identifiable foundation for commitment and improvement	Responsible: work units manage capability to meeting their own commitments. (Silos)	Professional: organizational culture emerges from common practices across work units	Predictable: metrics in place to predict capability & performance	Preventative: Systematic elimination of defects and problem causes
Business Process	Few activities explicitly defined. Processes lack current state documentation.	Basic management processes and controls established to track progress. Processes planned, documented, tactically performed.	Process is documented and standardized. Cross functionality understood.	Detailed measures of process and output quality. Processes managed, controlled and forecasted using quantitative techniques (and statistical algorithms)	Continuous process improvement enabled by quantitative feedback. Processes fully integrated, fluid, highly predictable
Decision making	Tribal Knowledge, gut-feel decisions, hierarchical structure.	Functional process orientation, data driven decisions, quality by inspection	Integrated processes, performance metrics, data driven decisions	Self service dashboards & analytics, exception management	Competitive advantage through best practice innovation.
Architecture	Disparate IT systems	Random services adoption	Full service adoption	Service Oriented Architecture (SOA)	Process driven enterprise

Low	**Productivity**	**High**
Low	**Quality**	**High**
High	**Risk**	**Low**
High	**Waste**	**Low**
Cost cutting	**Efficiency**	**Value generation**
Chaos	**Management**	**Leadership**

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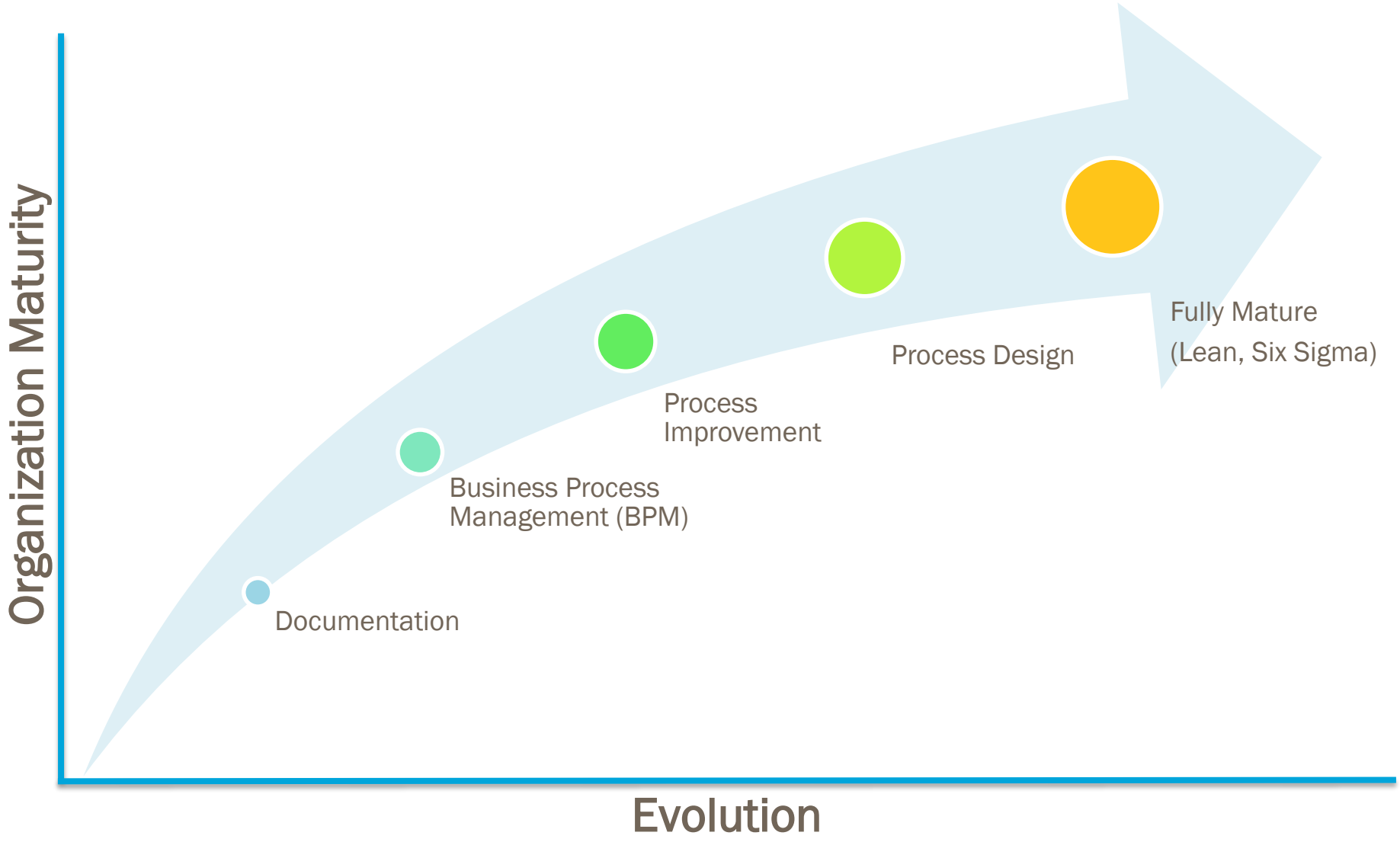
PROCESS MODEL UTILIZATION



