

( Business Architecture )

2004.12

1.

EA = BA + TA

Zachman Framework

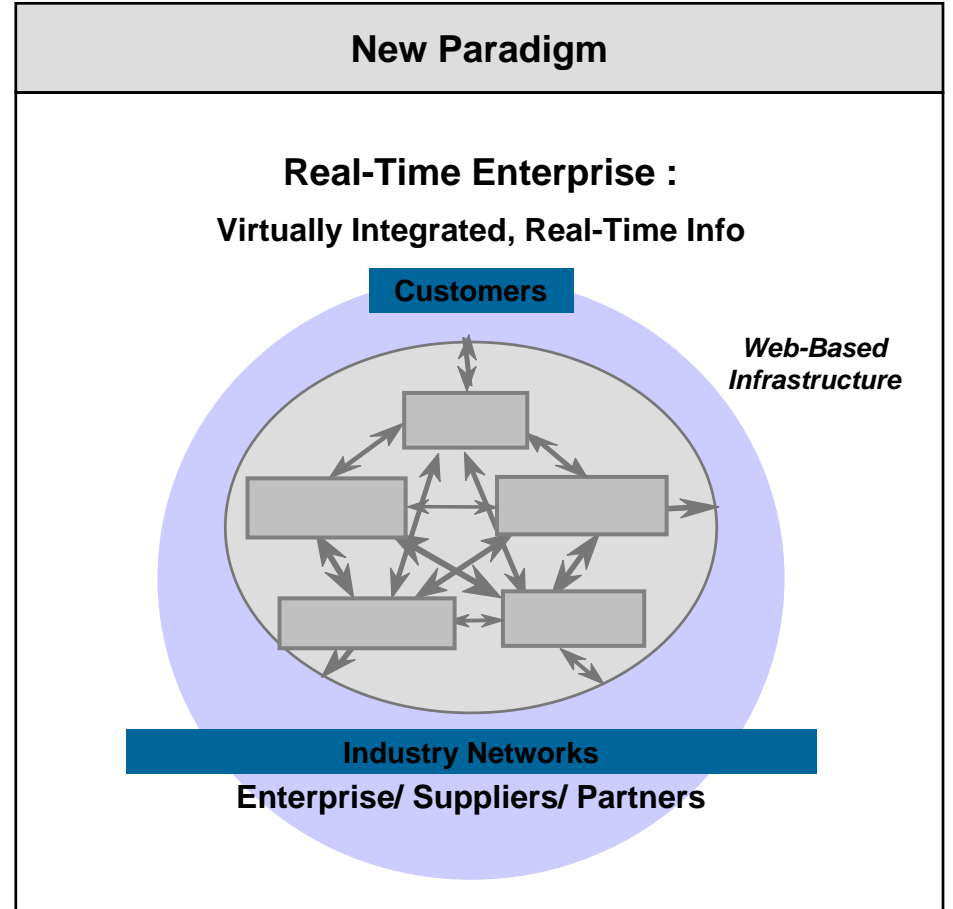
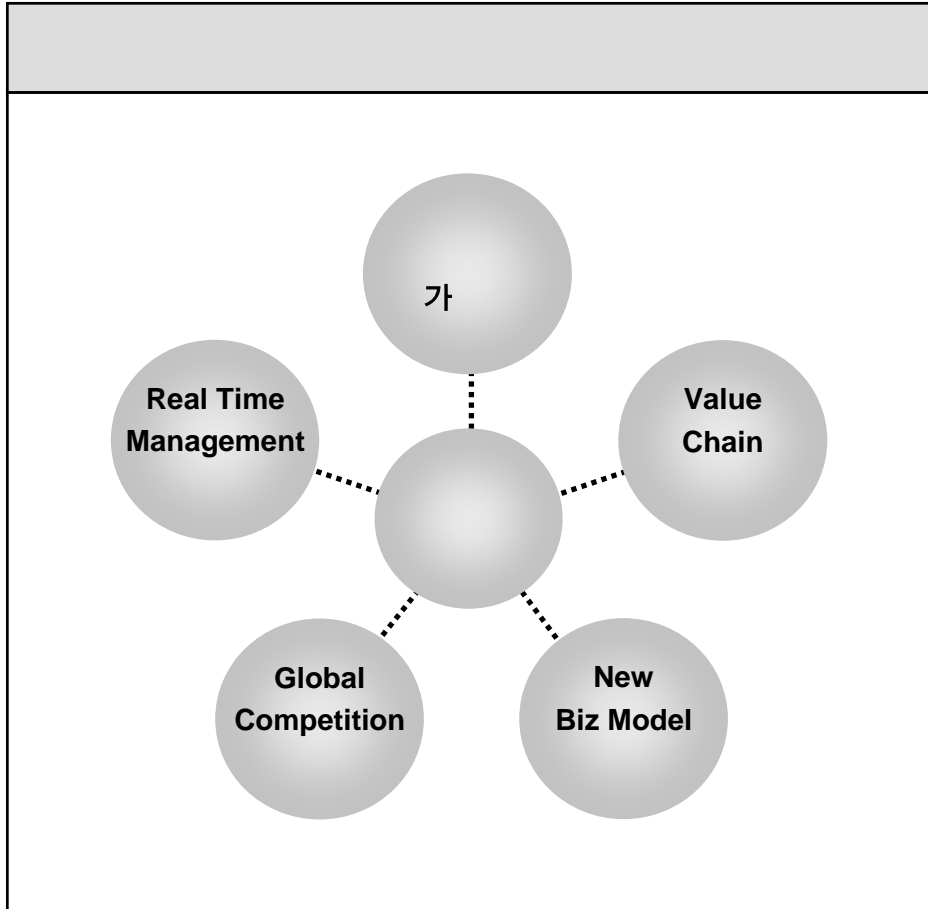
2.

PRM/BRM

3.

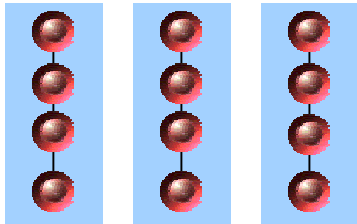
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5.



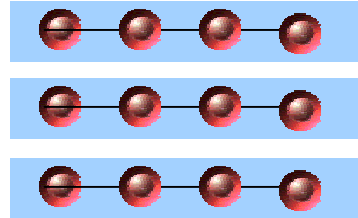
# Agile Organizations Require Adaptable Architectures

## 1980's and earlier



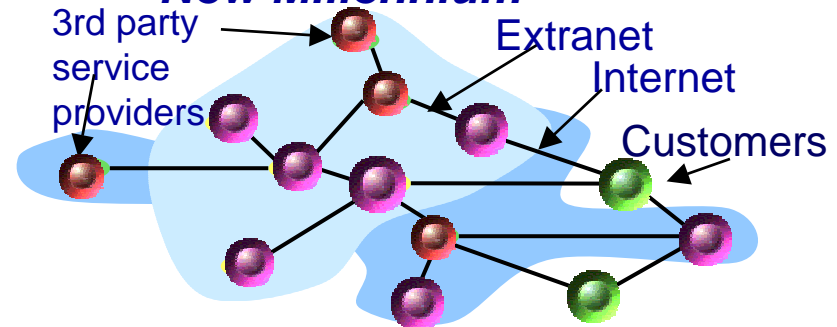
- Organization Focus
- Mainframe centric
- Monolithic
- Internal use

