

Case Study



Enterprise Architecture and Rapid Business Transformation in HealthCare

July 20th, 2009

*Dorin Andreescu
Refaat Shulaiba*

Agenda

- 1 **Introductions**
- 2 The Challenge and the Opportunity
- 3 Rapid Business Transformation
- 4 EA Framework, the Line of Thought and Action
- 5 Midwest Health Plan – As Is
- 6 Midwest Health Plan – Possible and Feasible
- 7 Lessons Learned

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**Principal
General Project Management
Systems and Solutions (GPMSS)**

Refaat Shulaiba

**CIO
Midwest Health Plan (MHP)**

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Challenges

- The Health Care industry is facing historical changes to implement reform
- Businesses have to keep their competitive advantage
- Transformation driven by regulations and improvement needs are hard to implement
- Business and IT complexity reduce business agility in implementing change

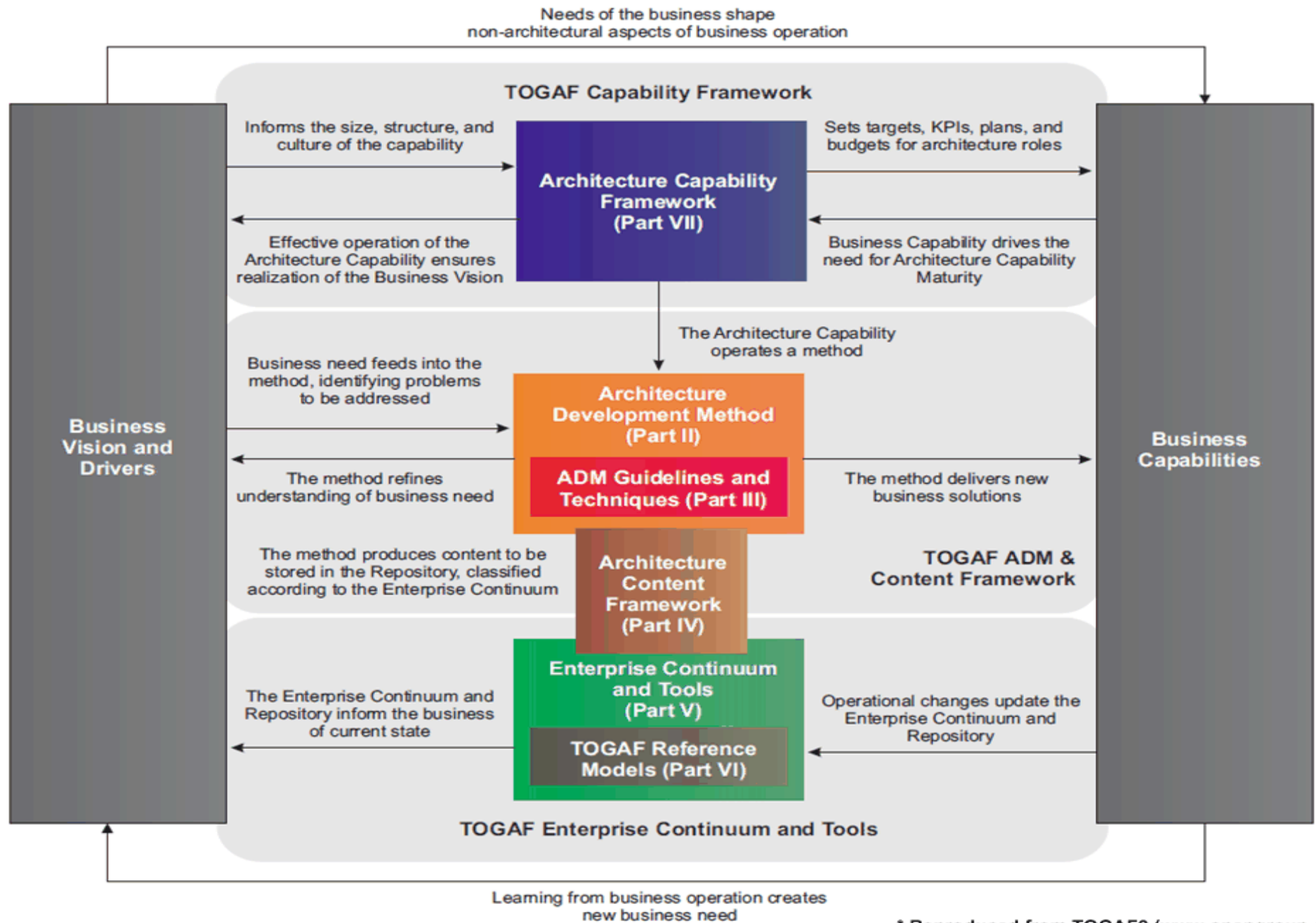
Health Care Reform

- Provisions to make Health Care coverage more affordable for Americans who lost their jobs.
 - Expanding Health Care Coverage for children and uninsured
 - Computerizing America's health records in five years
 - Developing and disseminating information on effective medical interventions
 - Investing in prevention and wellness
-
-

Top 10 Business and Technology Priorities in 2009

Business Priorities	Ranking	Technology Priorities	Ranking
Business process improvement	1	Business intelligence	1
Reducing enterprise costs	2	Enterprise applications (ERP, CRM and others)	2
Improving enterprise workforce effectiveness	3	Servers and storage technologies (virtualization)	3
Retaining and attracting new customers	4	Legacy application modernization	4
Increasing the use of information/analytics	5	Collaboration technologies	5
Creating new products or services (innovation)	6	Networking, voice and data communications	
Targeting customers and markets more effectively	7	Technical infrastructure	7
Managing change initiatives	8	Security technologies	8
Expanding current customer relationships	9	Service-oriented applications and architecture	9
Expanding into new markets and geographies	10	Document management	10

Source: Gartner EXP (January 2009)



Opportunity

Leverage the existing Body of Knowledge about Enterprise Architecture – TOGAF 9.0 to design, implement and maintain an environment capable of:

- Rapid Business Transformations

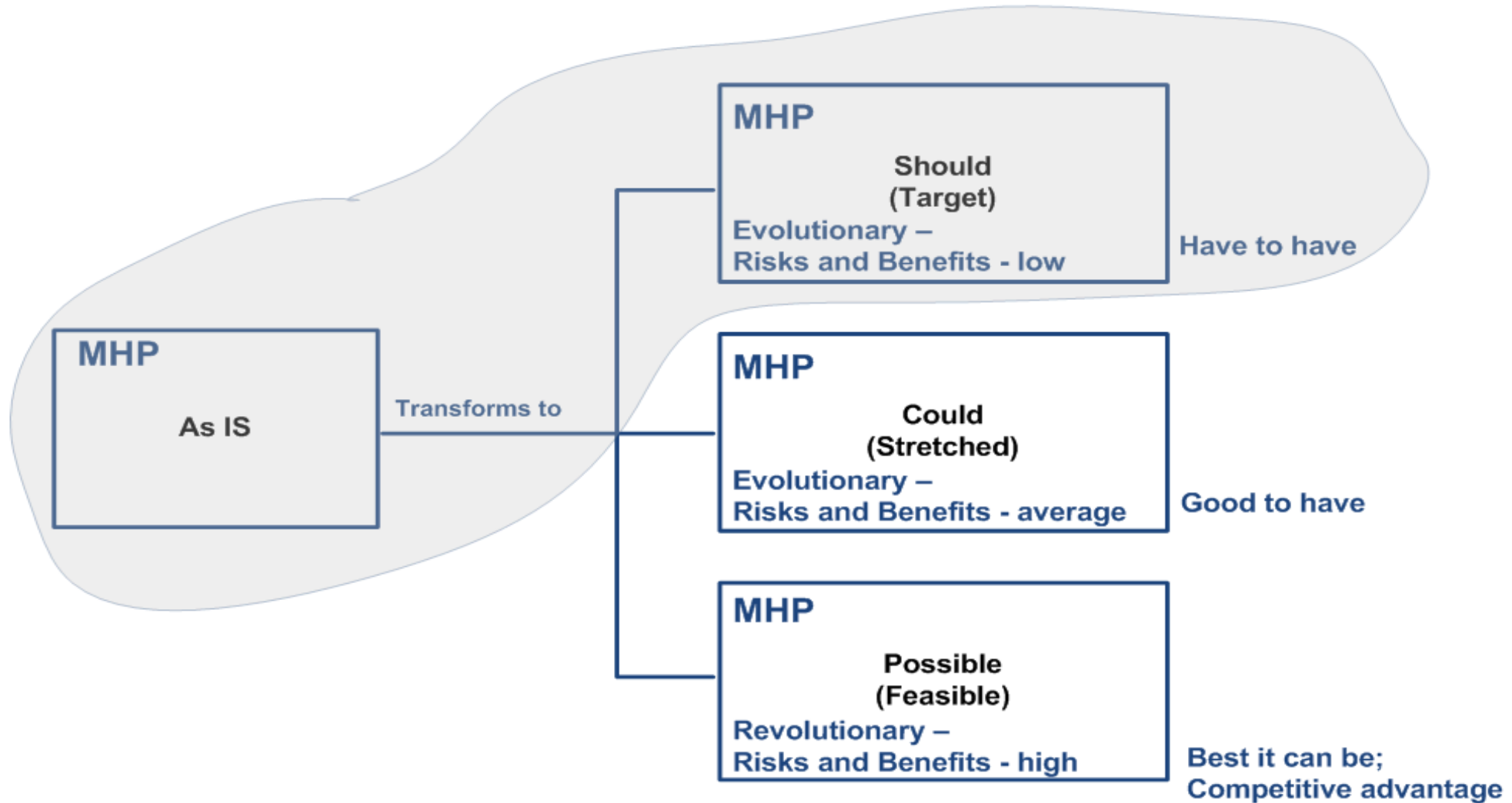
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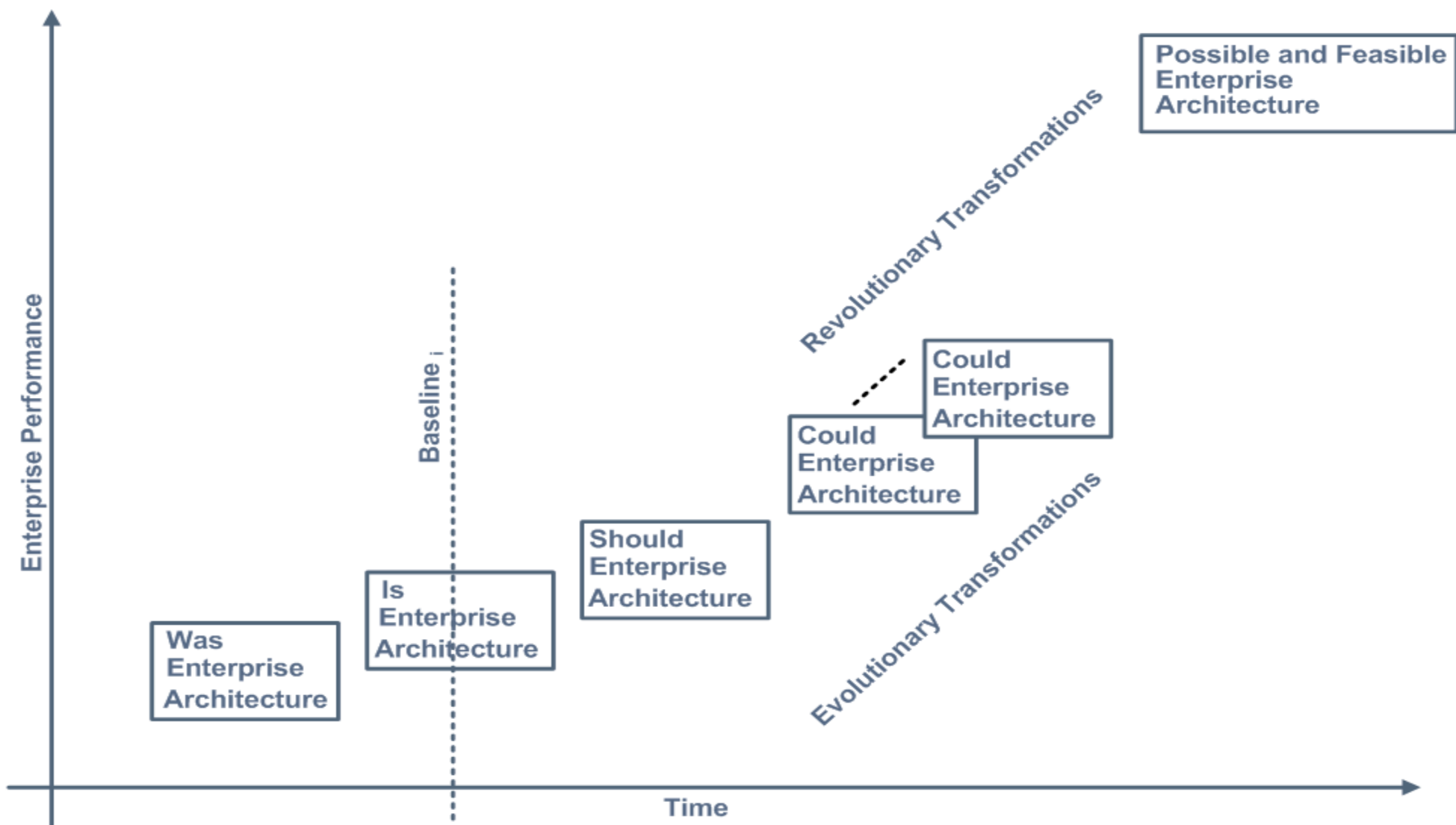
Rapid Business Transformation Solutions – Guiding Principles

- Concise, Comprehensive and Unambiguous Definition of the Business and IT Domains**
- Specialize Operational, Tactical and/or Strategic transformations**
- Coherent criteria for evaluating the performance improvement and value creation**