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SUMMARY DESCRIPTORS

Organizational Maturity				
Introduction		Expansion		Transformation
1	2	3	4	5
Initial	Managed	Standardized	Advanced	Optimized
Individual initiative, heroics	Reactive	Integrated	Stable	Systematic
Inconsistent	Repeatable	Adaptable	Empowered	Continuous improvement
Inefficient	Responsible	common processes	Multi-functional	Strategically aligned
Stagnant	Tactical processes	Documented and standardized	Predictable	Preventative
Lacking current state documentation	Functional process orientation	Integrated processes	Detailed quantitative measures	Quantitative feedback
Tribal knowledge	Quality by inspection	Performance metrics	Self service analytics	Fully Integrated
Gut-feel decisions	Random services adoption	Data driven	Exception management	Competitive advantage
Disparate IT systems	Basic controls	Full service adoption	Service Oriented Architecture (SOA)	Best practice innovation
Cost cutting	Project monitoring	Efficiency	Capability management	Value generation
Ad hoc	Reduced rework	Management	Automated tactical process steps	Leadership
Low alignment	Typically meet schedules	Automated exception reporting	Flexible	Full governance
Unpedictable	No business architecture	Business silos still exist	Measured	Business rules
Reactive	Immature or no data architecture	Data management services	Controlled	Organizational change management
Point-to-point interfaces	Integrated master data repository	Middleware (service bus)	Master data stewards	Optimizing
Non-integrated master data	Common integration platform	Canonical model	Data Excellence center	Data Stewardship council
Lack of standards	Recognize data quality problems	Model/metadata repository	Prevention approch to data quality	Data culture
Inconsistencies recognized	Data cleansing at consumption	Data quality KPI's	Proactive	Full data quality management
Chaotic	Design patterns	Some data cleansing at source	Confident forecasts	Predictive
Project data governance	Program data governance	Divisional data governance	Cross divisional data governance	Enterprise data governance