## 1990's



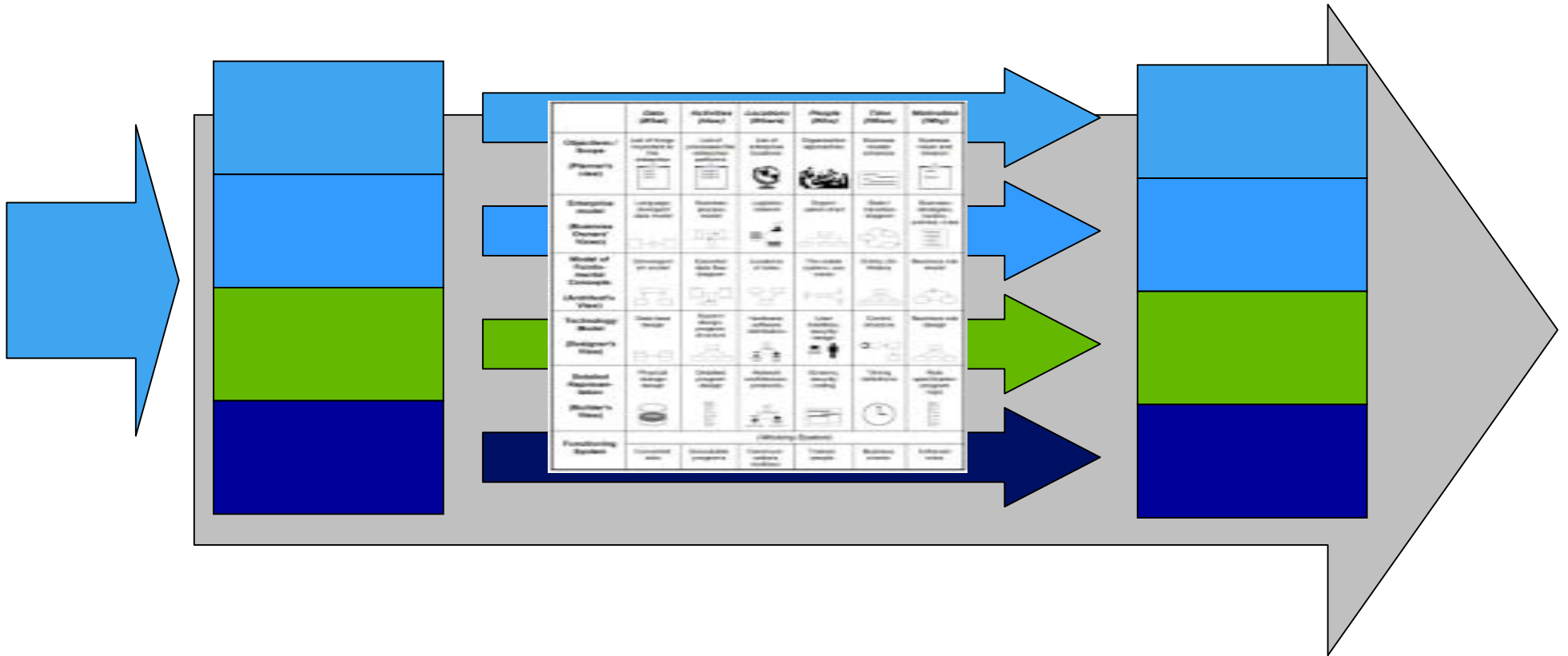
- Business Process Focus
- Client/Server
- Monolithic
- Business-to-business via EDI *-file transfer*

## New Millennium

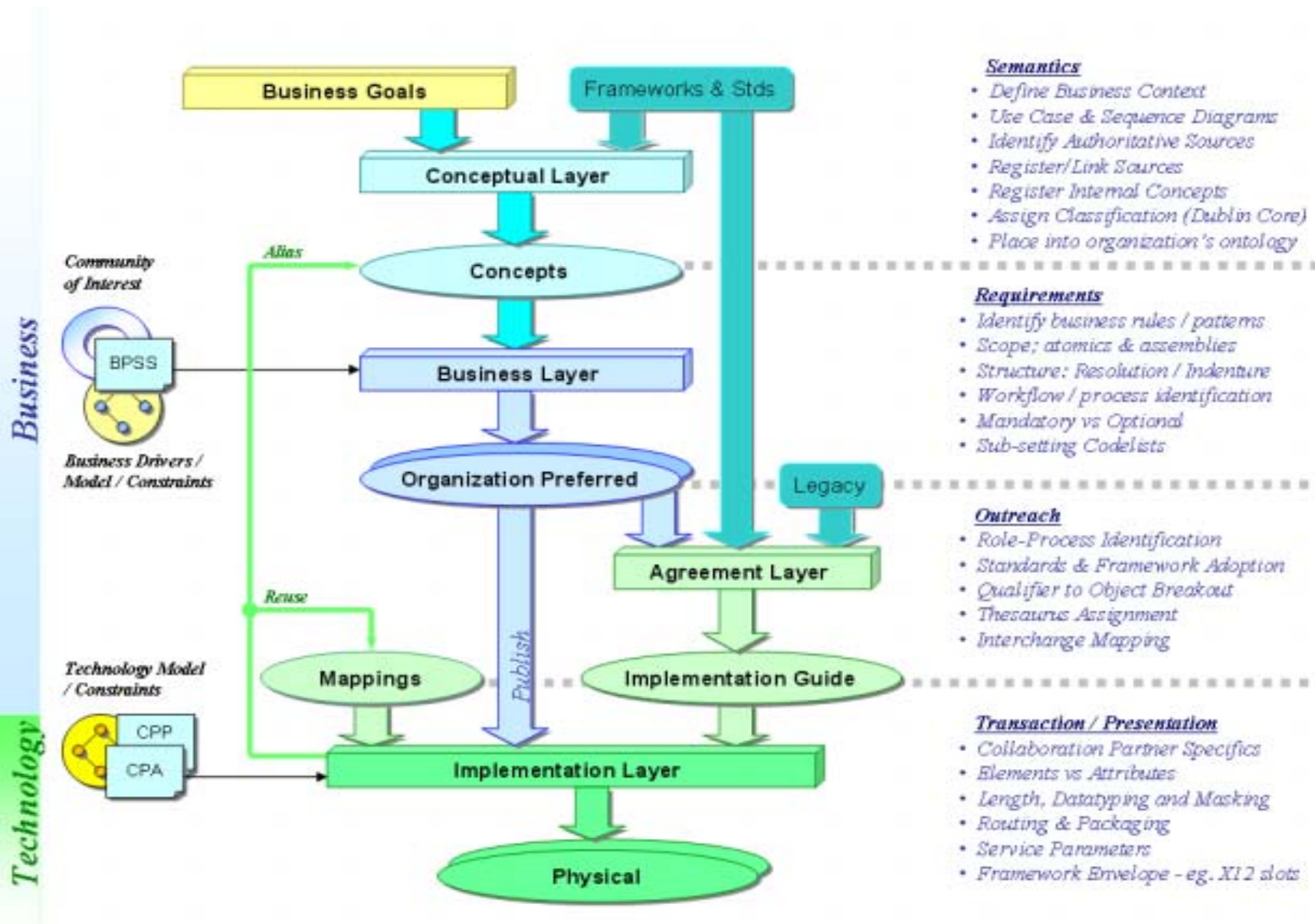


- Virtual organizations
- Distributed Functions
- Service oriented
- Componentized
- E-commerce
- Real-time

# Agile Organization



# Business driven Integration

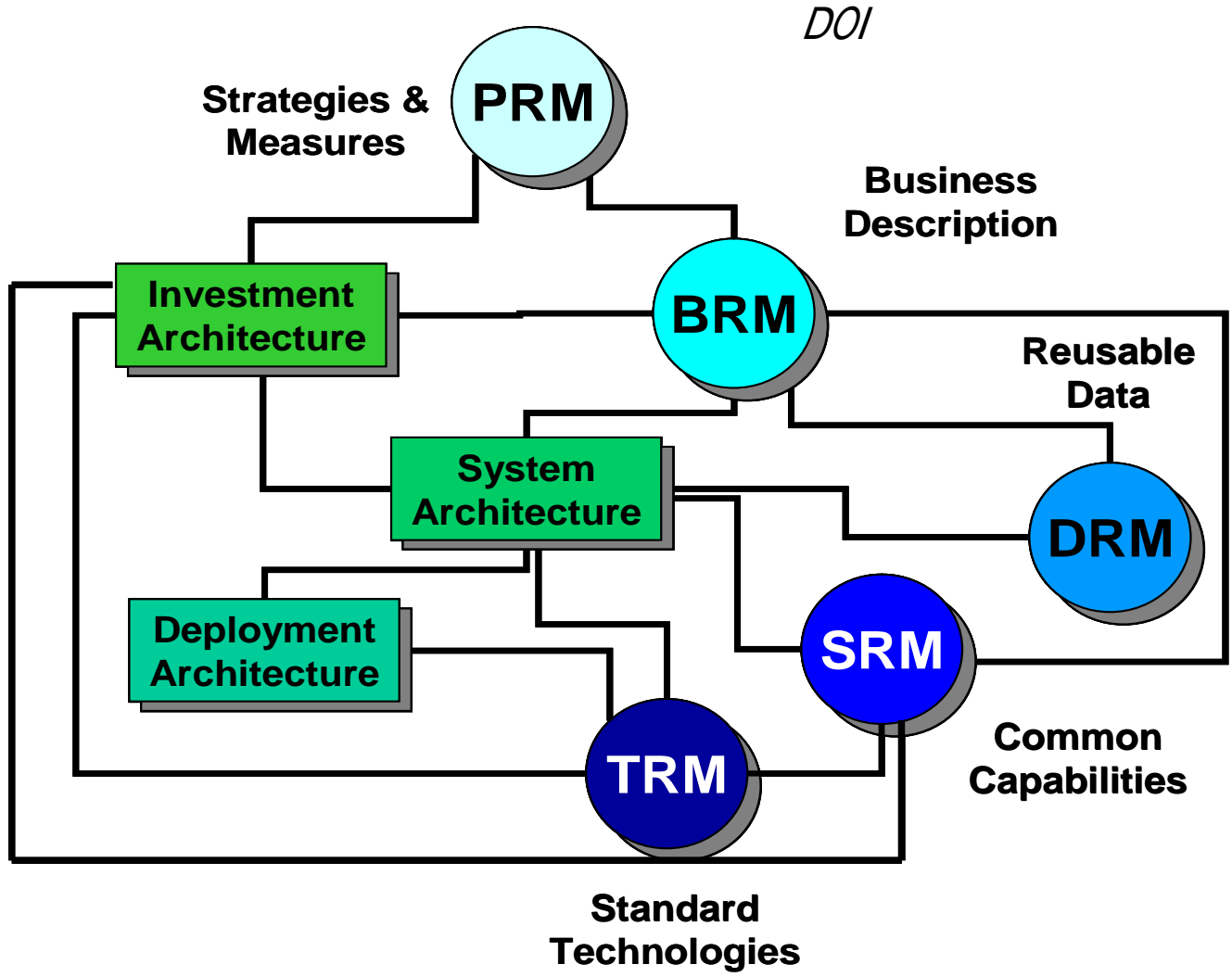


· ( , , )