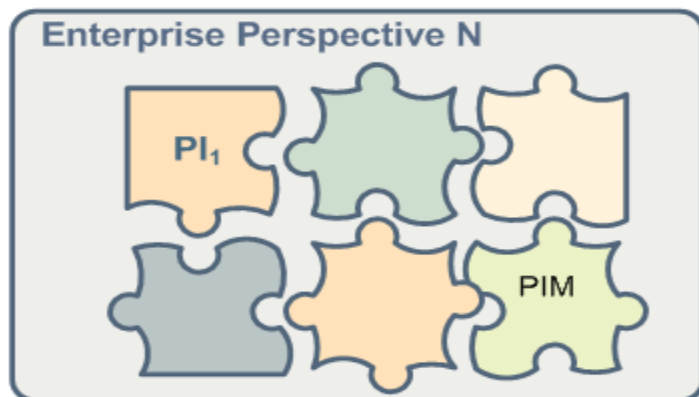
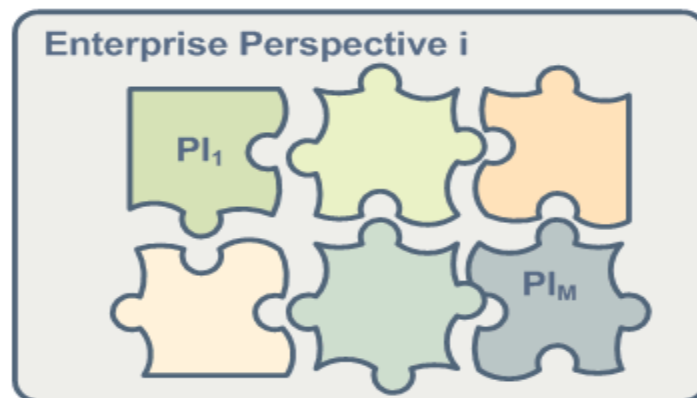
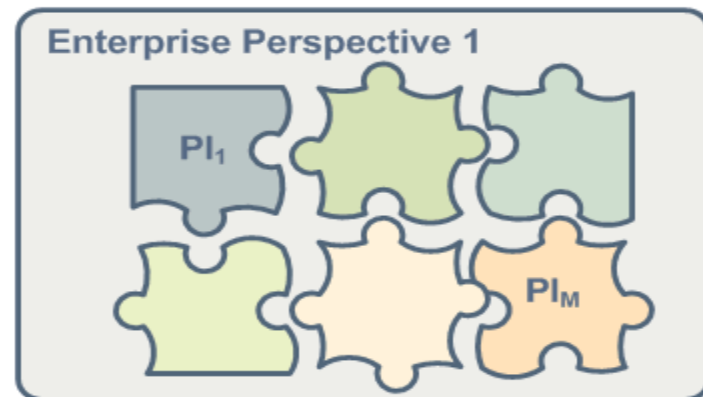
Midwest Health Plan (MHP)



Business Transformations and Enterprise Architectures



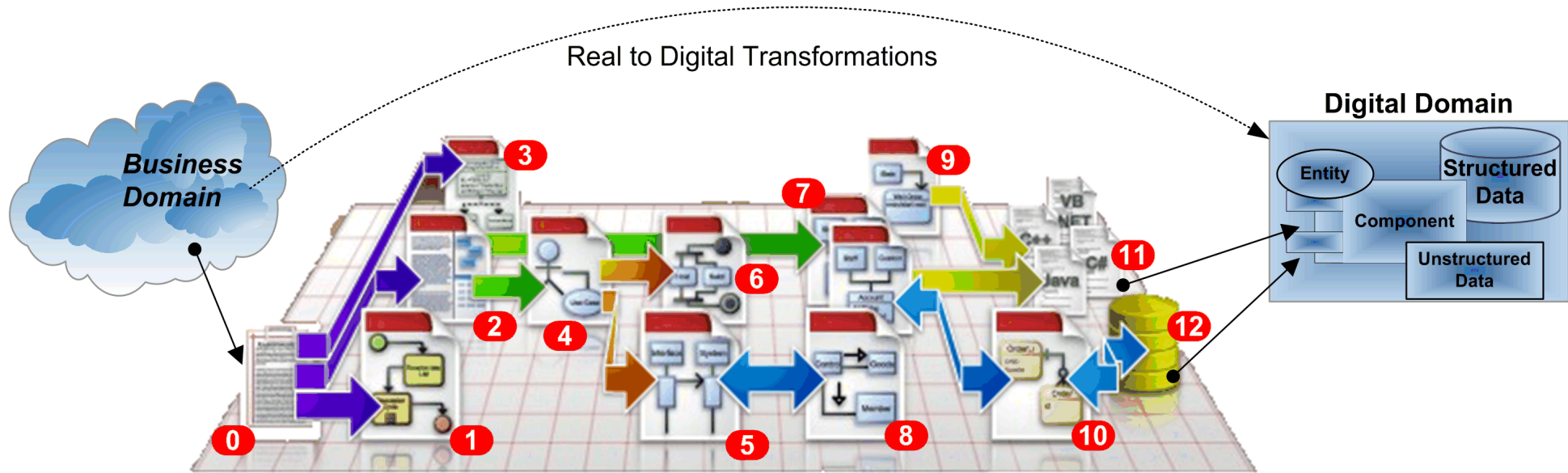
$$EntPerf = \sum_{i=1}^N \sum_{j=1}^M RELV_i * PI_j$$



Baldrige (1000 points):

Leadership – 120; Strategic Planning 85; Customer Focus 85;
 Measurement, Analysis, KM 90; Workforce Focus 85;
 Process Management 85; Results 450

SDLC Models and Transformations



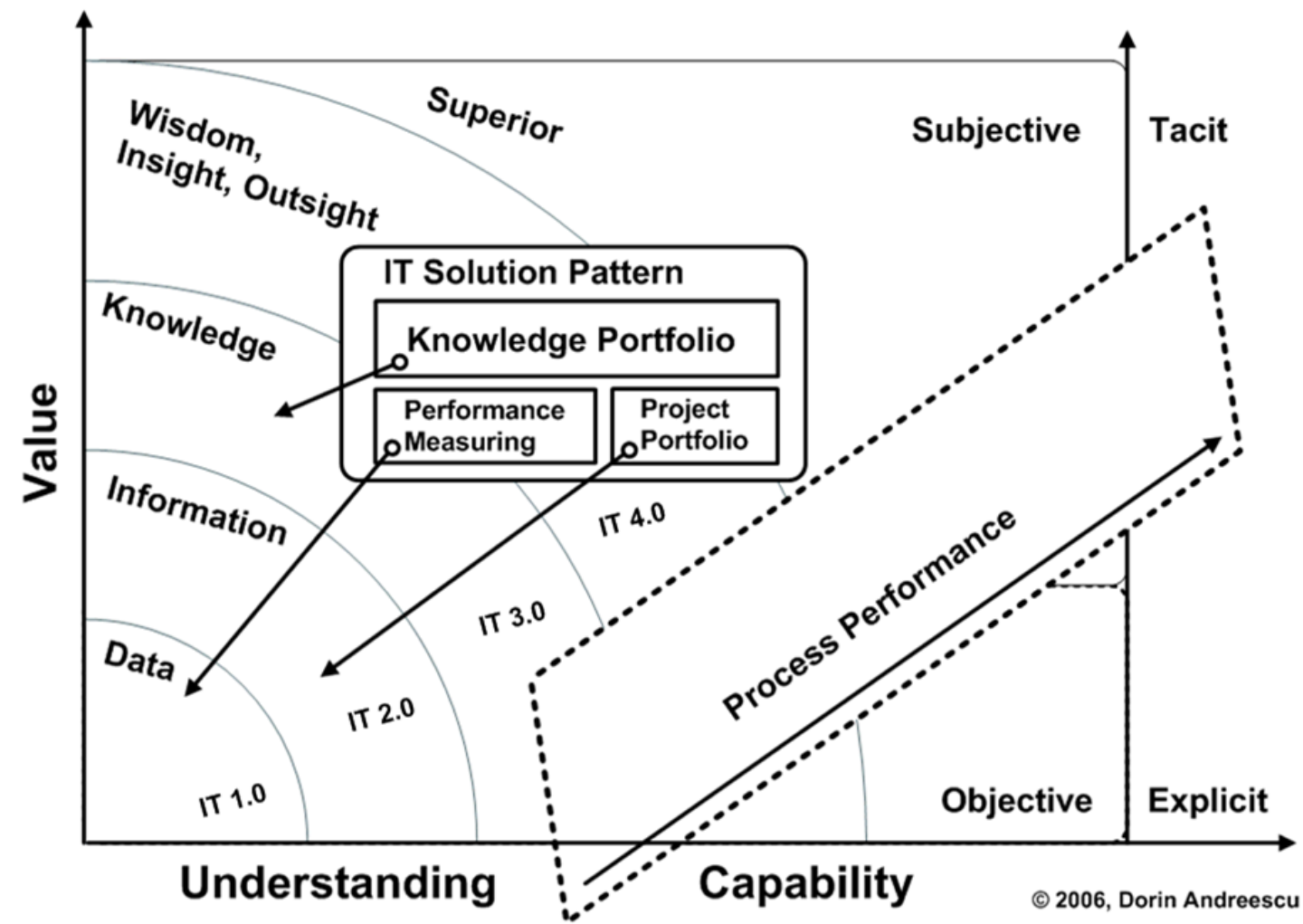
Reference	Description	Reference	Description
0	Business Reality described by Business Needs (User Requirements, Business Rules ...)	7	Communication and Collaboration Diagrams
1	Business Process Diagrams	8	Class Diagrams
2	Textual Analysis	9	State Machine Diagrams
3	Requirements Diagrams	10	Entity Relationship Diagrams
4	Use Case Diagrams	11	Software Components (VB, C++, C#, Java, Linq, Python, PHP, Ada, Perl, Ruby ...)
5	Sequence Diagrams	12	Database (SQL)
6	Activity Diagrams		

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Concise, Comprehensive and Unambiguous Body of Knowledge