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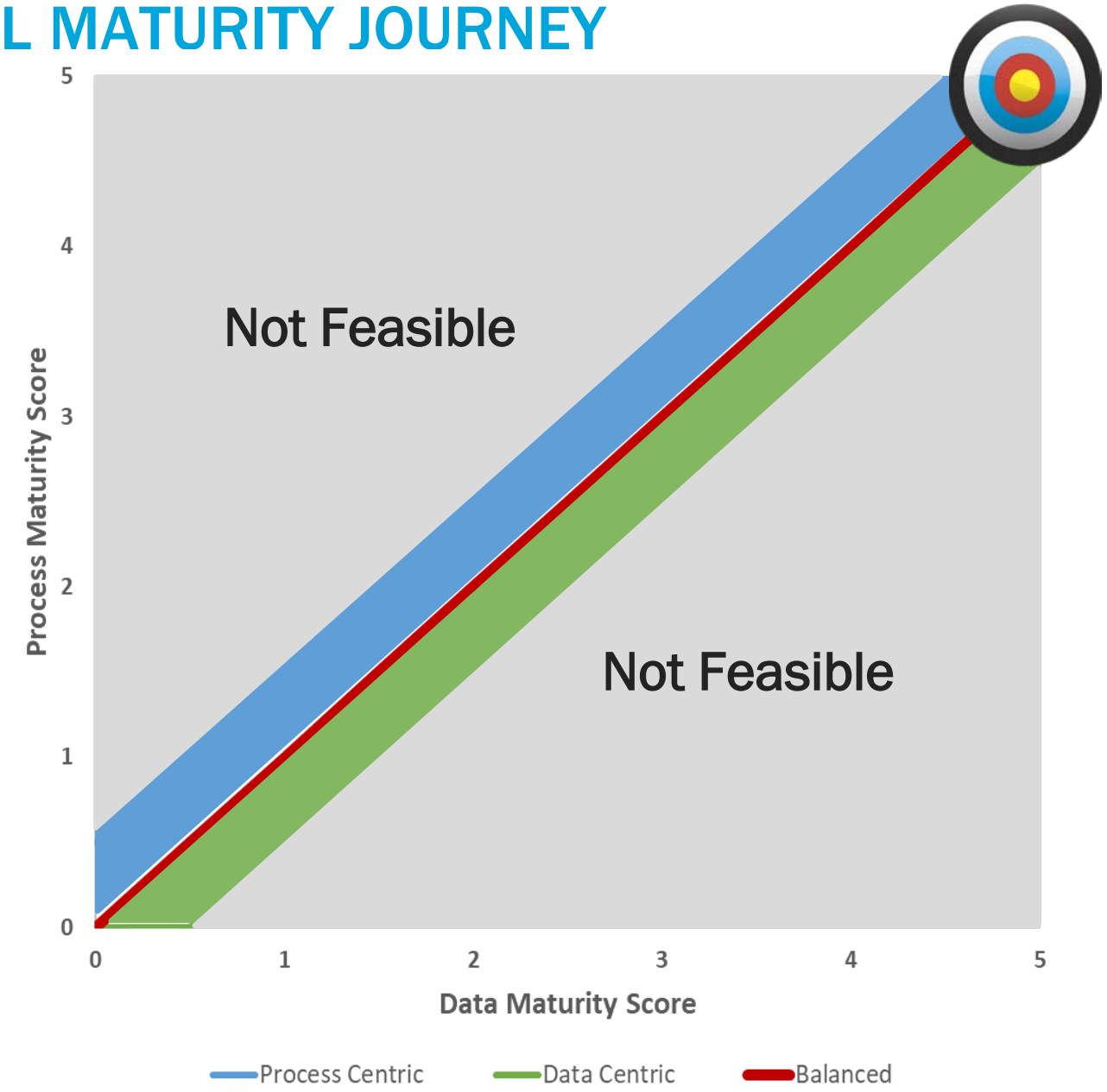
ORGANIZATIONAL MATURITY JOURNEY



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ADDRESSING GOVERNANCE THROUGH MODELS

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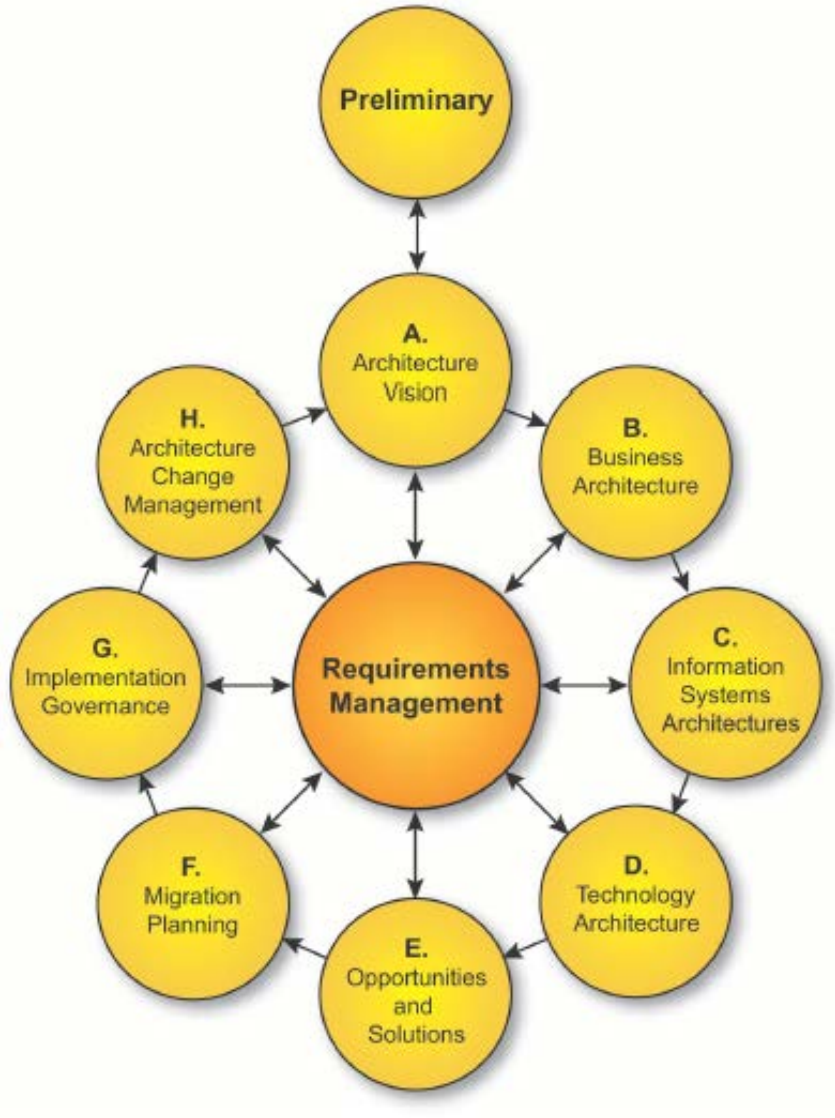
TOGAF ARCHITECTURE DEVELOPMENT CYCLE