(BRM)

EA

(PRM, DRM, SRM, TRM)



( *] www.doi.gov*

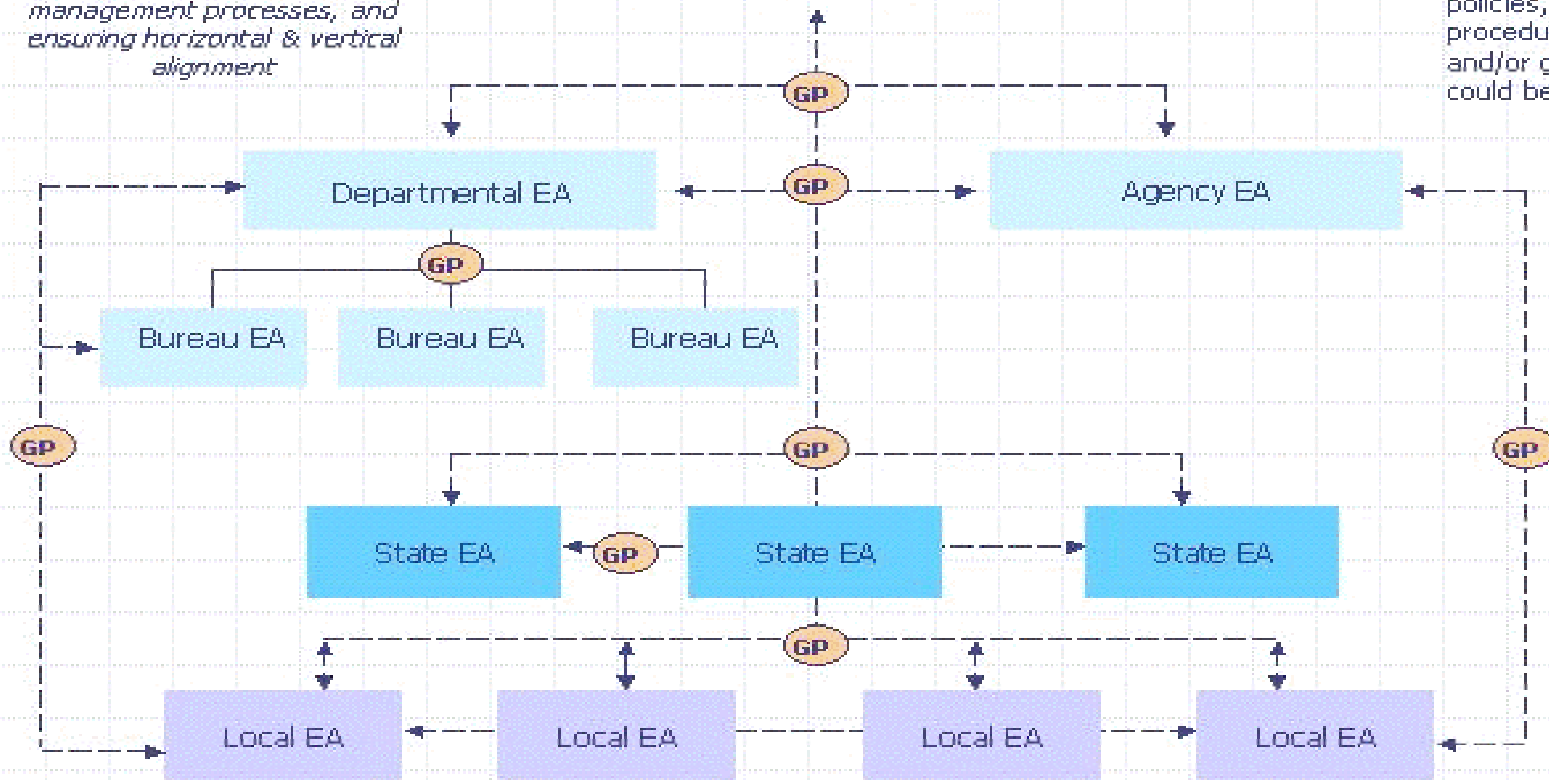


# The CIO Council's Governance Subcommittee will expand the FEA to include State and Local Governments – the *direct providers* of Government services to citizens

*Includes integration with other management processes, and ensuring horizontal & vertical alignment*

## Federal Enterprise Architecture Reference Models

**GP**  
Key Governance Points: Where policies, procedures, and/or guidance could be focused



/

가

## EA(Enterprise Architecture)

EA = BA(Business) + TA(Technical)  
 (BA: Business Architecture)



( Zachman Framework )

(Activities, Time)

(People)

(Data)

(Locations)

→ BRM(Business Reference Model)

(motivation)

→ PRM(Performance Reference Model)

# BA

PRM(Performance Reference Model: )