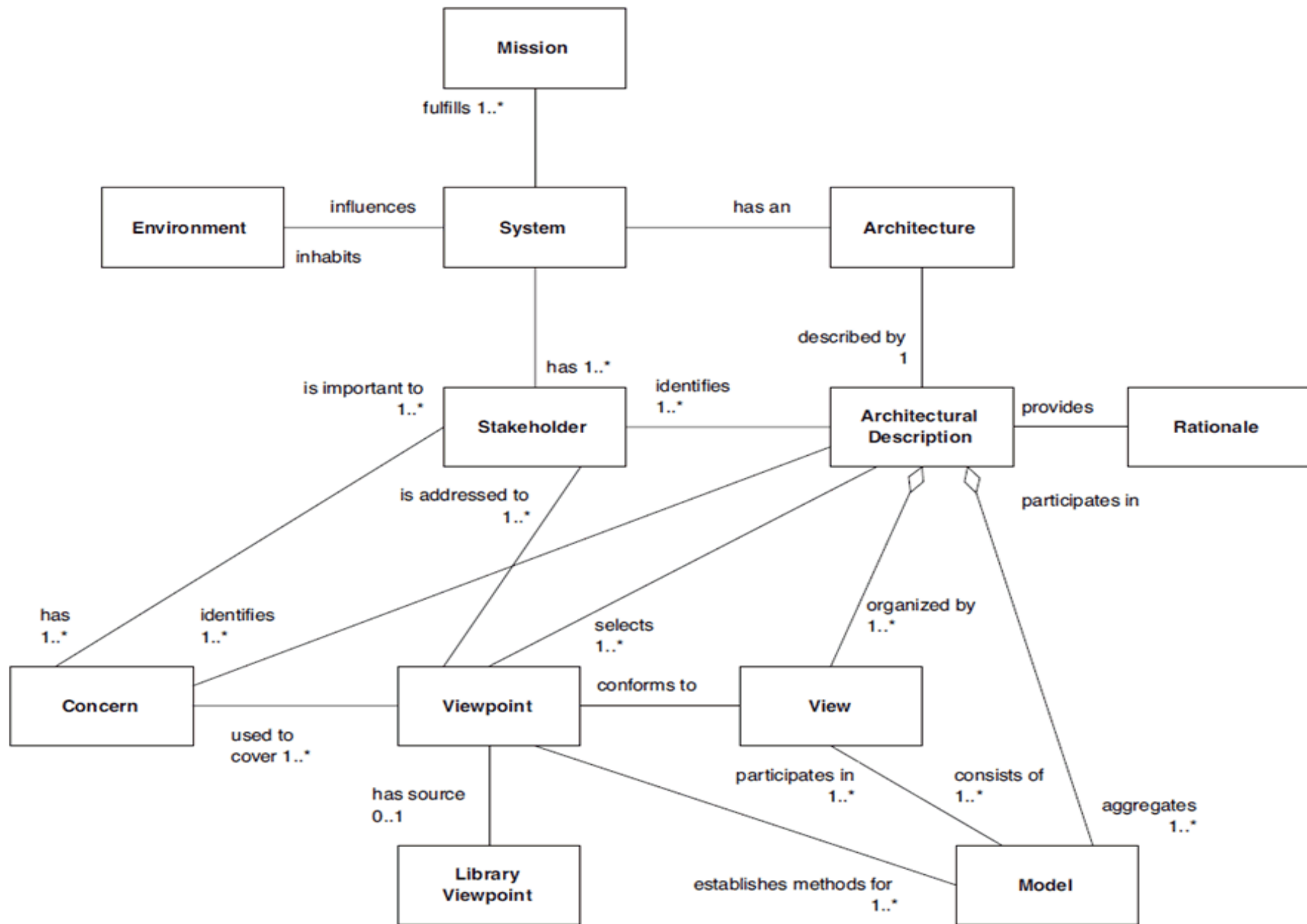
Value, Understanding, Performance



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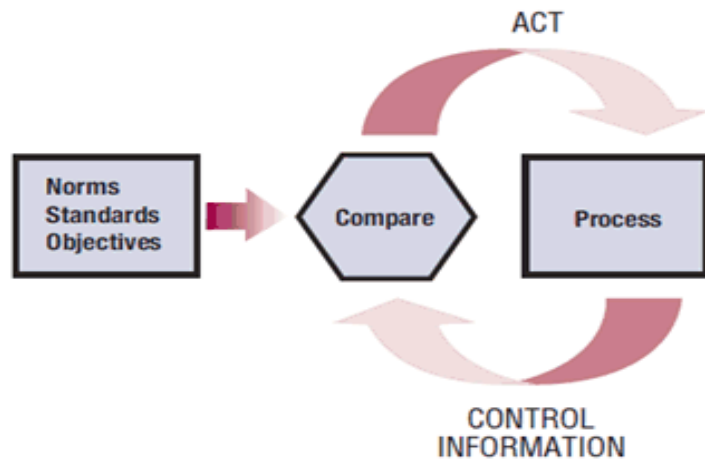
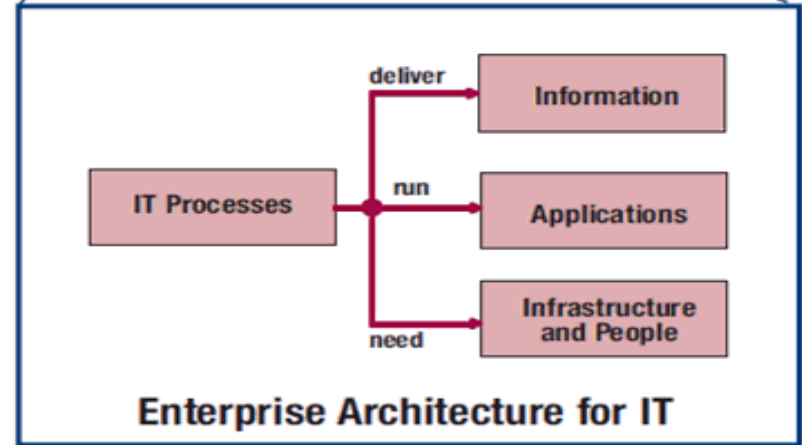
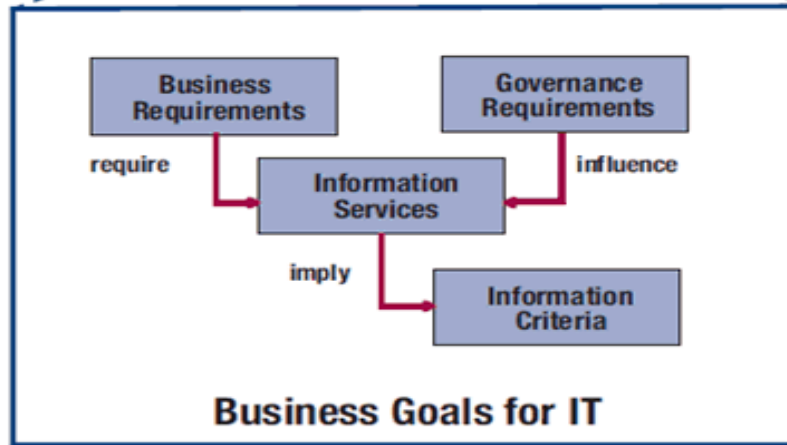
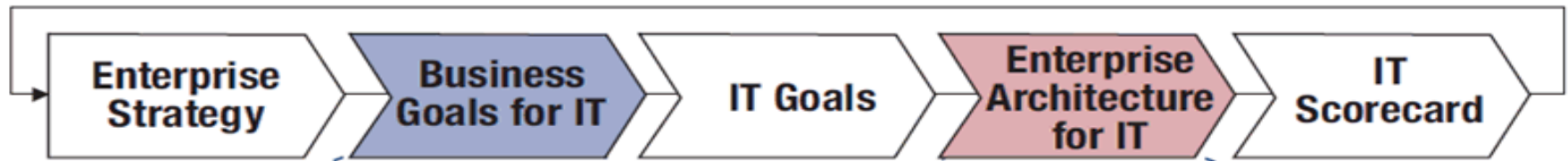
ISO/IEC Standards – 15288, 12207, 42010, 15504, 27474

- **15288 – System Life Cycle Processes**
- **12207 – Software Life Cycle Processes**
- **42010 – Practice for Architectural Description**
- **15504 – Process Assessment**
- **24744 – Metamodel for Development Methodologies**



COBIT – Control Framework for IT Governance

- **Guidelines for maintaining a coherent process and IT leadership in implementing organization's strategies and objectives**
- **Best practices to correlate the business and IT resources**
- **Provides insight about defining control objectives to measure business performance and to prevent undesired events**



Baldrige National Quality Program

Health Care Criteria for Performance Excellence

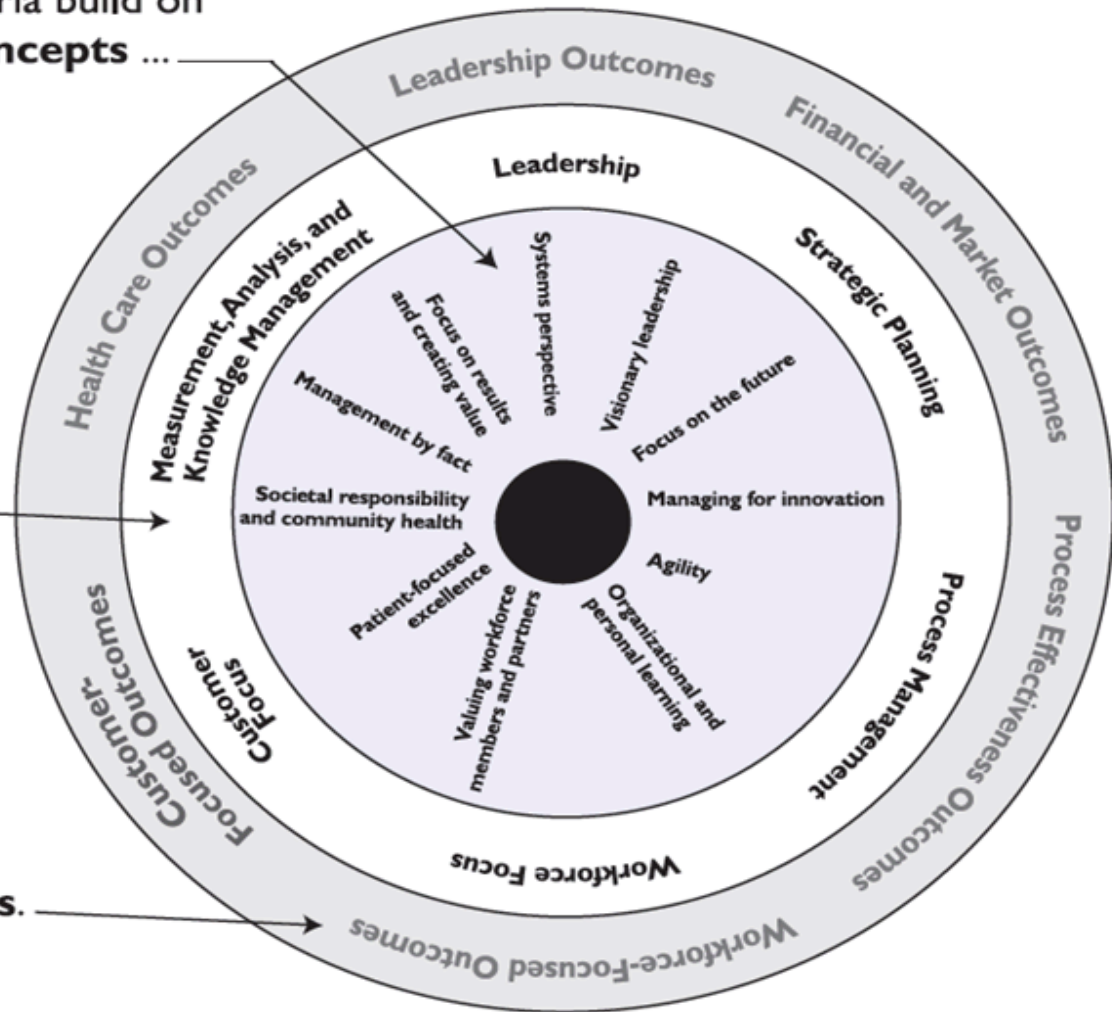
- Visionary leadership
- Patient-focused excellence
- Organizational and personal learning
- Valuing workforce members and partners
- Agility
- Focus on the future
- Managing for innovation
- Management by fact
- Societal responsibility and community health
- Focus on results and creating value
- Systems perspective

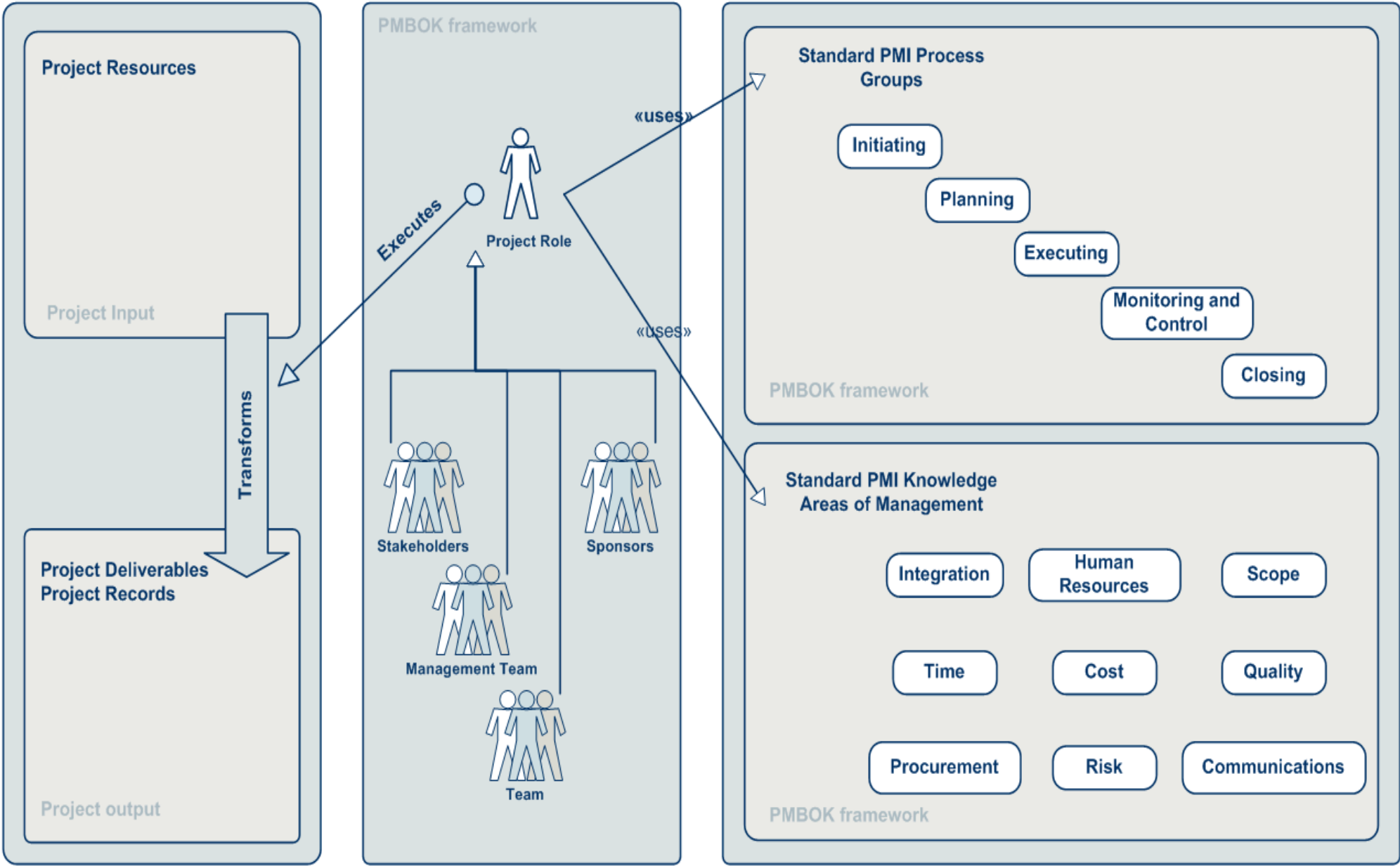
The Role of Core Values and Concepts

The Health Care Criteria build on **Core Values and Concepts** ...

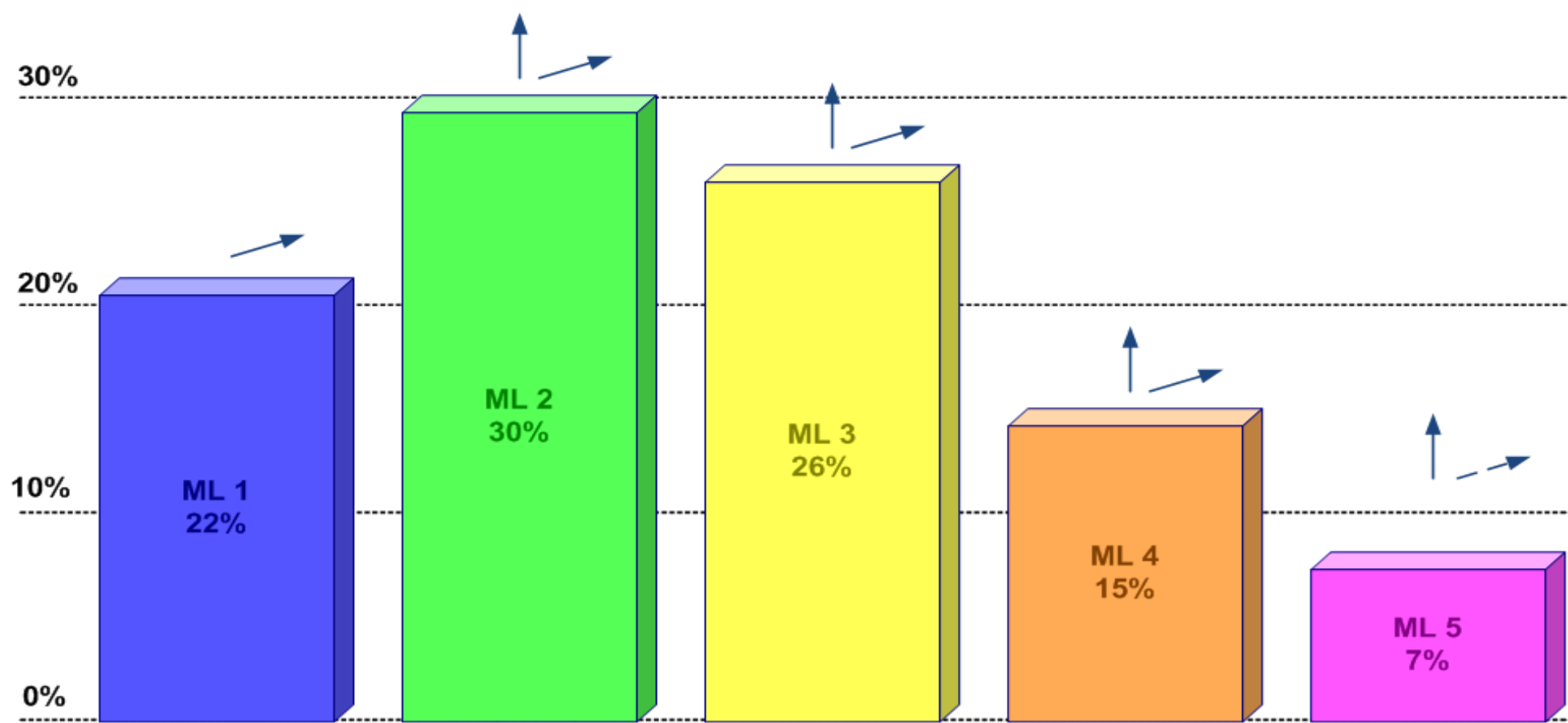
which are embedded in **systematic processes** ...
(Criteria Categories 1–6)

yielding **performance results.**
(Criteria Category 7)