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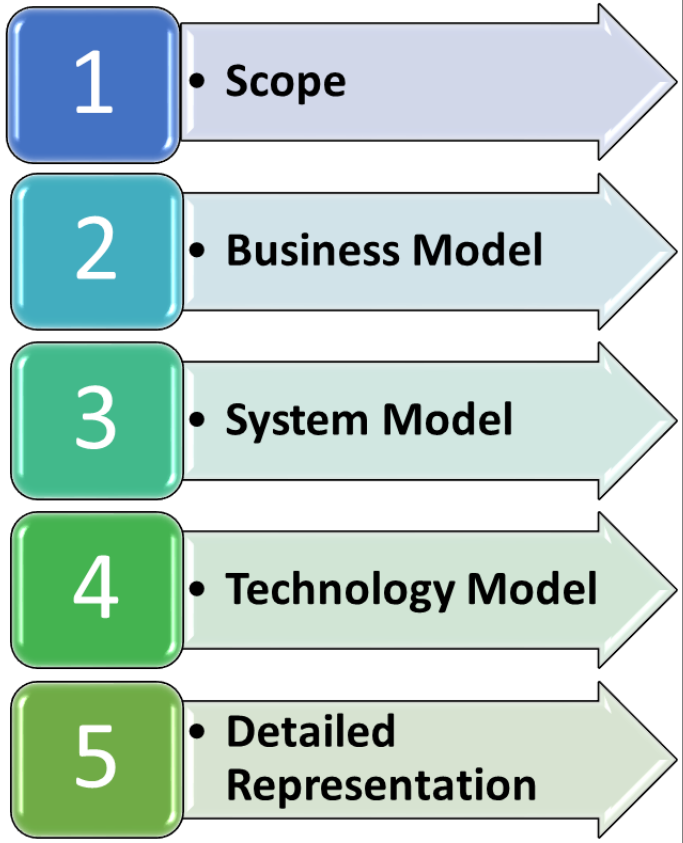
MODELS ARE CRUCIAL! (ZACHMAN FRAMEWORK)



	What	How	Where	Who	When	Why
Contextual	Material List	Process List	Geographical Locations List	Organizational Unit & Role List	Event List	Goal List
Conceptual	Entity Relationship Model	Process Model	Locations Model	Organizational Unit & Role Relationship Model	Event Model	Goal Relationship
Logical	Logical Data Model	Process Diagarm	Locations Diagram	Role Relationship Diagram	Event Diagram	Rules Diagram
Physical	Physical Data Model	Process Function Specification	Location Specification	Role Specification	Event Specification	Rules Specification
Detailed	Data Details	Process Details	Location Details	Role Details	Event Details	Rules Details