IT

,

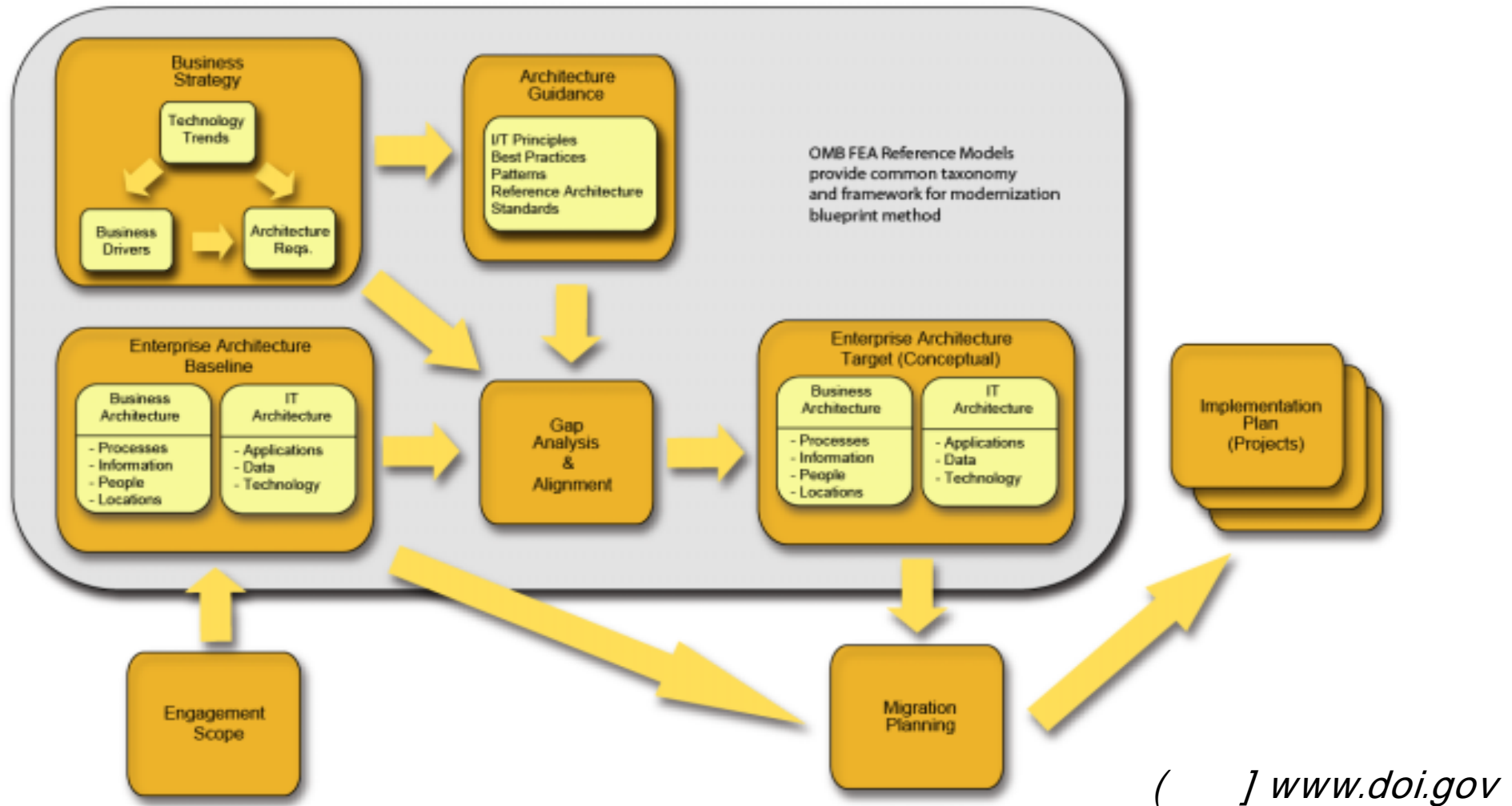
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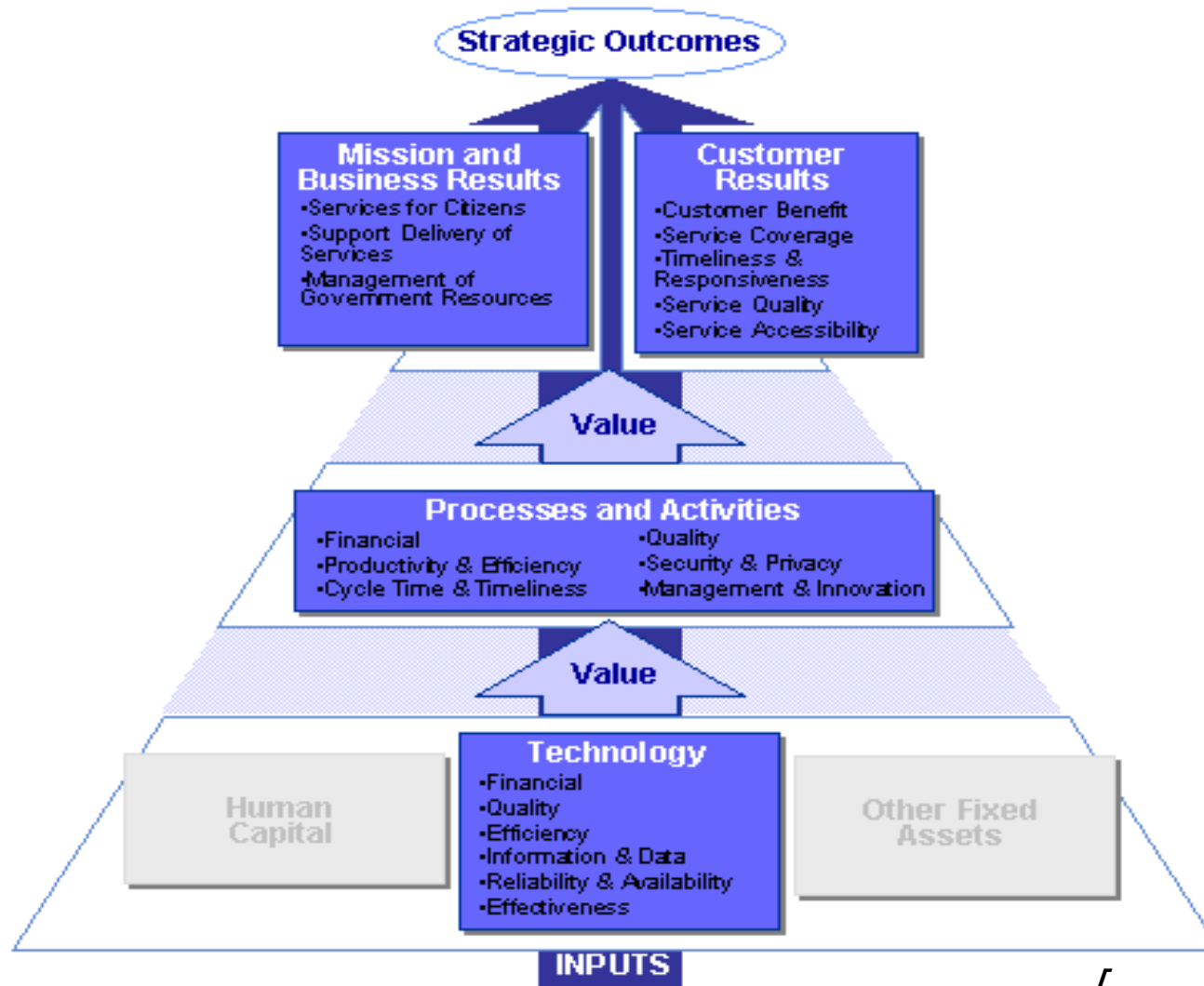
BRM(Business Reference Model: )

BRM

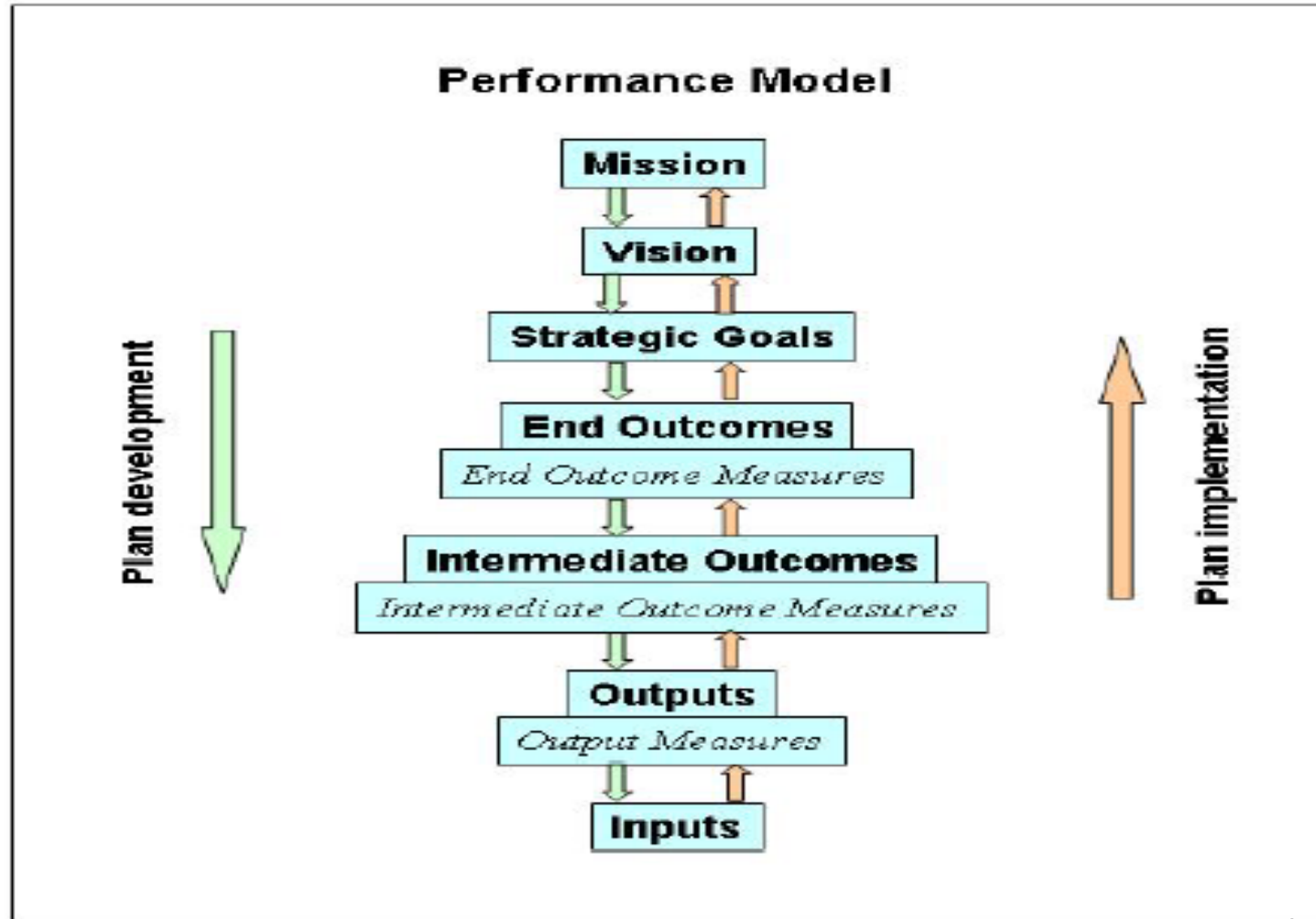
## ( ) DOI



# PRM

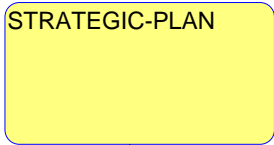


[ ] [www..feapmo.gov](http://www.feapmo.gov)



( [www.doi.gov](http://www.doi.gov) ]