Business Transformation : Evolutionary/Continuous or Revolutionary/Discrete in Heterogeneous Environments



Process Maturity Levels

CMMI: 1. Initial; 2. Repeatable; 3. Defined; 4. Managed; 5. Optimizing

Maturity Levels (ML), Decision Systems (DS) Measures (M) and Metrics Sets

(Opaque Box Technique)

CMMI: 1. Initial; 2. Repeatable; 3. Defined; 4. Managed; 5. Optimizing

ML5

Metrics Set 5 = Quantification of (M1, ... MN5)

ML4

Metrics Set 4 = Quantification of (M1, ... MN4)

ML3

Metrics Set 3 = Quantification of (M1, ... MN3)

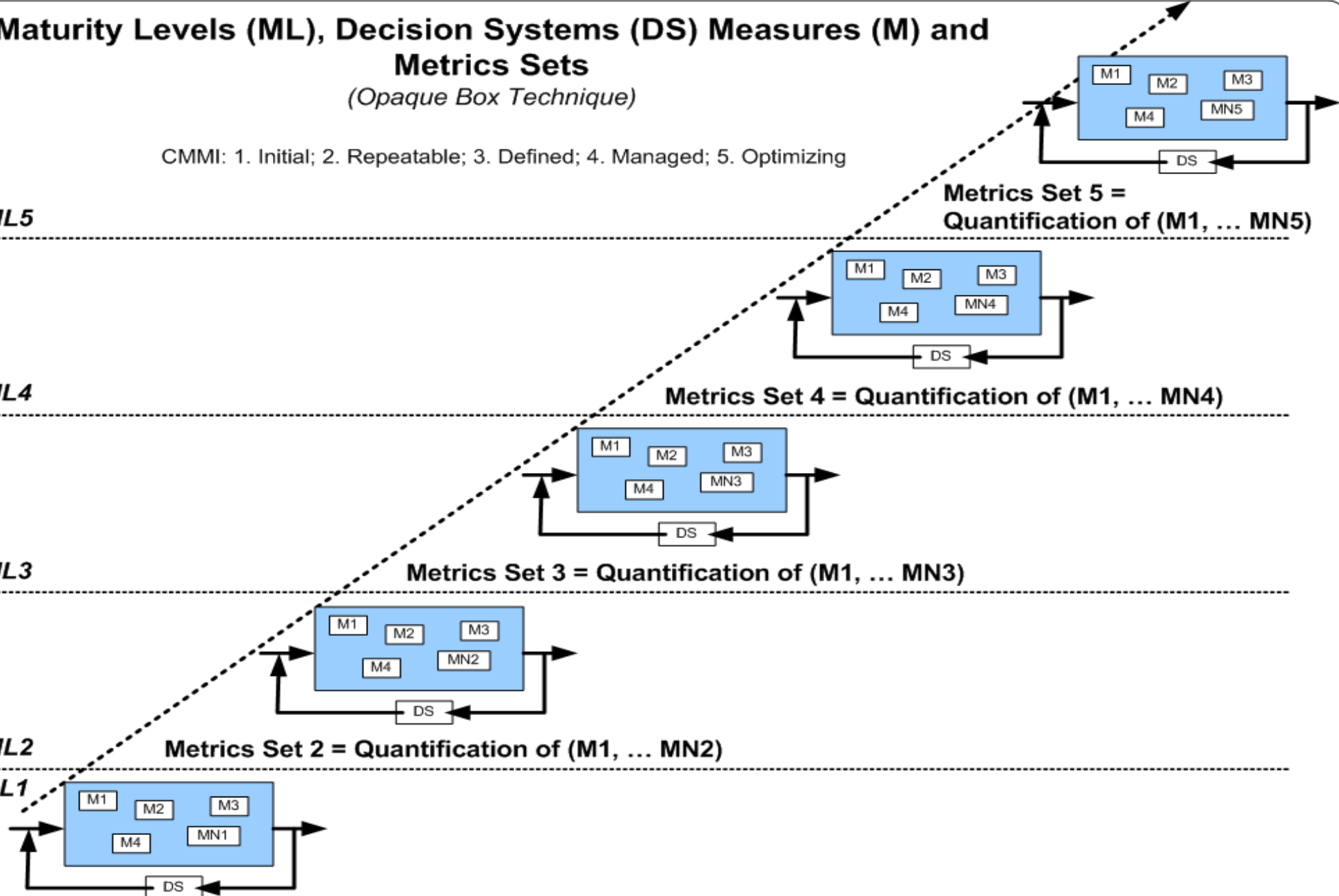
ML2

Metrics Set 2 = Quantification of (M1, ... MN2)

ML1

Metrics Set 1 = Quantification of (M1, ... MN1)

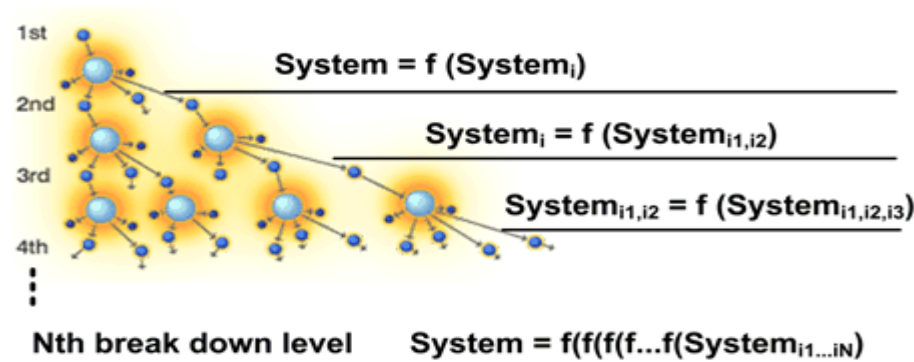
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Business Modeling and Enterprise Architecture

System Structure

System = t (delimited real universe)



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1, Descriptive Model

2. Prescriptive Model

/ Business, Technology and Data Architecture

3, Predictive Model

/ Business, Technology, Data and Application Architecture

4. Quantitatively Optimized Model

/ EA and Performance Measuring System

5. Intelligent Model

/ Business Driven Rapid Transformations

The Approach

- Use both

 - “Divide and Conquer”

 - “Unify and Conquer”

Methodologies.

- Tailor TOGAF

according to MHP business imperatives

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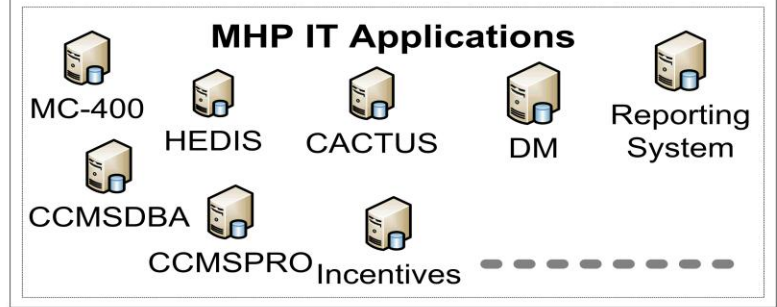
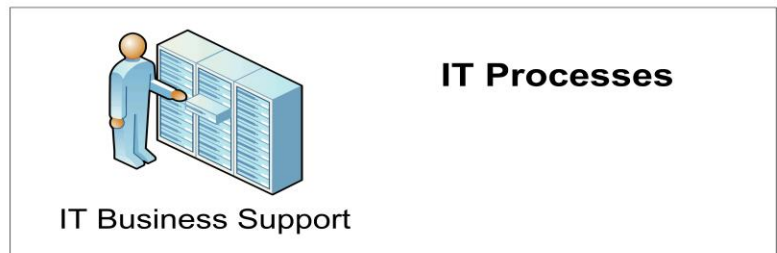
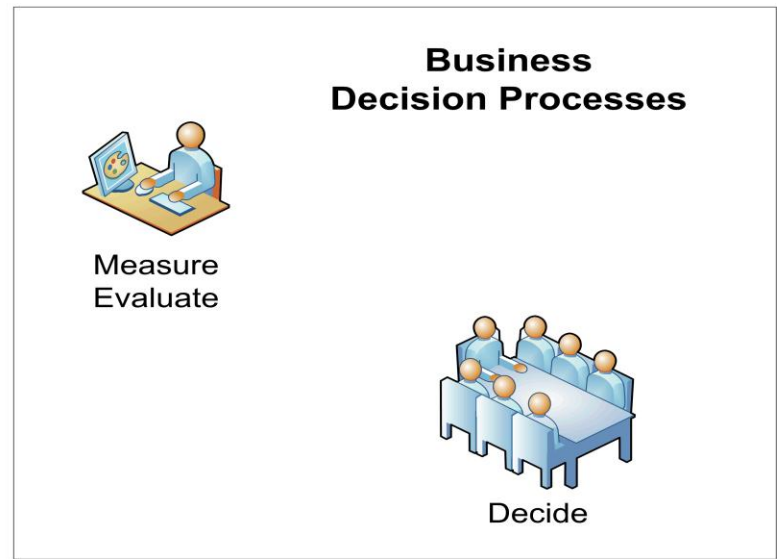
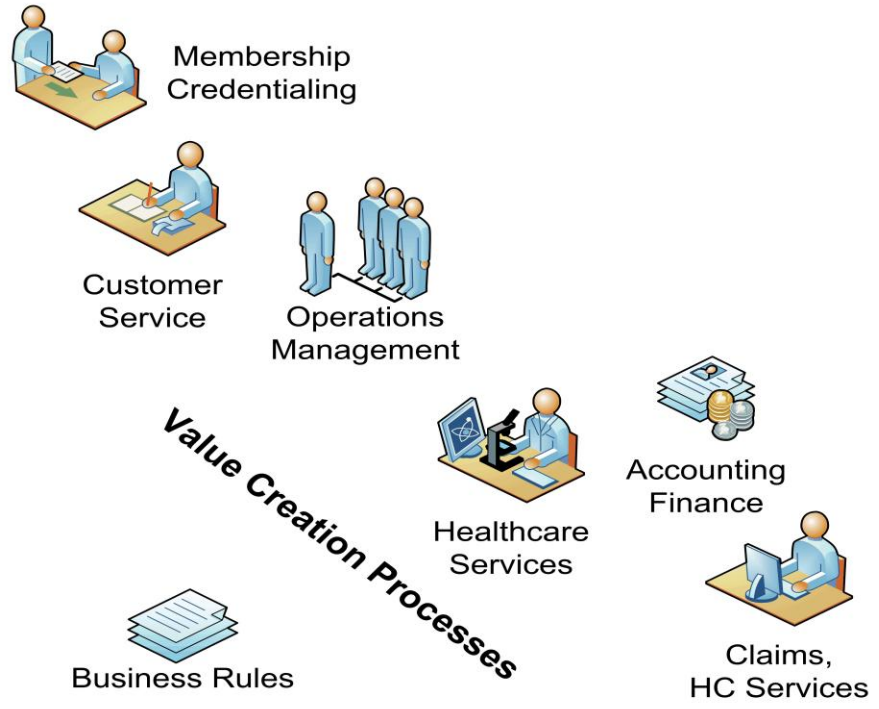
MHP Overview

- **Midwest Health Plan (MHP) is a Health Maintenance Organization (HMO) based in Dearborn Michigan**
- **MHP is accredited by the National Committee for Quality Assurance (NCQA)**
- **MHP provides health care services for Medicare, Medicaid and other Third Party Administration (TPA) products in Michigan**