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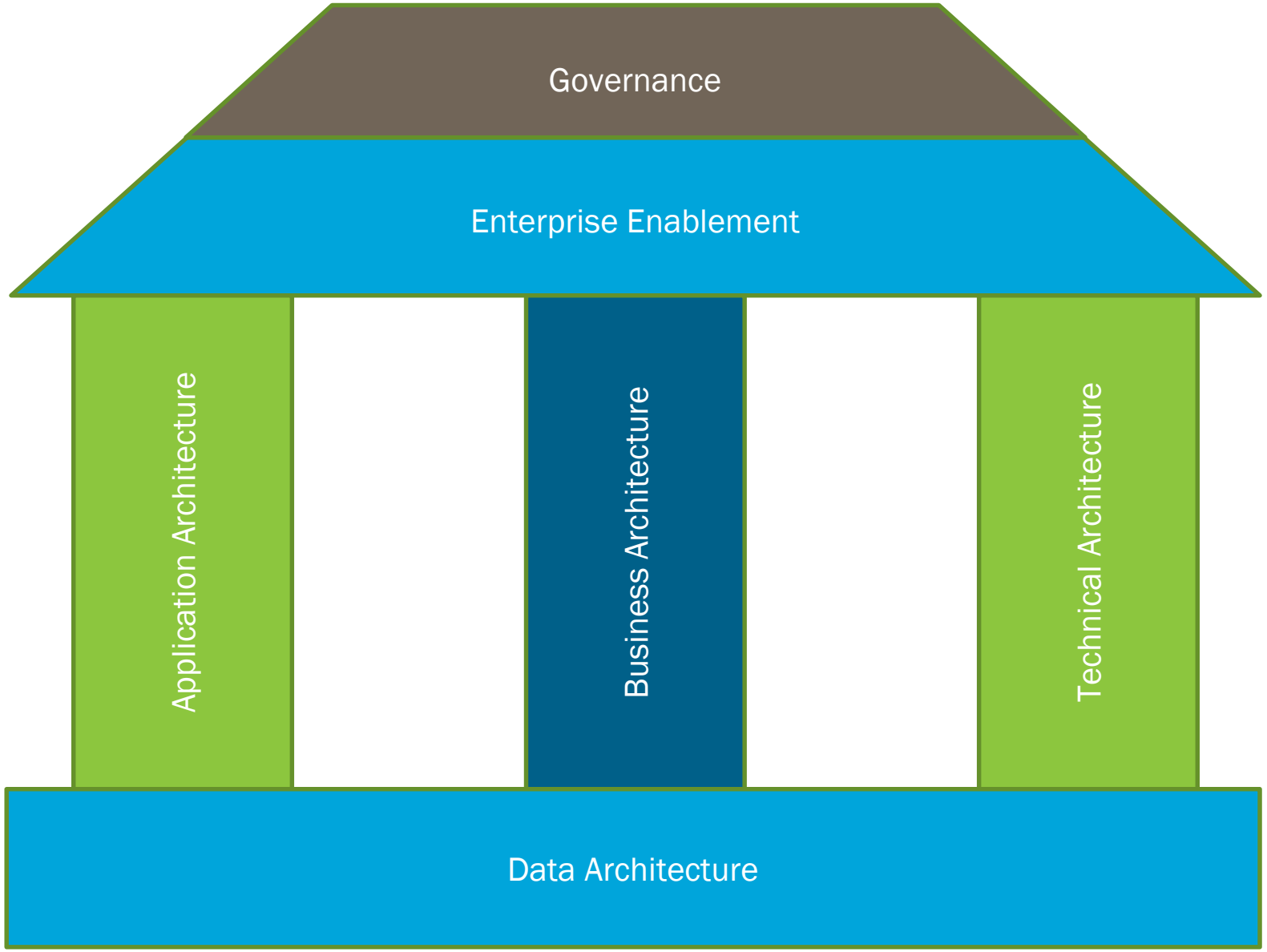
ENTERPRISE ARCHITECTURE