# DOI PRM



broken into

MISSION-AREA

has

END-OUTCOME

has

INTERMEDIATE-OUTCOME

ABC-WORK-ACTIVITY

has tiers

ABC-WORK-ACTIVITY/END-OUTCOME

END-OUTCOME-MEASURE

is measured by

ABC-WORK-ACTIVITY/INTR-OUTCOME

INTERMEDIATE-OUTCOME-MEASURE

is measured by

ABC (outcome)  
ABC  
BRM

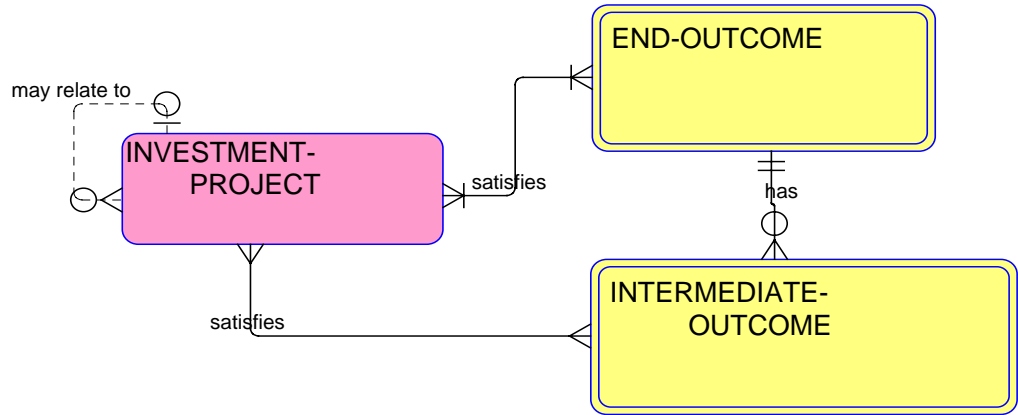
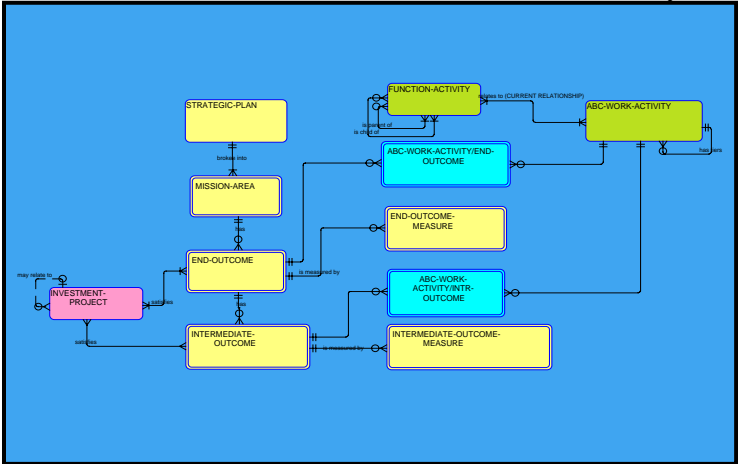
( ] www.doi.gov



# PRM

PERFORMANCE REFERENCE MODEL (PRM)

INVESTMENT DOMAIN



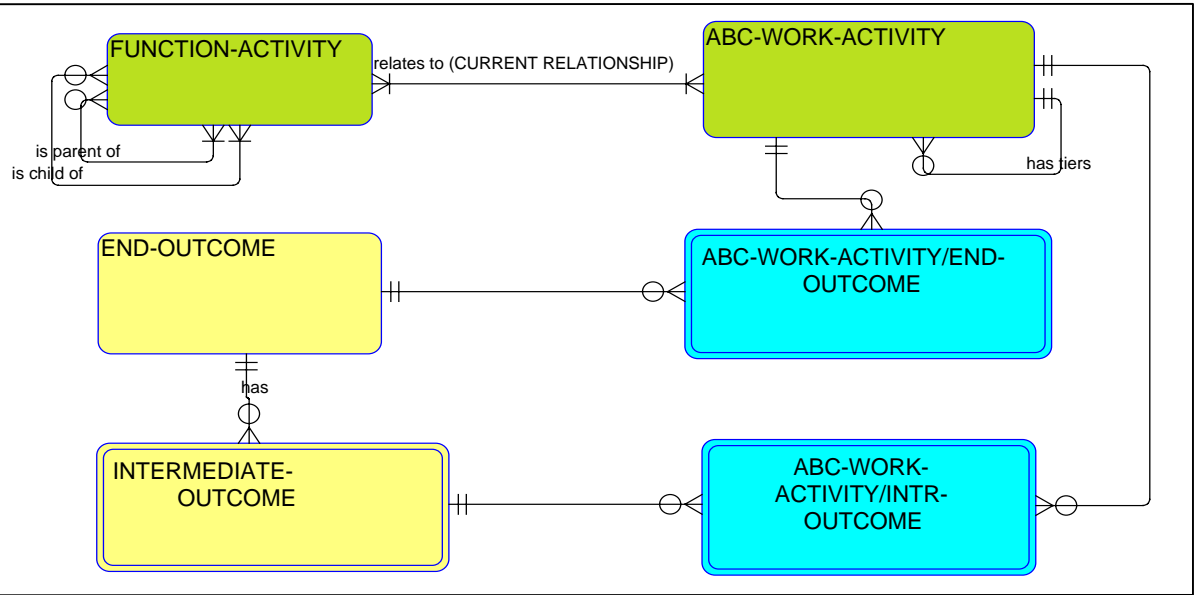
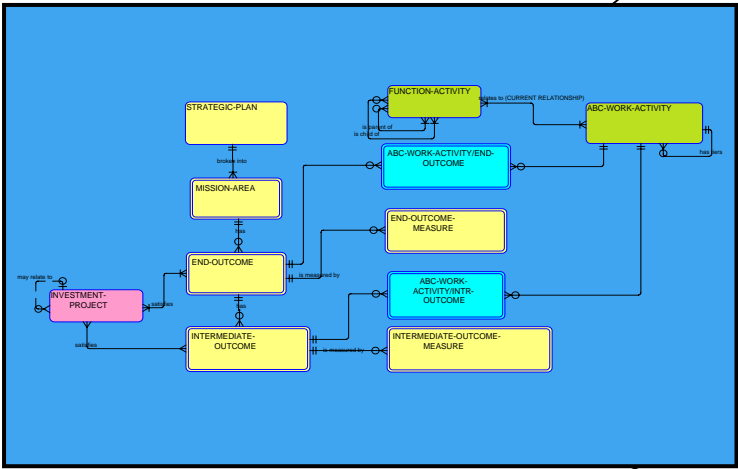
• PRM 가

( [ [www.doi.gov](http://www.doi.gov) ] )

# PRM BRM

PERFORMANCE REFERENCE MODEL (PRM)

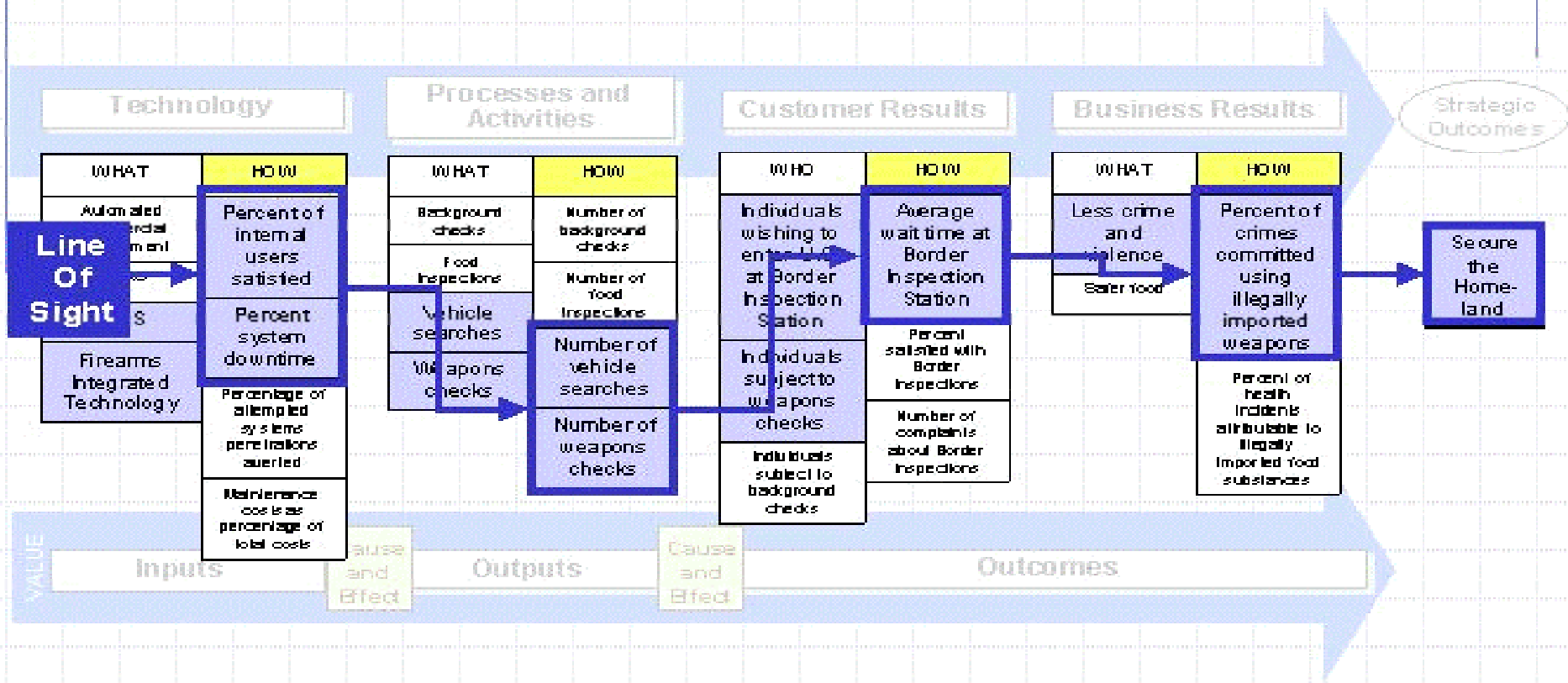
BUSINESS REFERENCE MODEL (BRM)