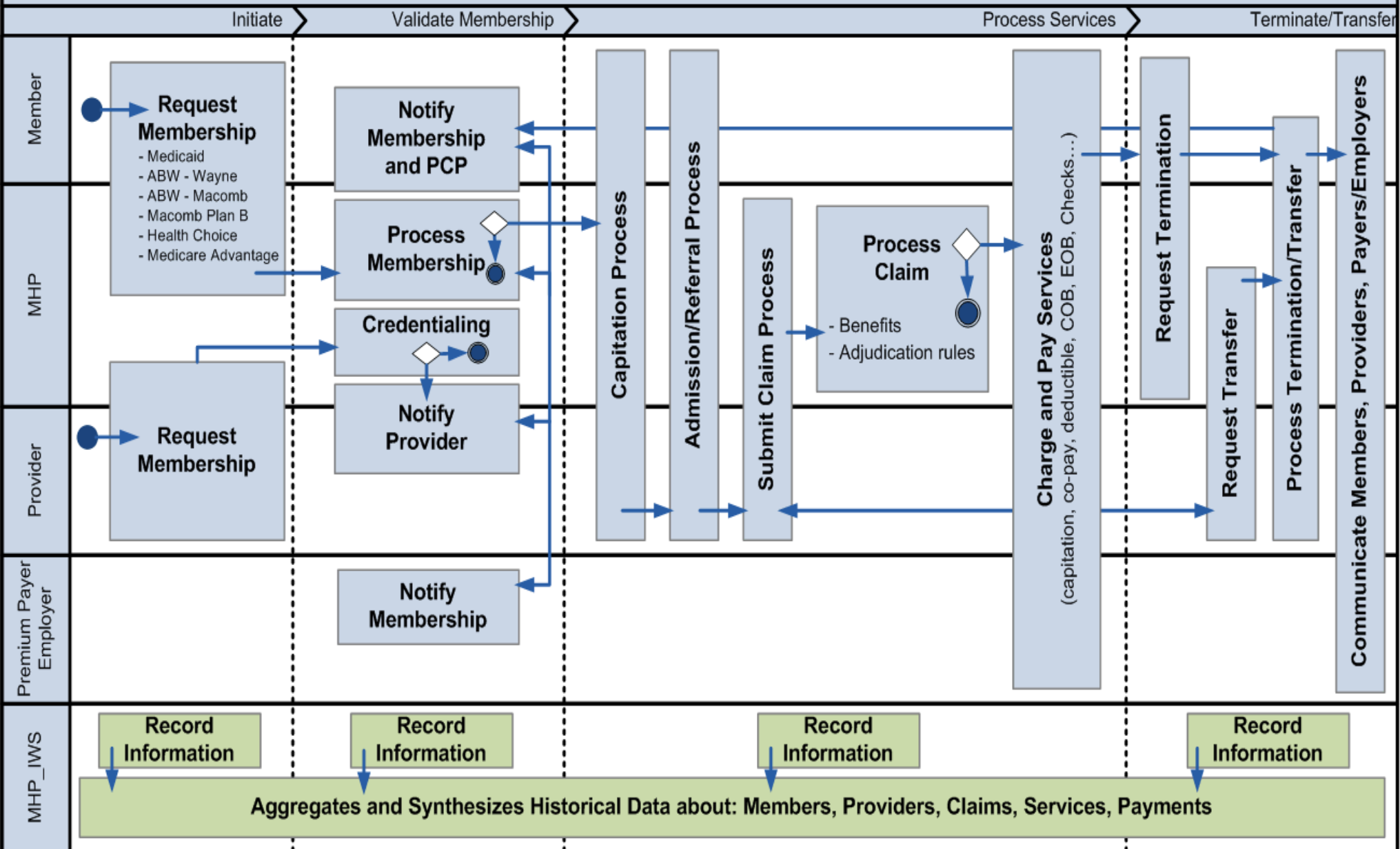
Midwest Health Plan Processes



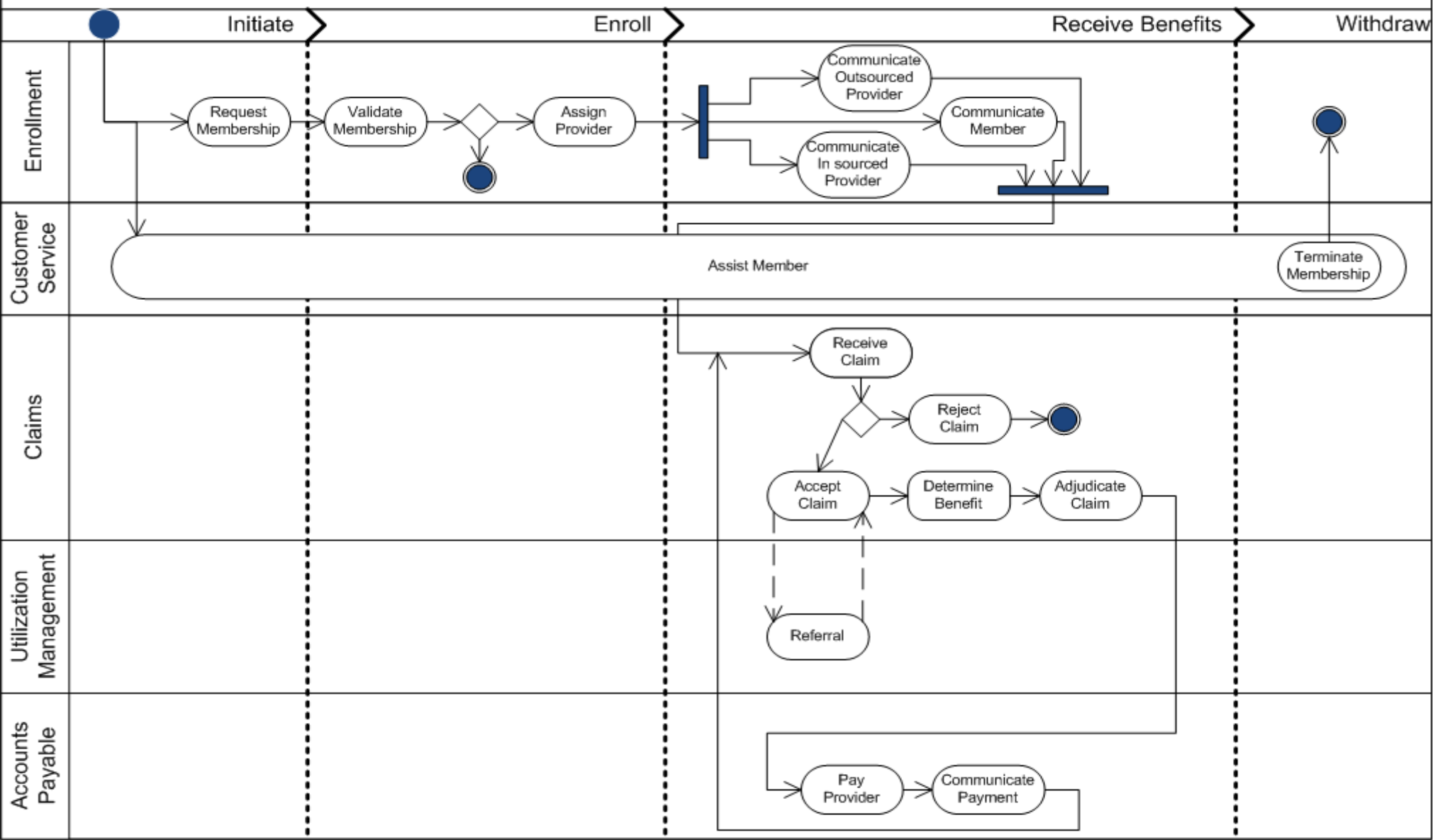
Potential/
Existing
Members
Providers

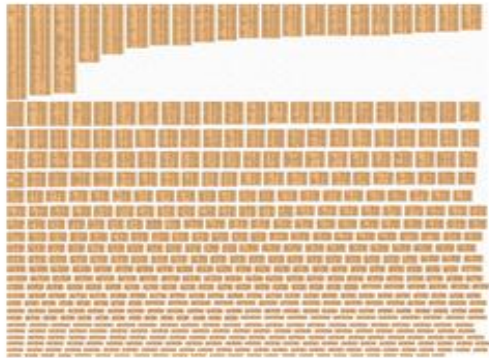


Midwest Health Plan



Member Lifecycle Processes: Medicare Advantage

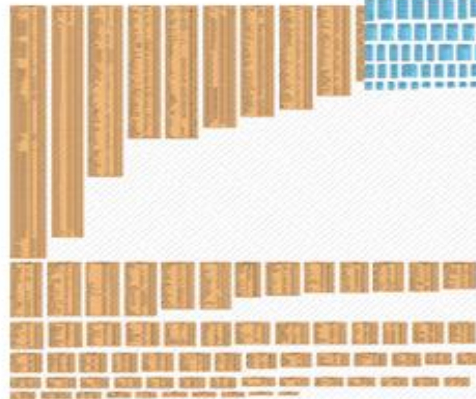




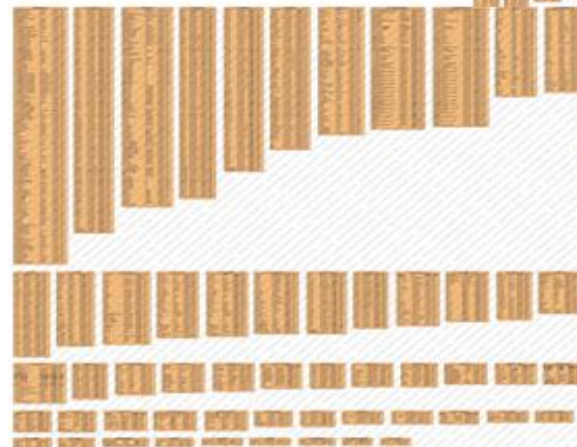
CCMSDBA



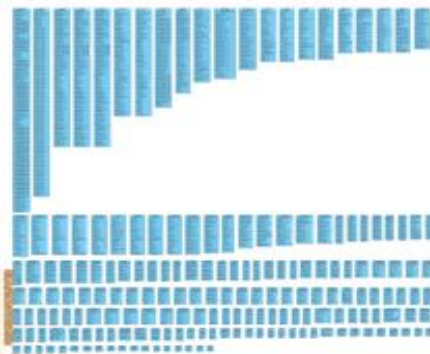
INCENTIVEPROD



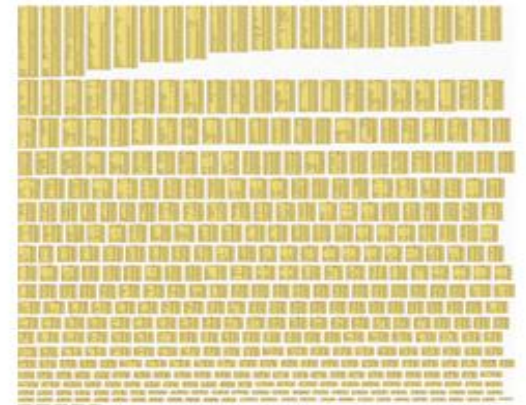
dwPresentation



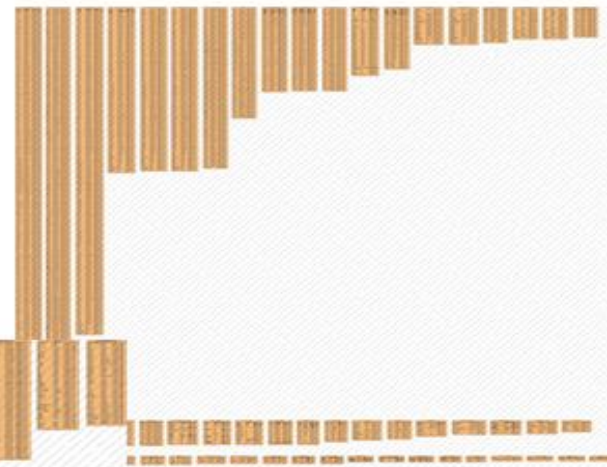
MHPDATAWRK



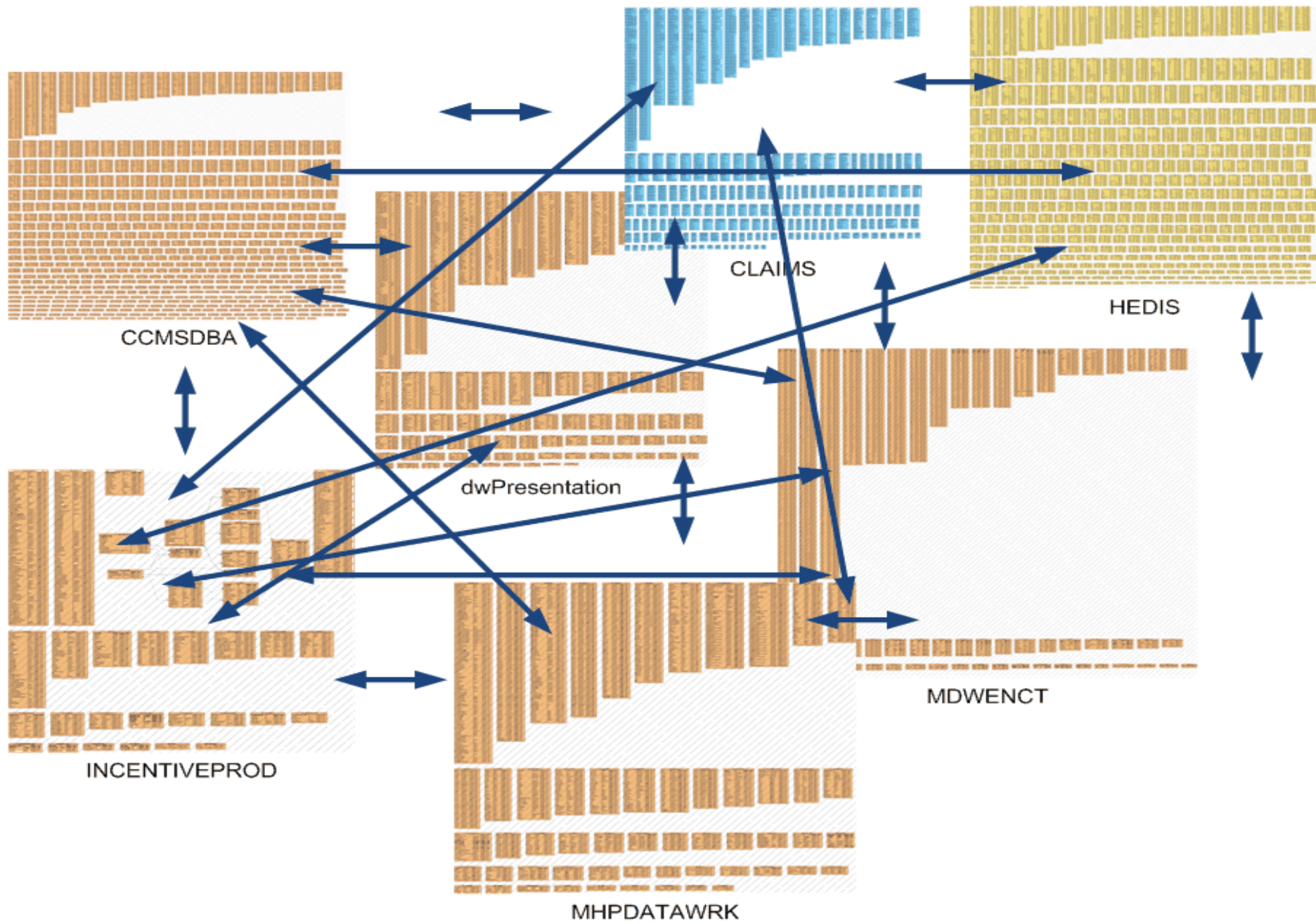
CLAIMS



HEDIS



MDWENCT

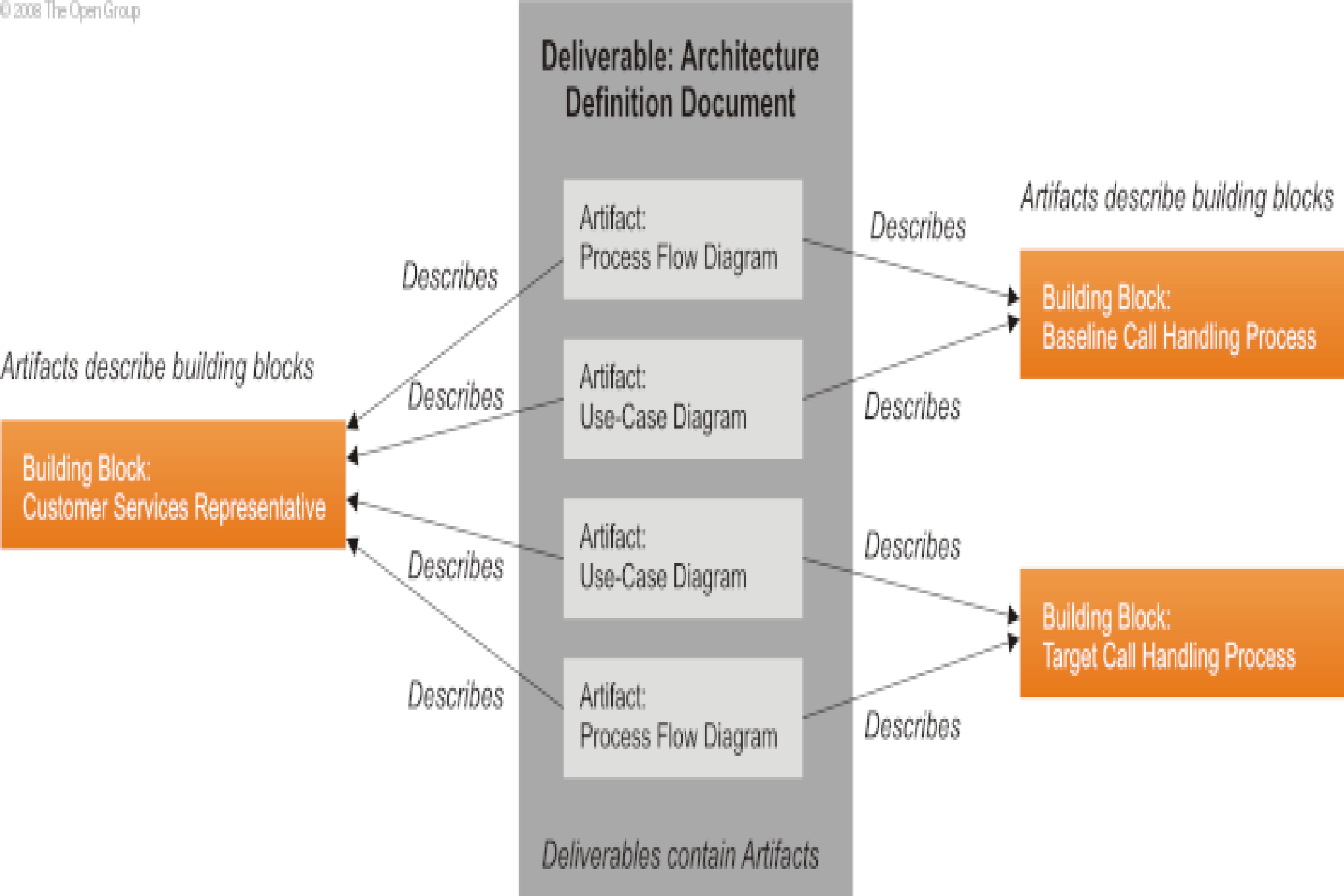