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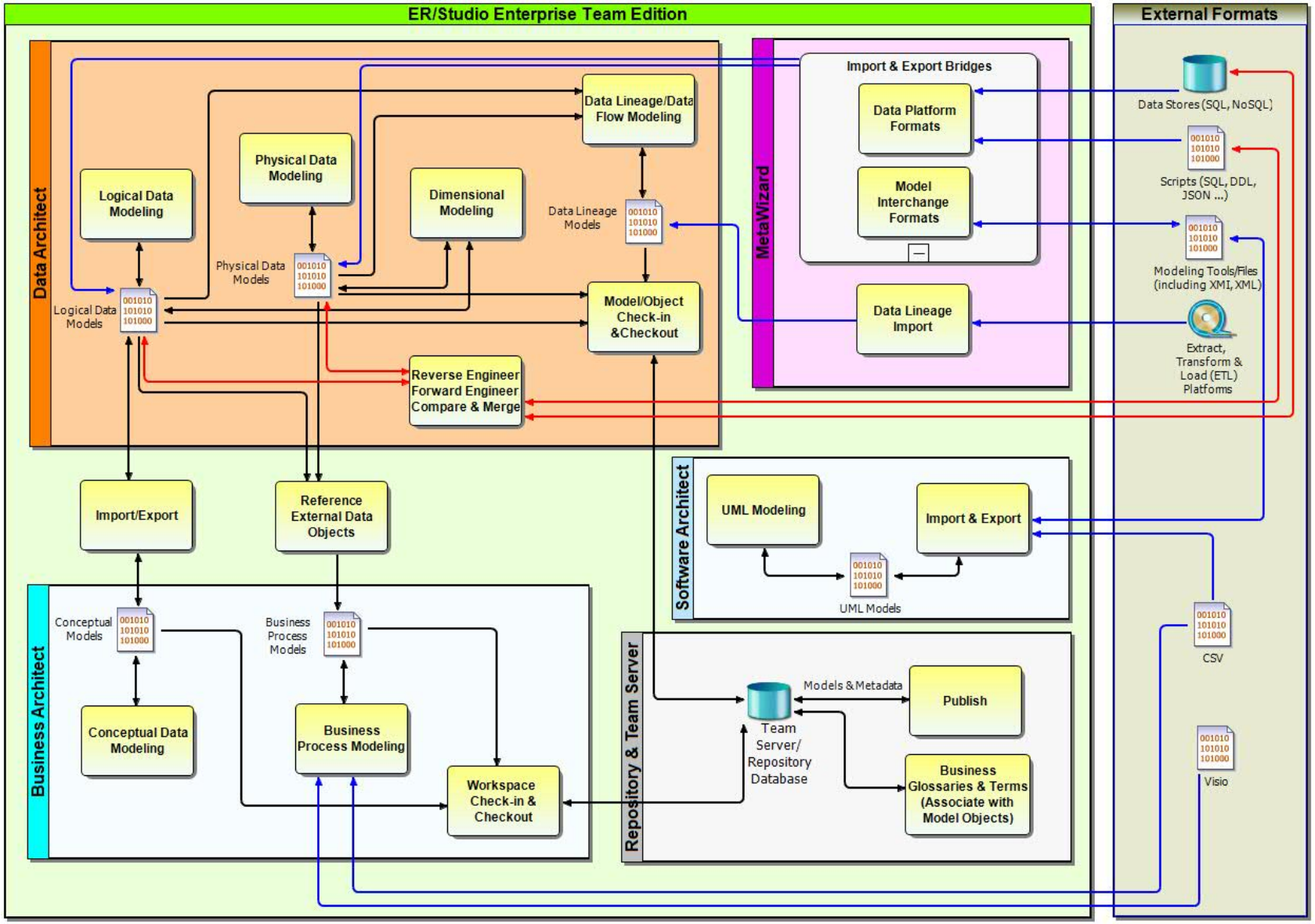
ER/STUDIO ENTERPRISE TEAM EDITION – INTEGRATED MODELING



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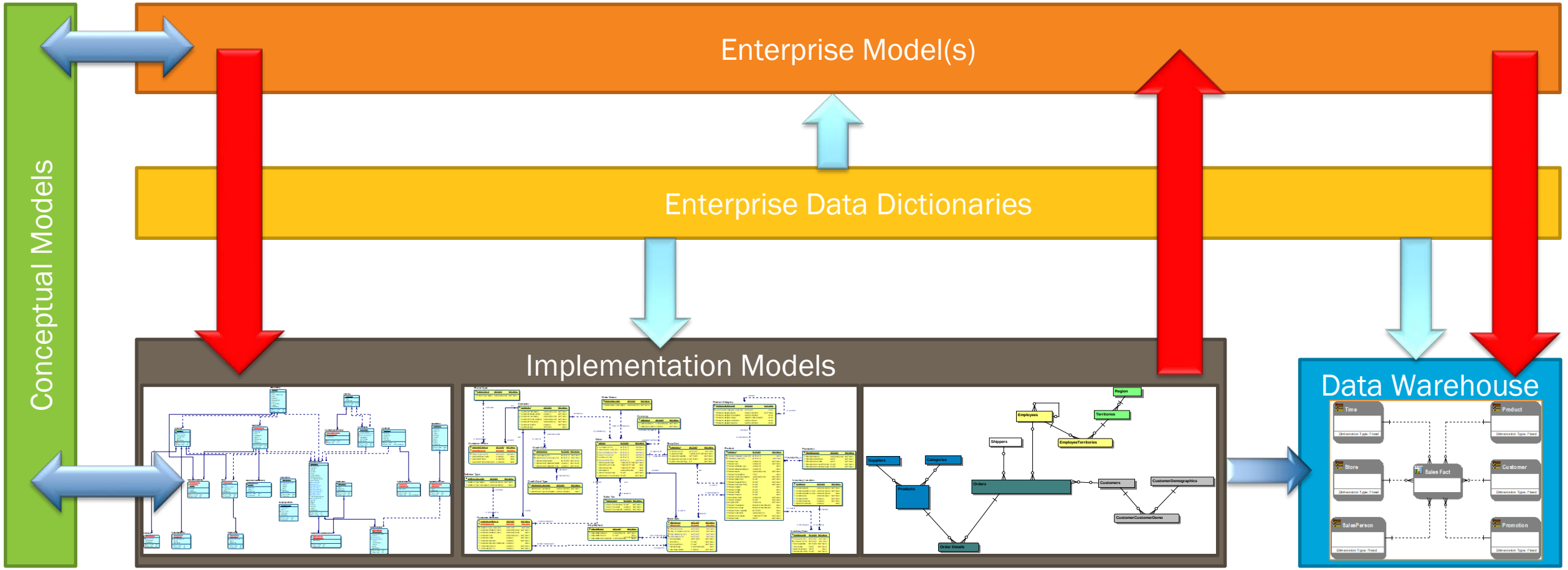
DATA MODELING CONTEXT