• PRM - ABC-BRM (one-to-many)  
 • ABC-BRM - ABC-BRM (DOI)  
 • ABC-BRM - ABC-BRM (many-to-many)  
 • ABC-BRM - ABC-BRM ( )

( ] www.doi.gov

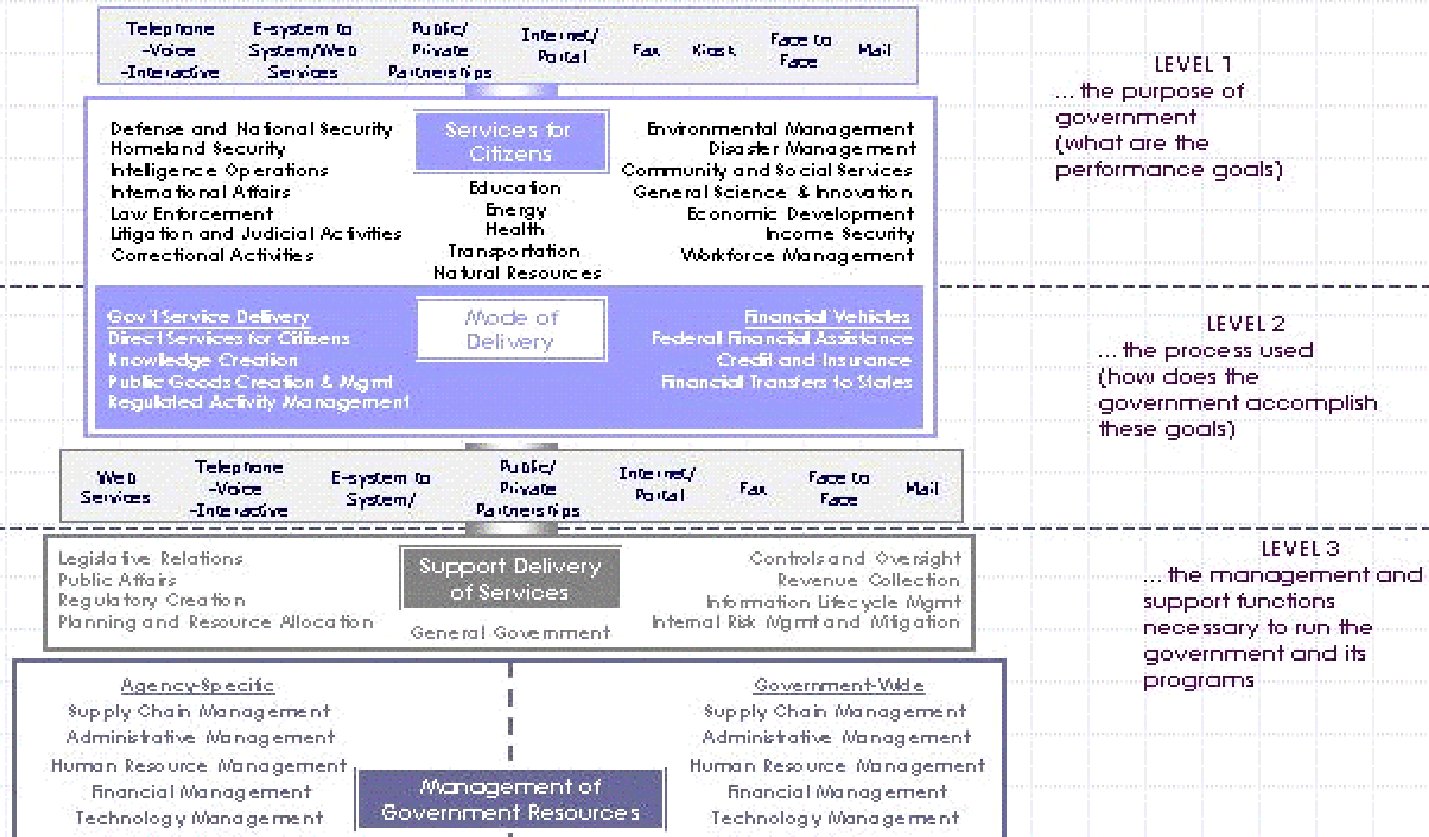
The PRM structure is designed to clearly articulate “Line of Sight”—the cause and effect relationship between inputs, outputs and outcomes



# BRM (FEA)

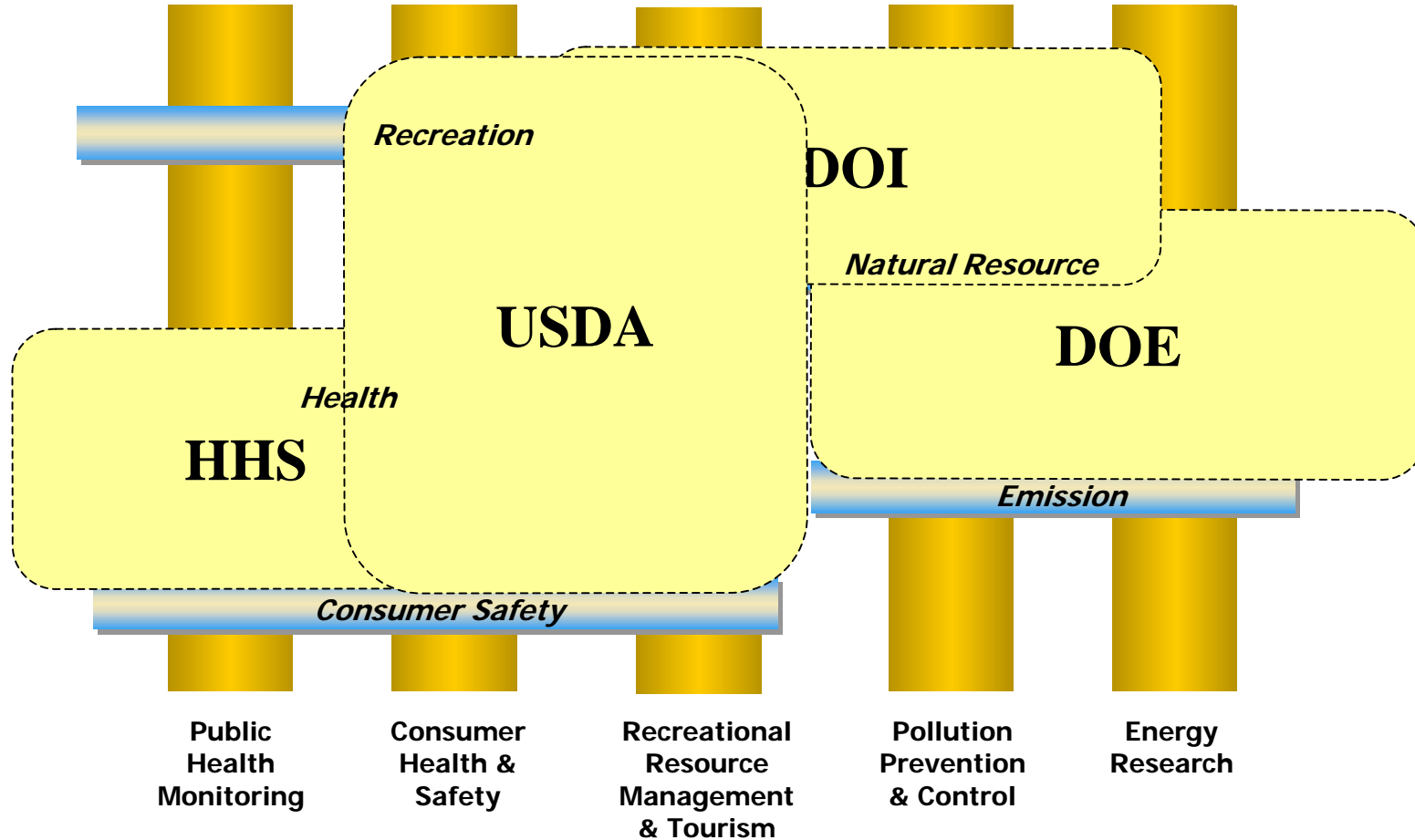
OMB has developed and issued the draft Business Reference Model, *Version 2.0* for Federal agency review and comment