Agenda

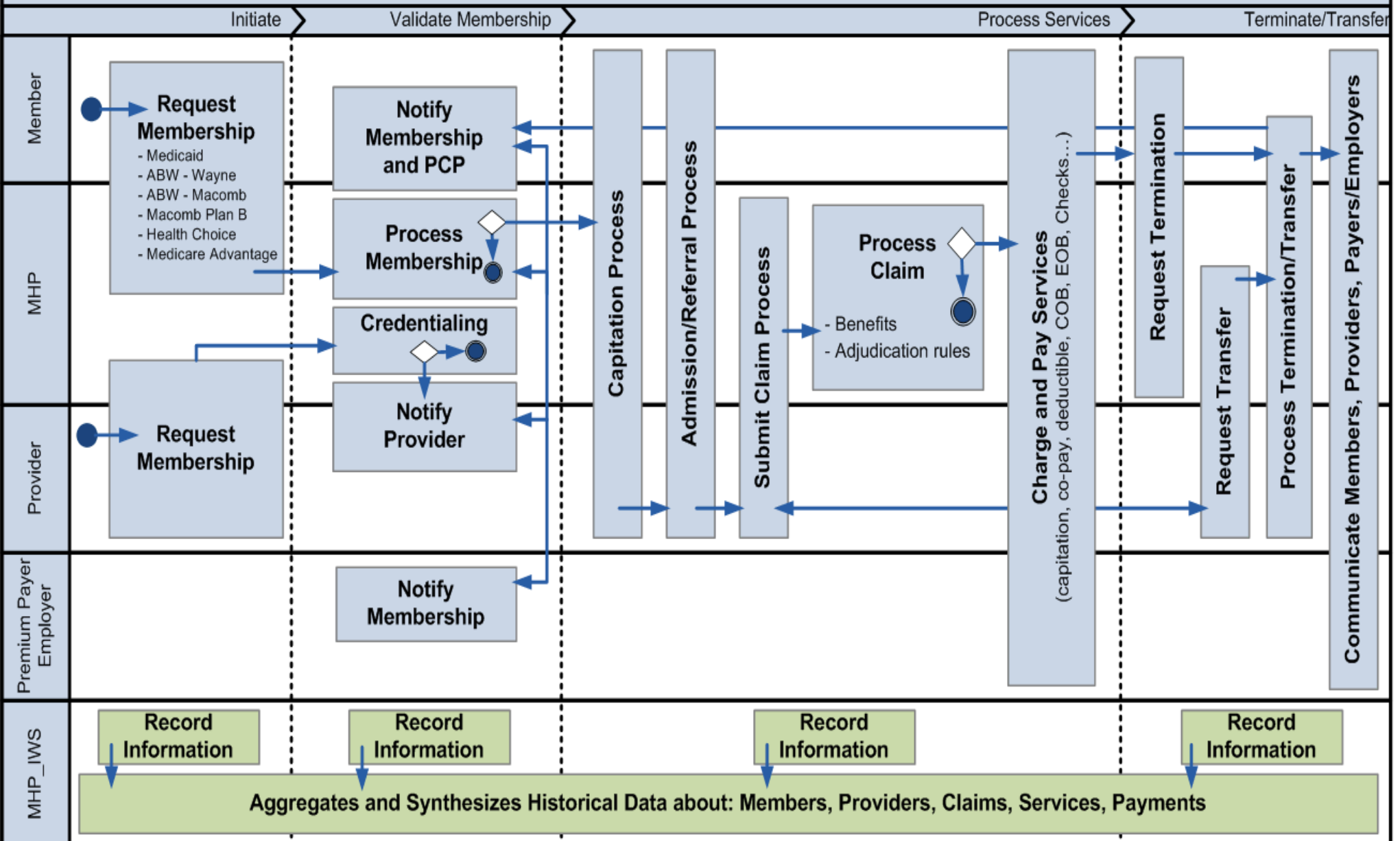
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The Open Group Architecture Framework (TOGAF)

- Architecture Development Method (ADM)
- Architecture Content Framework
 - Deliverable
 - Artifact
 - Building Block
- Enterprise Continuum
- TOGAF Reference Model
- Architecture Capability Framework



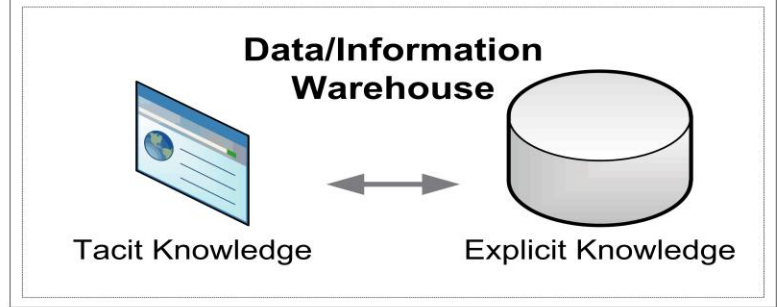
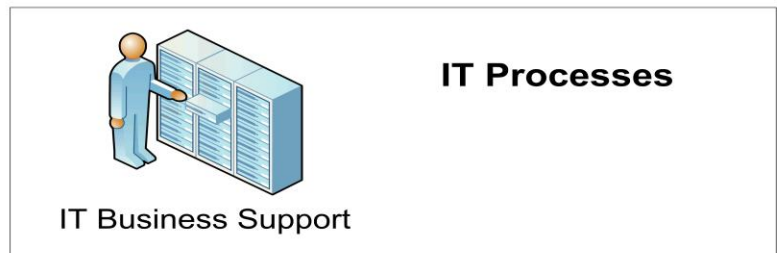
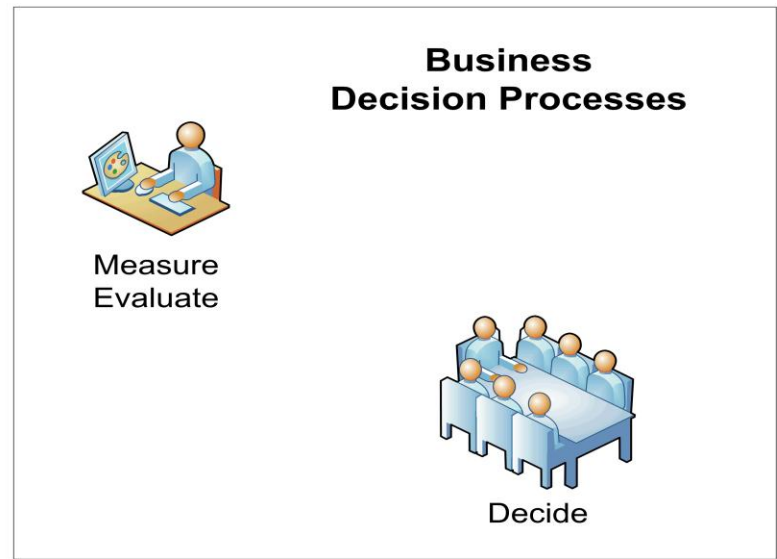
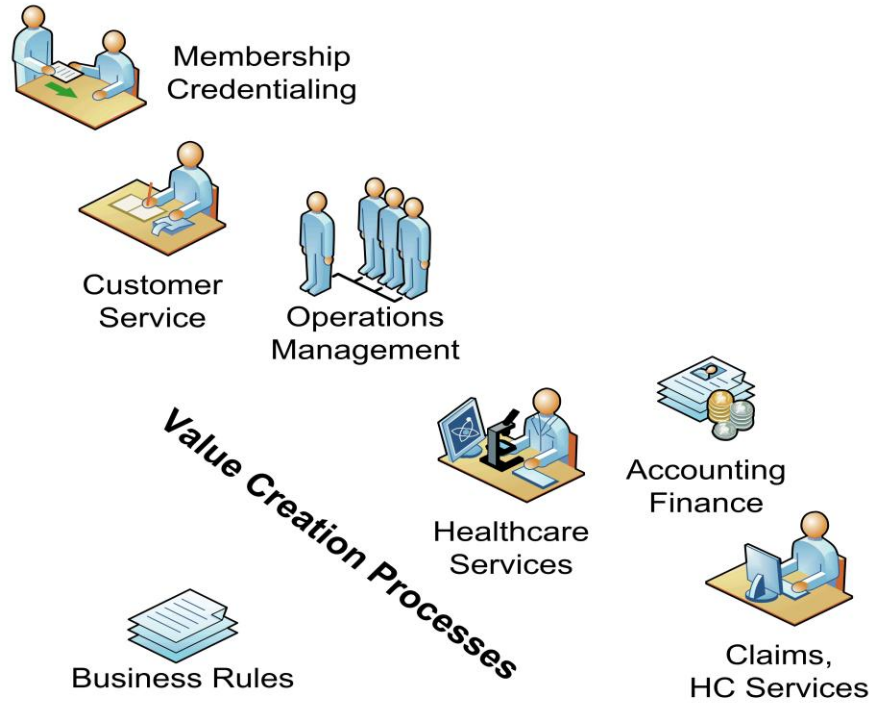
Midwest Health Plan



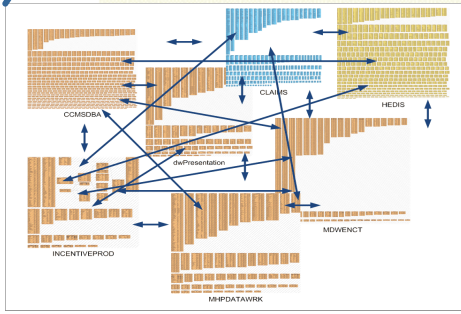
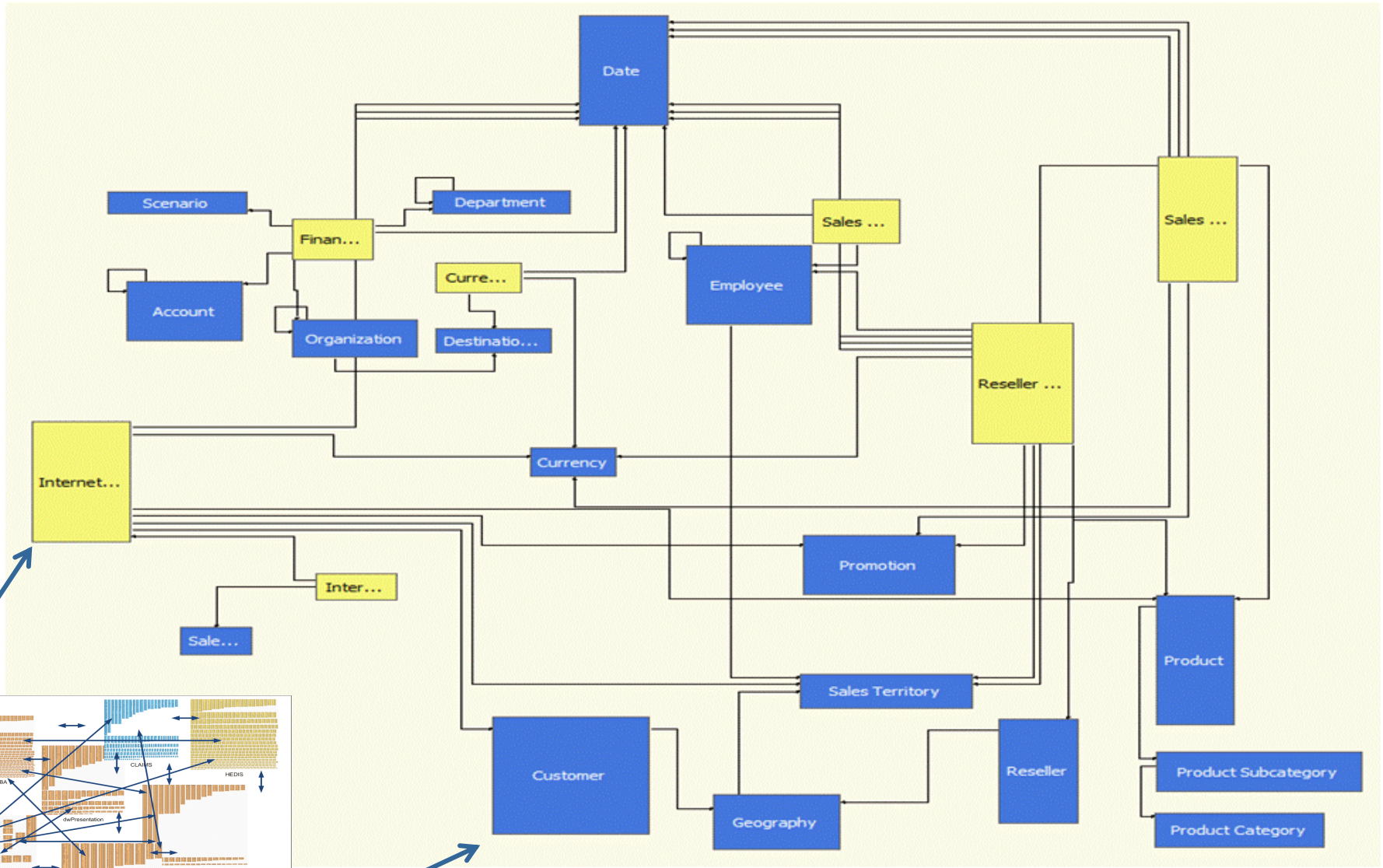
Midwest Health Plan Processes