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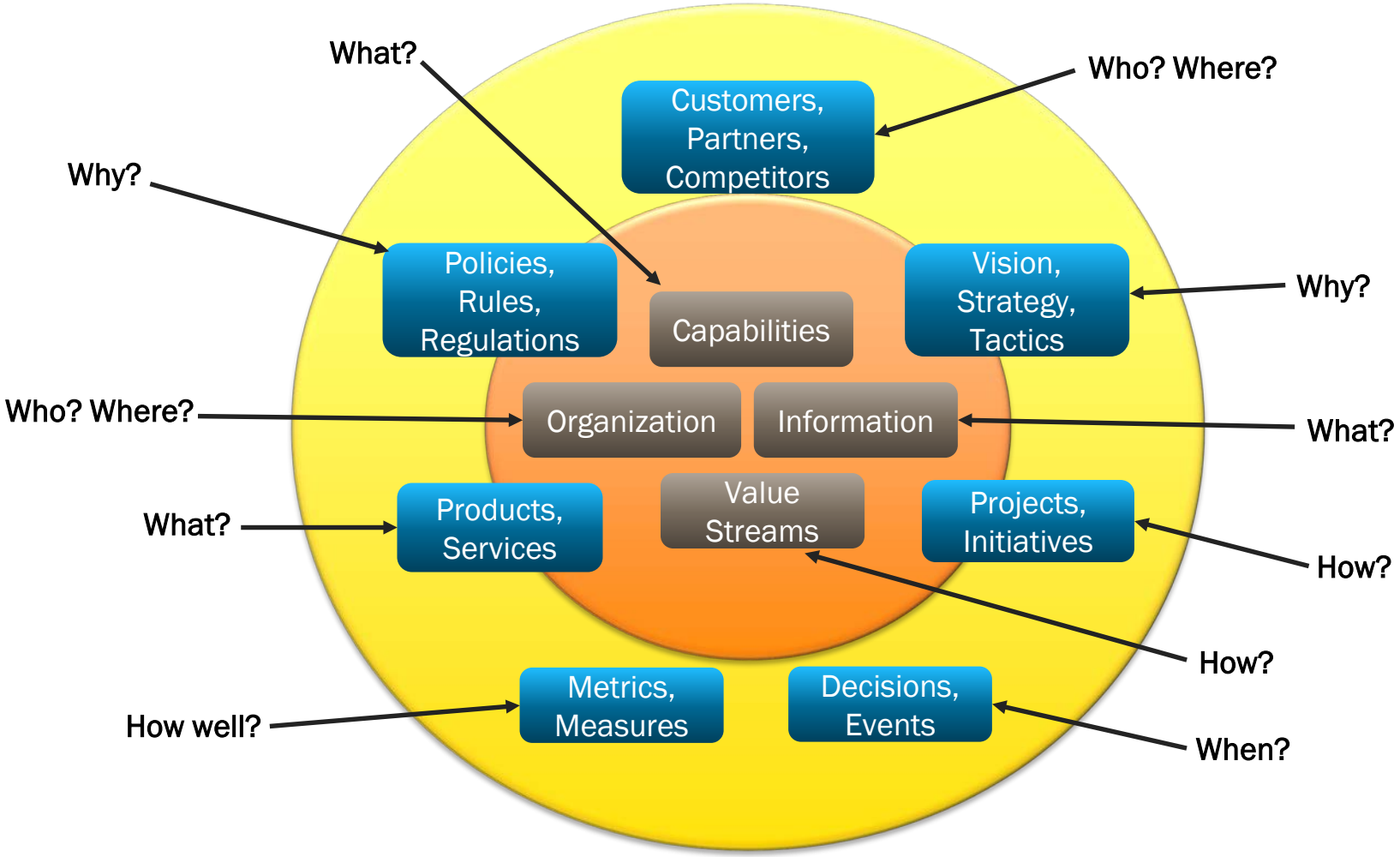
BUSINESS ARCHITECTURE