## DRAFT Business Reference Model Version 2.0

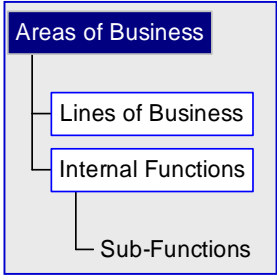


# Shared Lines of Business

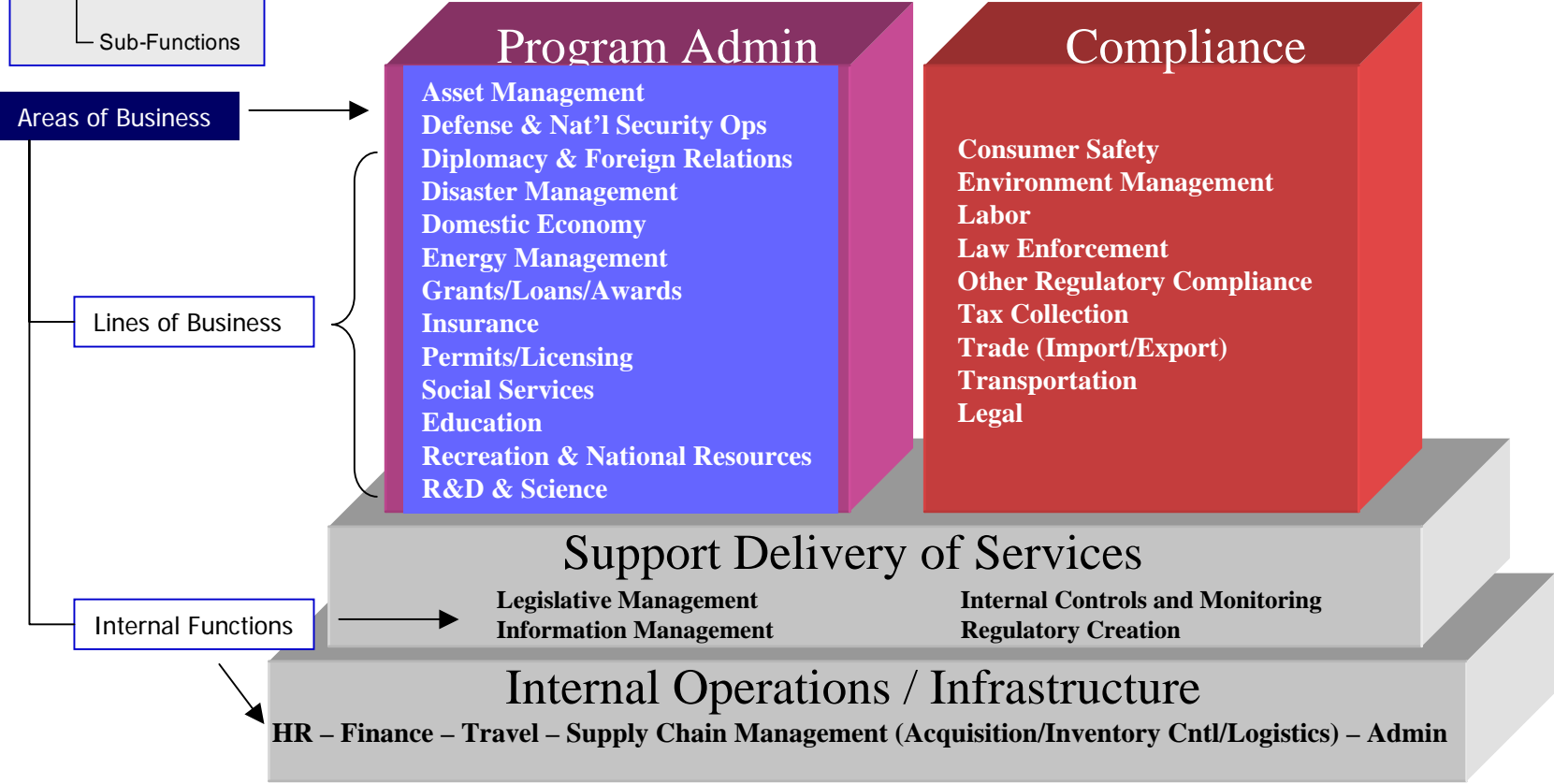
Integrated Data and Information "To Be State"