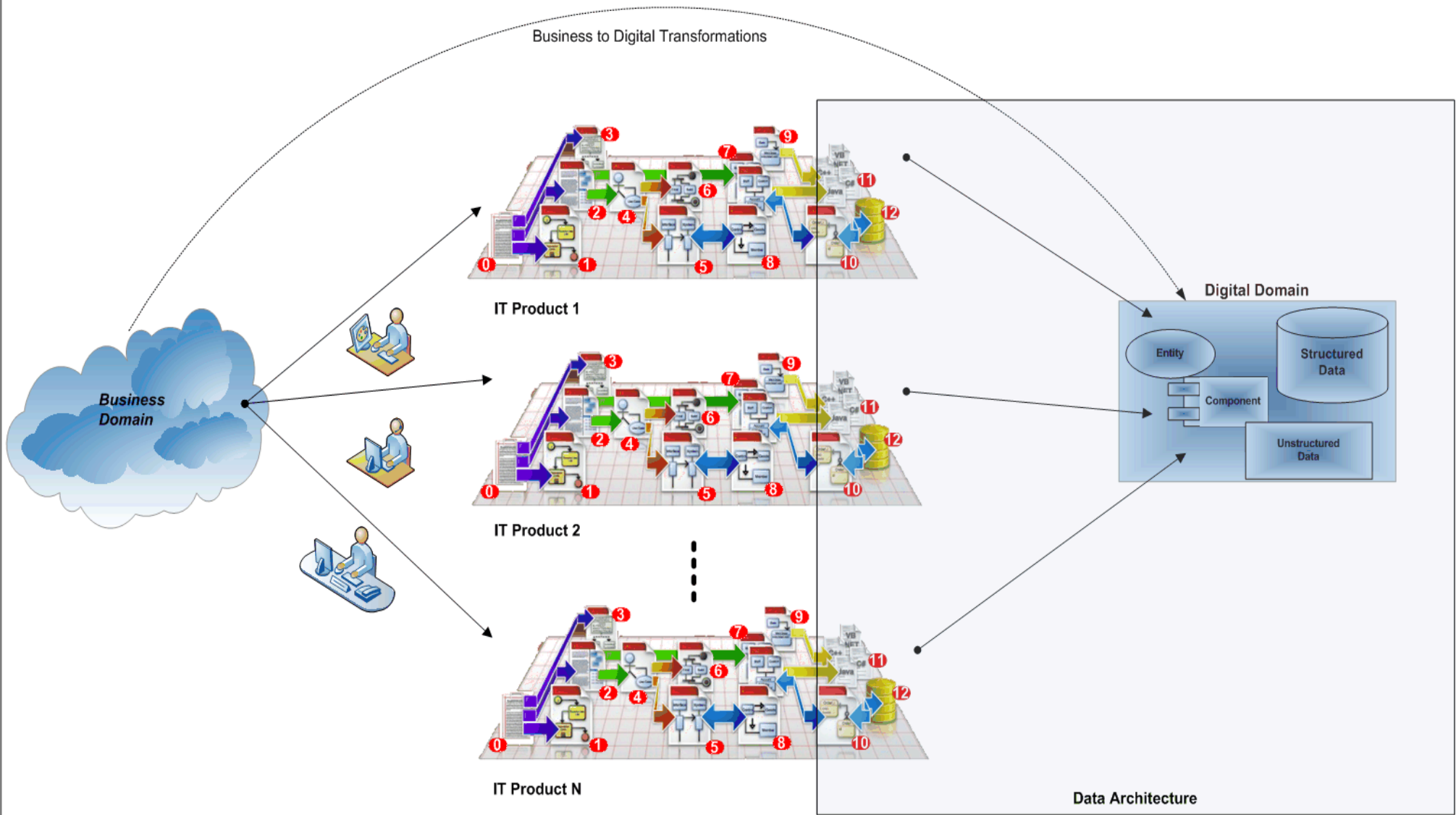
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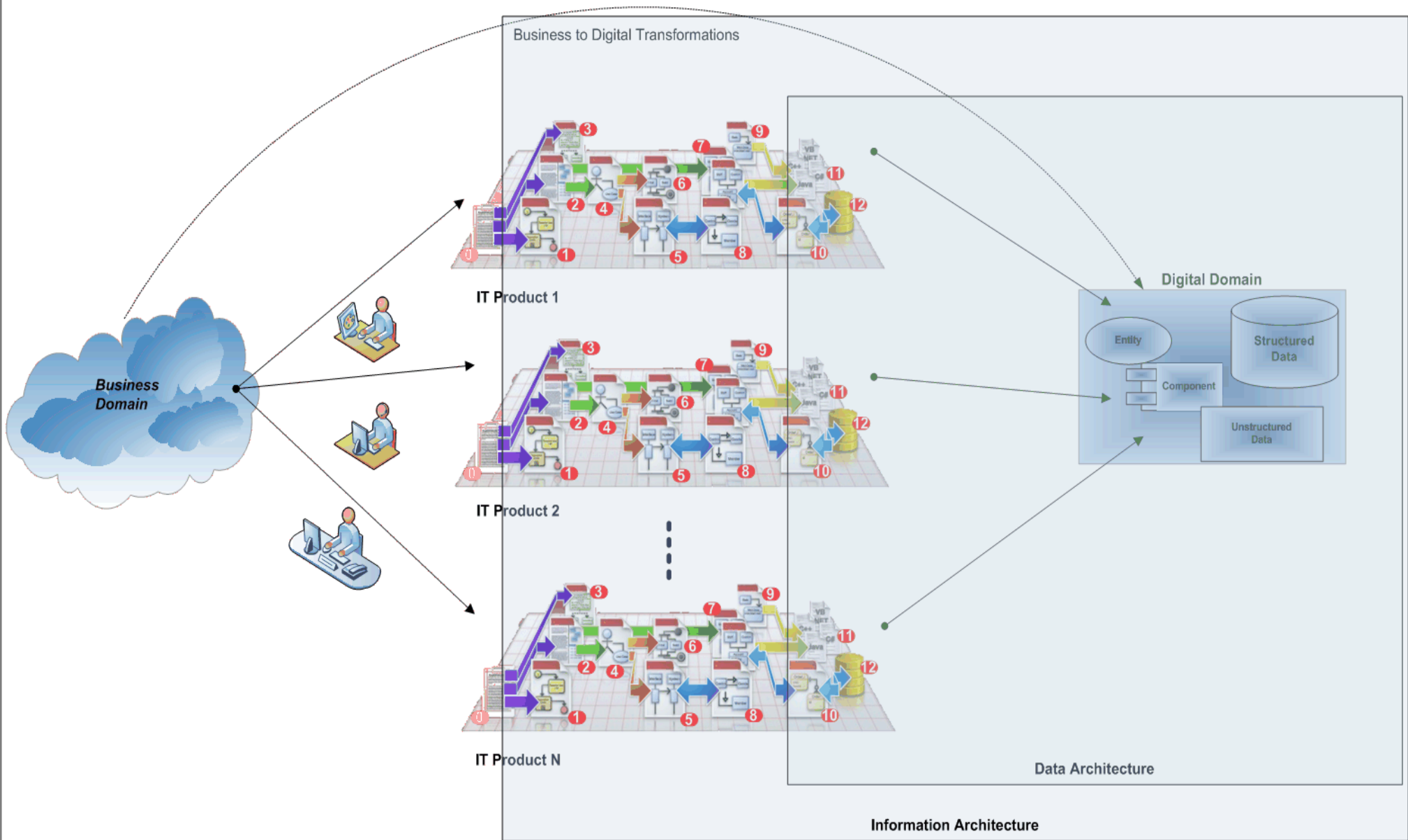


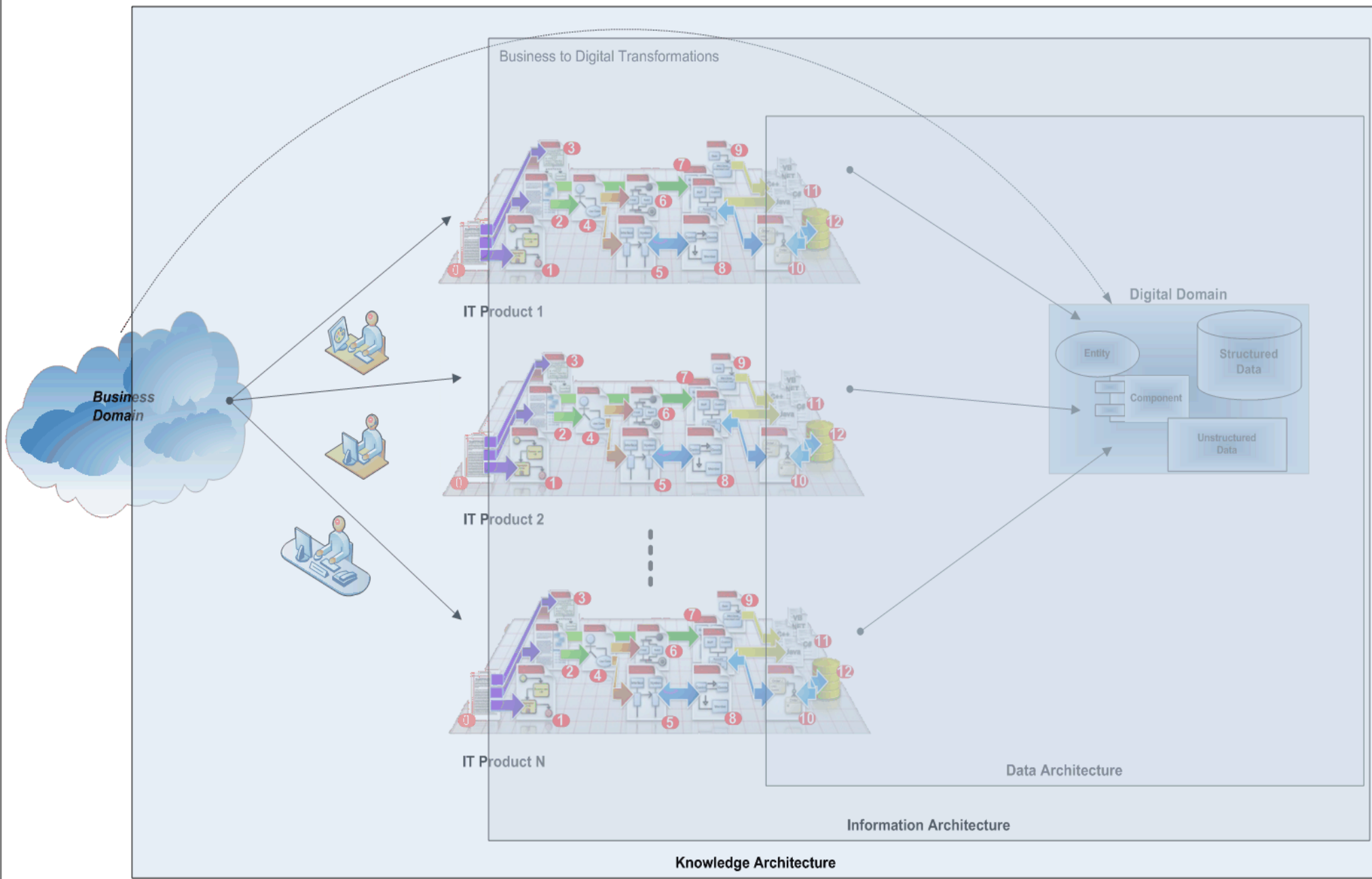
Concise, Comprehensive, and Unambiguous Unified Model