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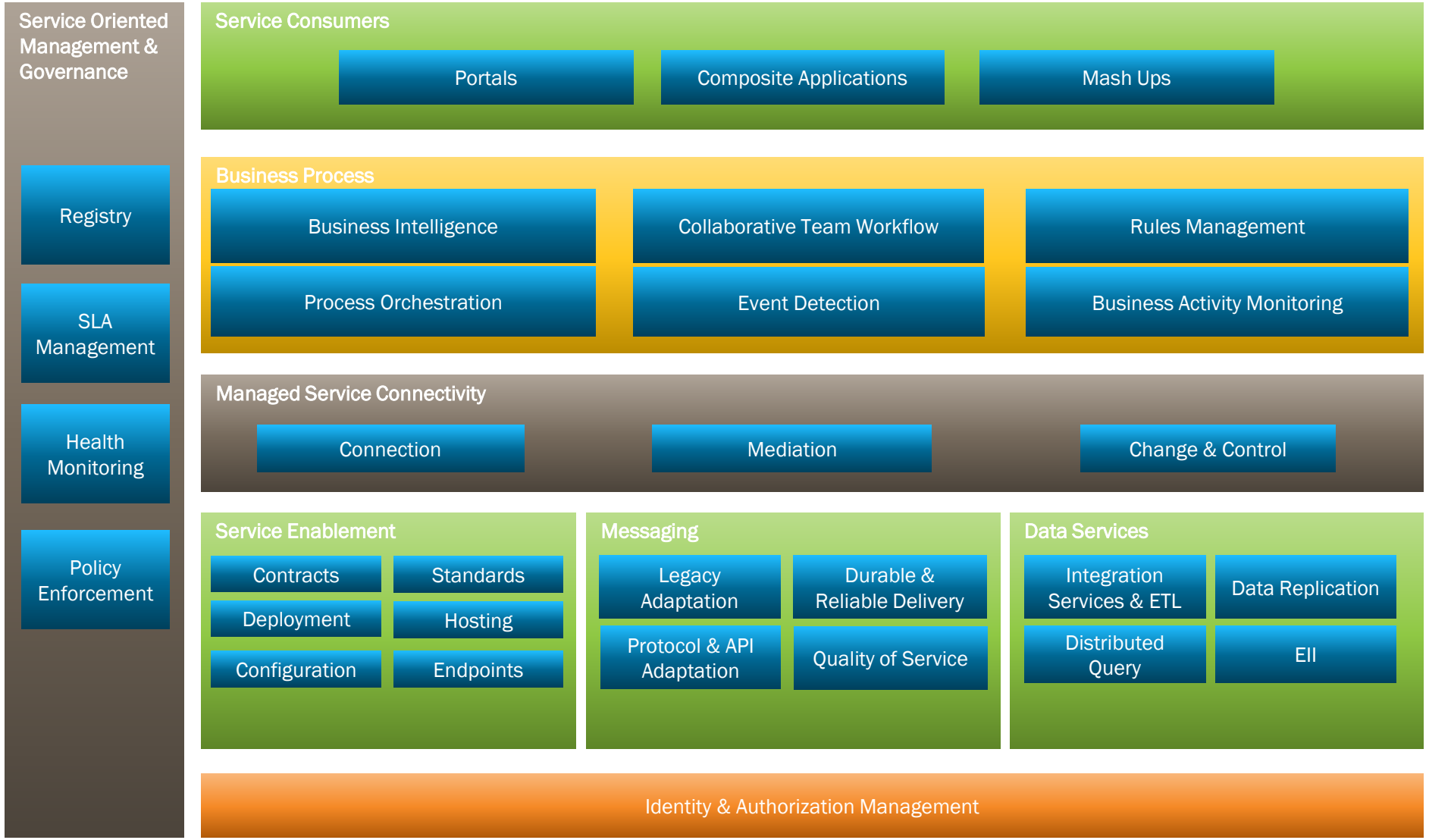
SERVICE ORIENTED ARCHITECTURE



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SUMMARY

- Organizational maturity requires:
  - Data Maturity
  - Process Maturity
    - One cannot be achieved without the other
- They are fundamental to:
  - Enterprise architecture
  - Governance
- Enterprise architecture is the solution
  - Solid data architecture foundation
  - Integrated process modeling to provide business context
- Modeling is more important than ever before!
    - Data modeling
    - Process modeling
    - Data lineage
    - Metadata
    - Business glossaries
- Focus on enabling business capabilities
  - Driven by goals and strategies
  - Supported by advanced architecture

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THANKS!

Any questions?

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