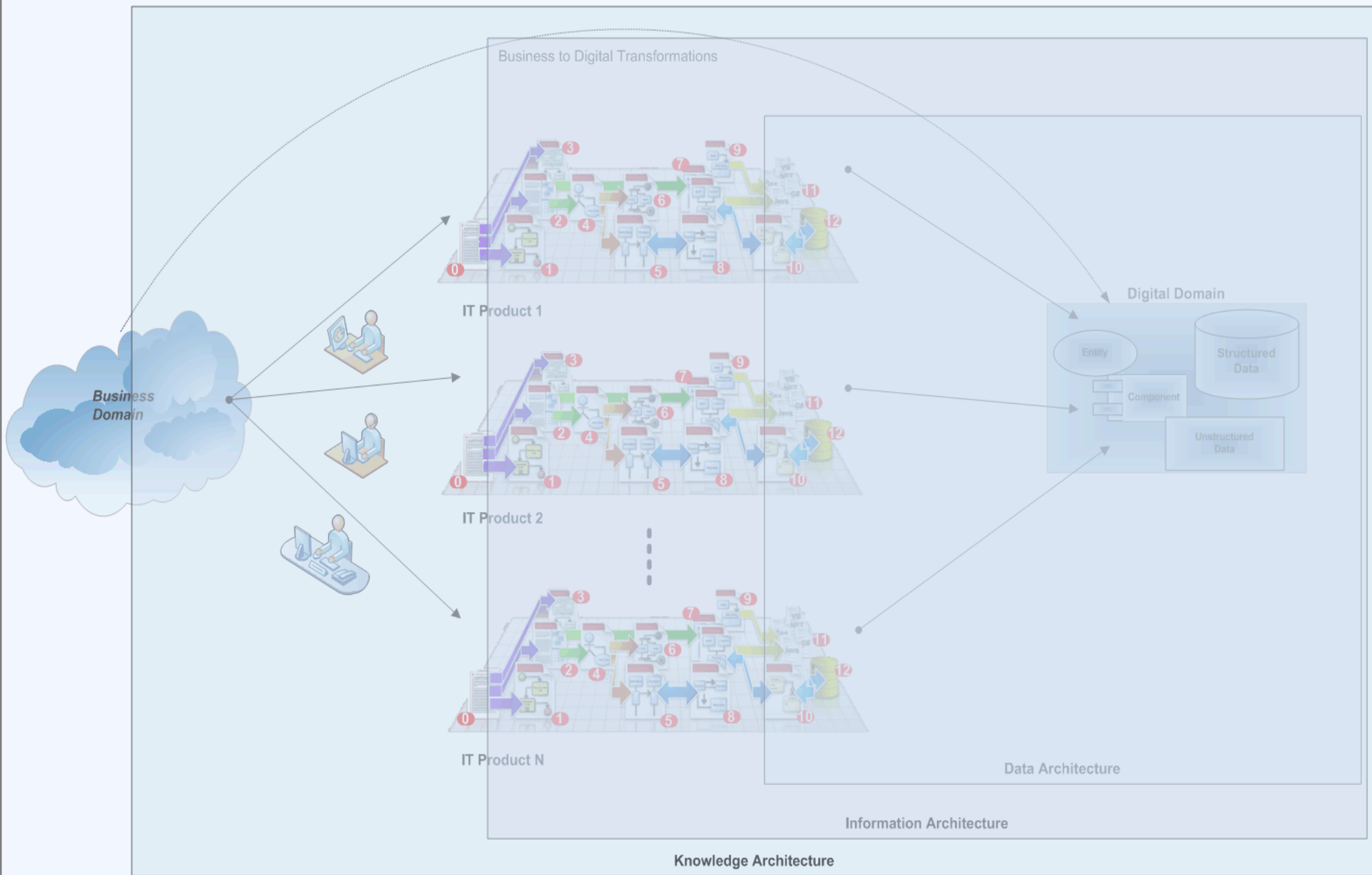


Business to Digital Transformations

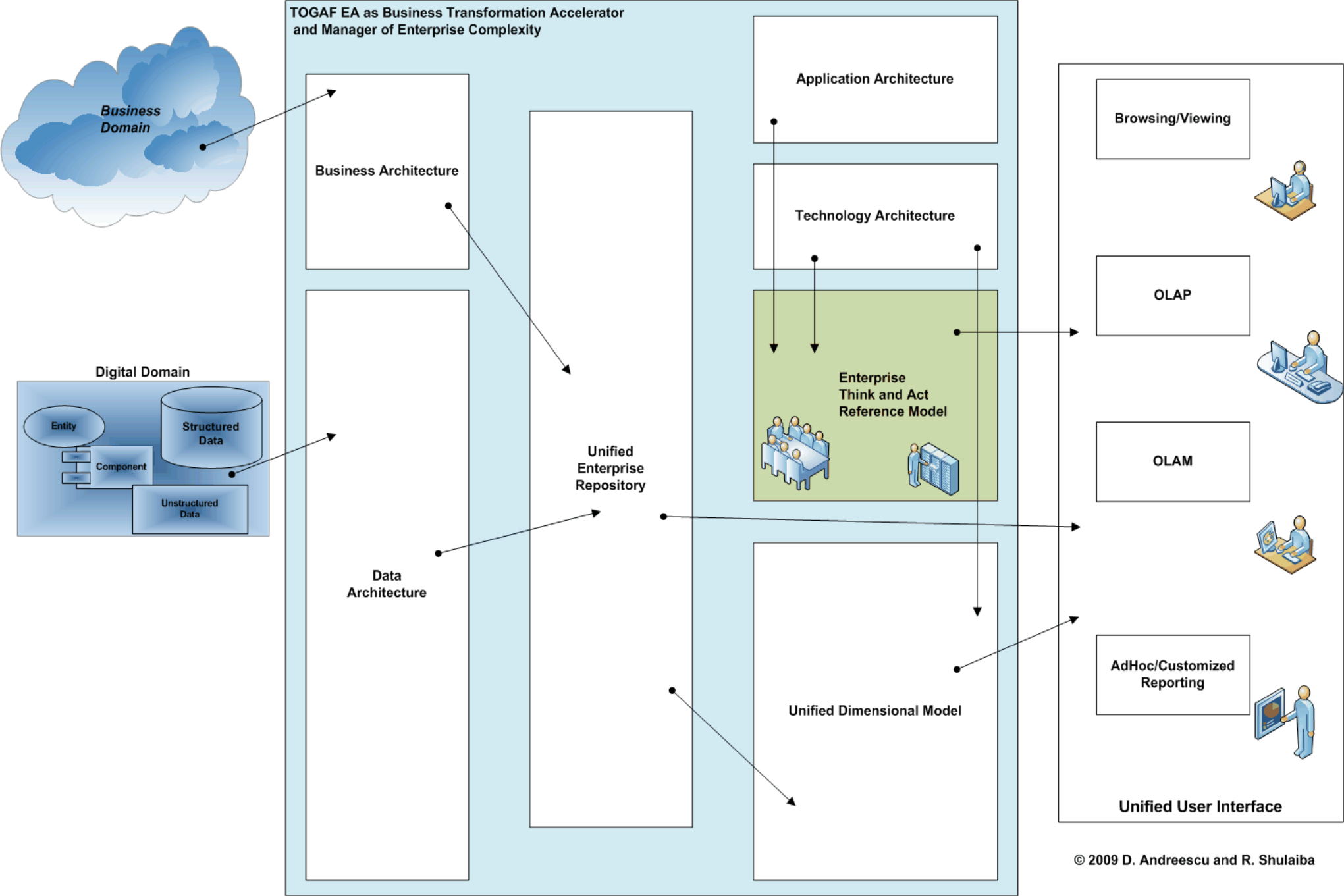




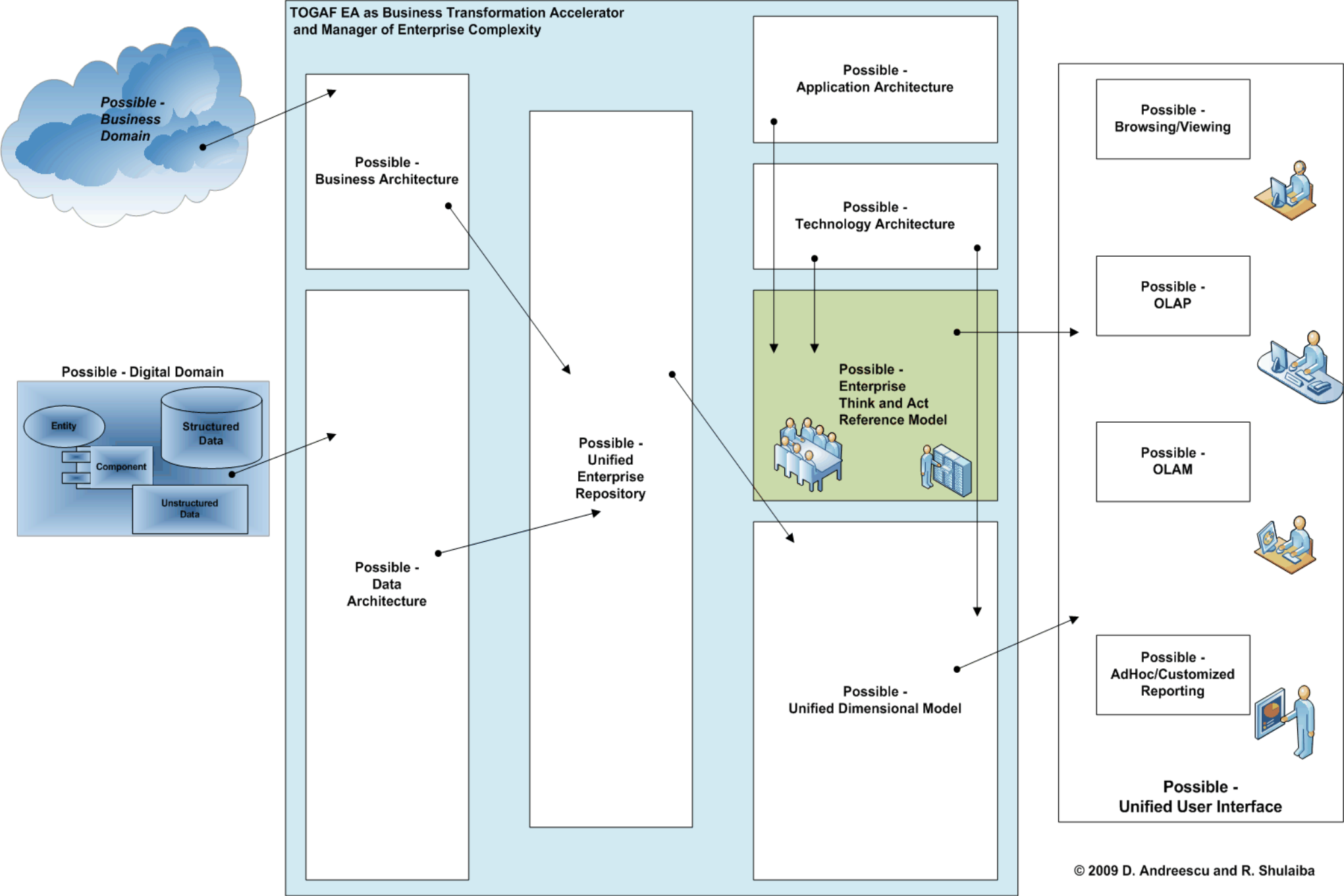




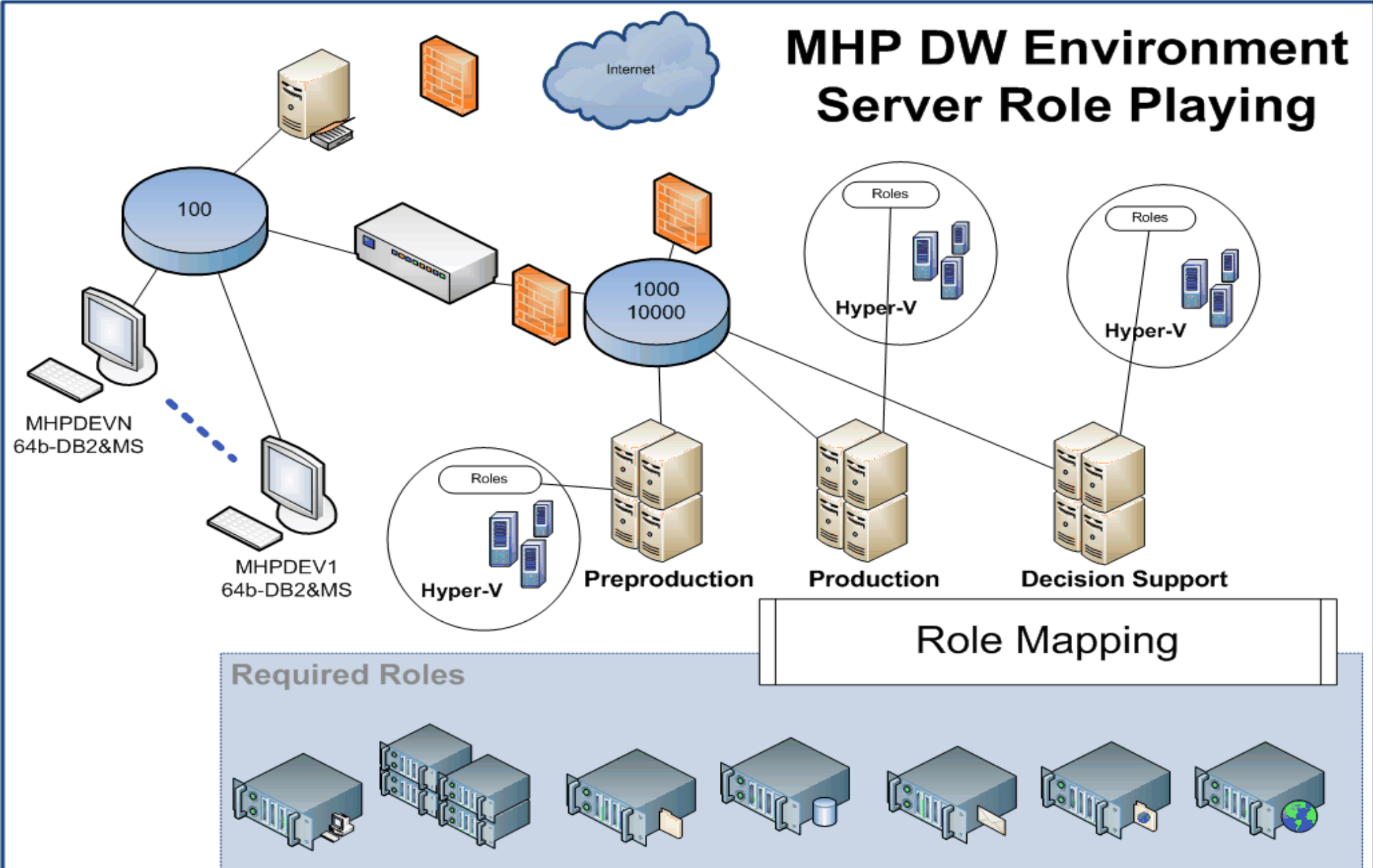
TOGAF EA as Business Transformation Accelerator and Manager of Enterprise Complexity



TOGAF EA as Business Transformation Accelerator and Manager of Enterprise Complexity



MHP DW Environment Server Role Playing



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Lessons Learned

- **Involve business and IT stakeholders, early in the rapid business transformation program**
- **Use a Concise, Comprehensive and Unambiguous Methodology**
- **Take advantage of accelerating technologies as Virtualization**
- **Use both “Divide and Conquer” and “Unify and Conquer” techniques**
- **Continuously renew the leadership buy-in**

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Thank You!