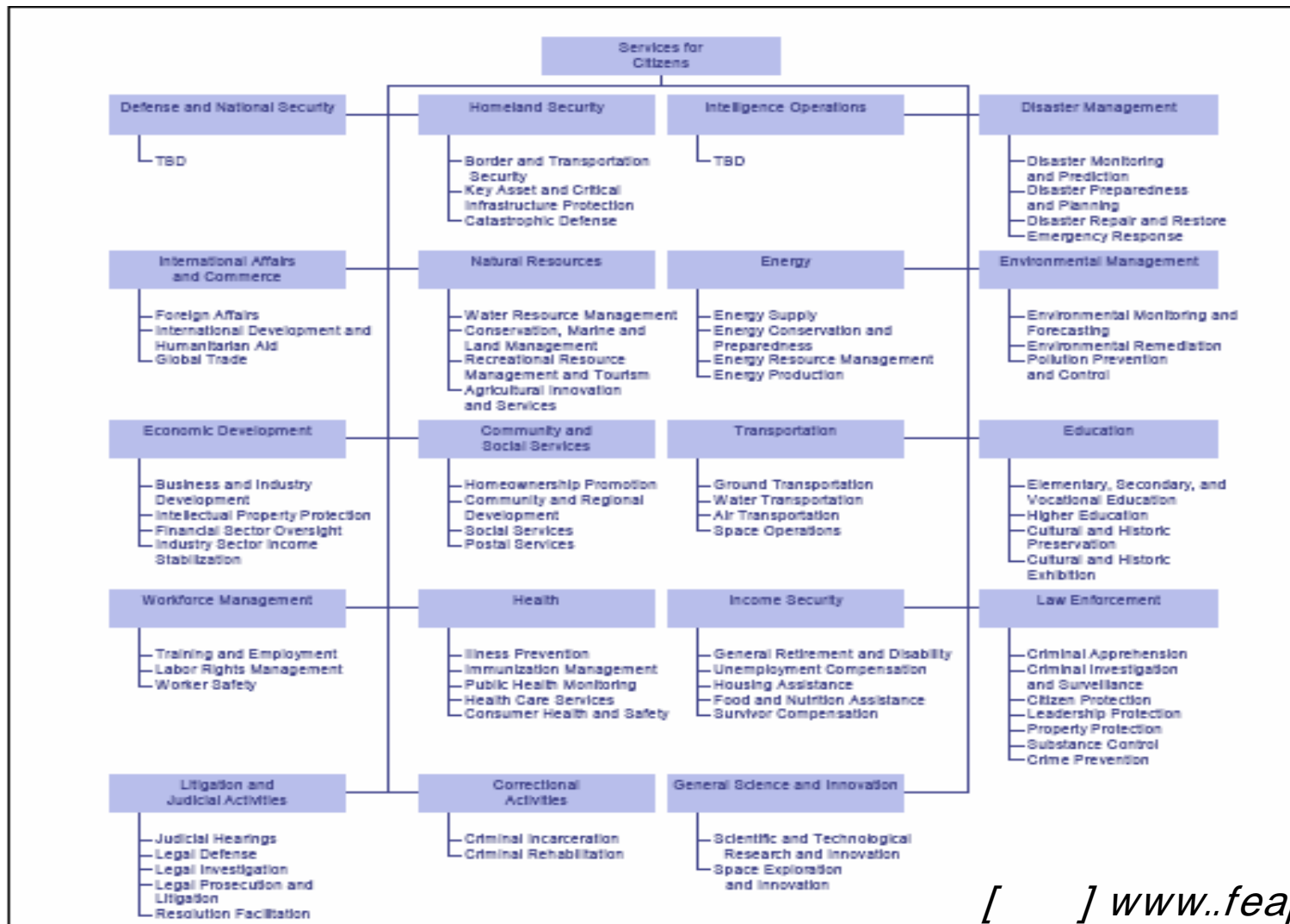
# BRM



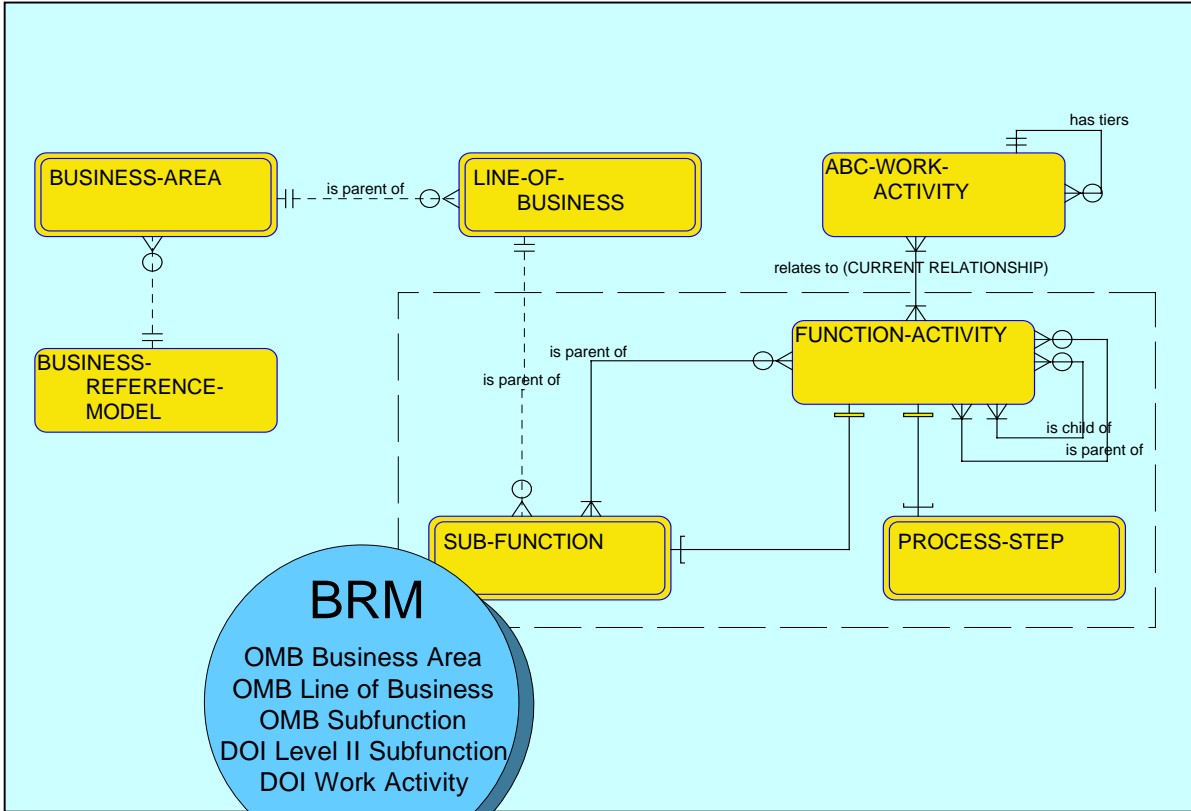
## *Federal Enterprise Architecture Business Reference Model*



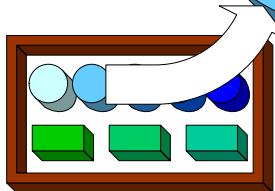
[ ] [www..feapmo.gov](http://www.feapmo.gov)



# DOI BRM



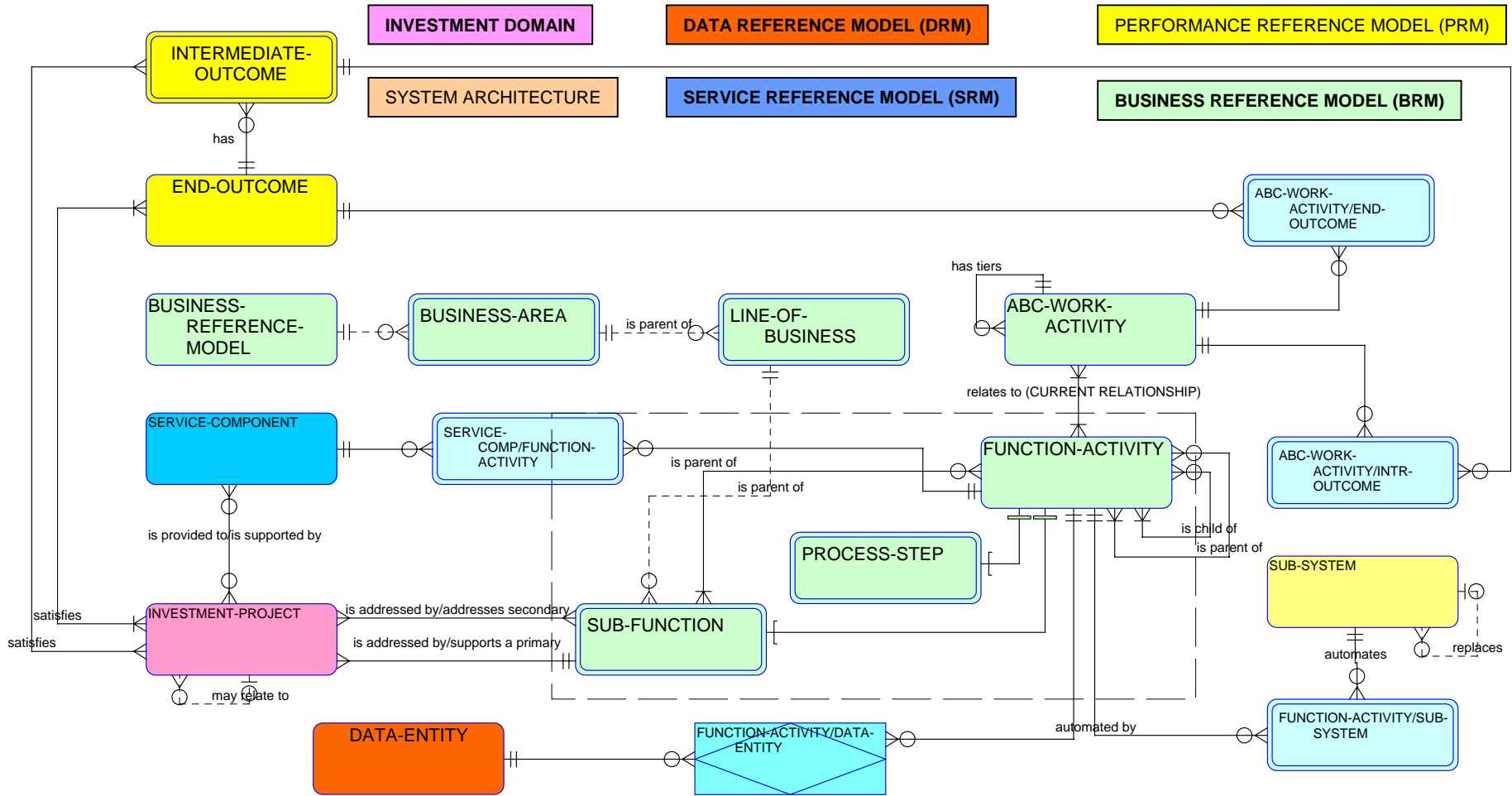
/ /  
 BRM(FEA BRM)  
 ( )  
 EA(OMB FEA)  
 DOI  
 DOI ABC-



( ] [www.doi.gov](http://www.doi.gov)

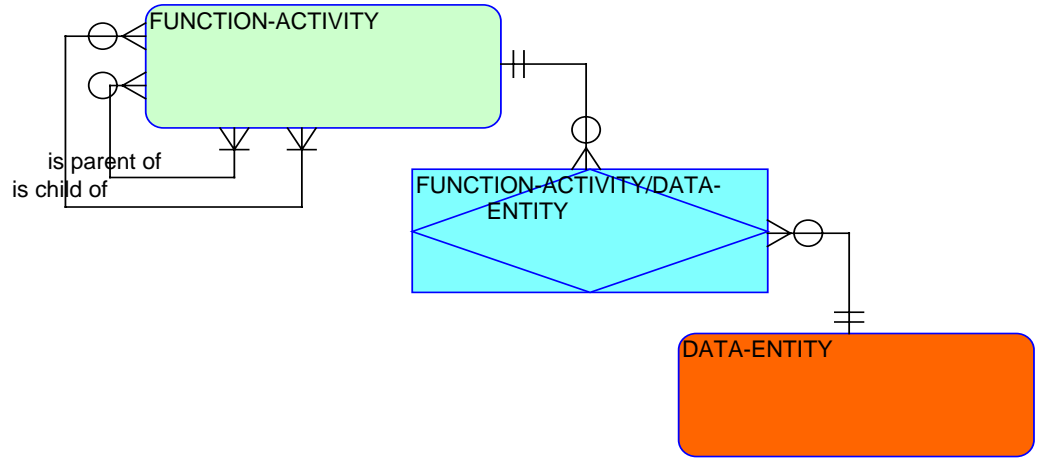
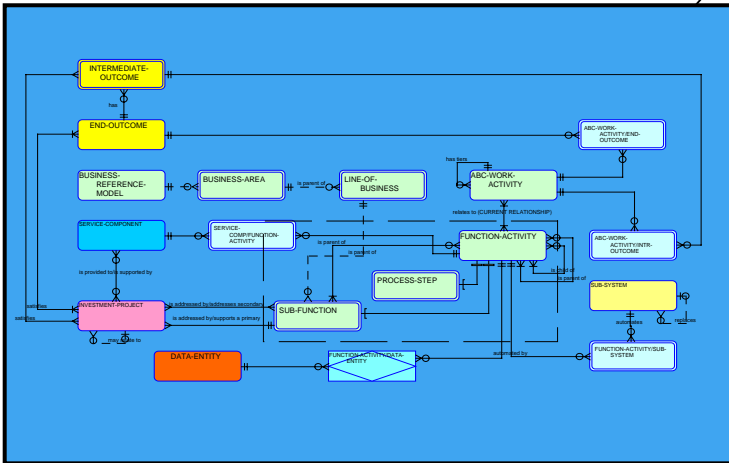


# BRM



( ] www.doi.gov

# BRM DRM

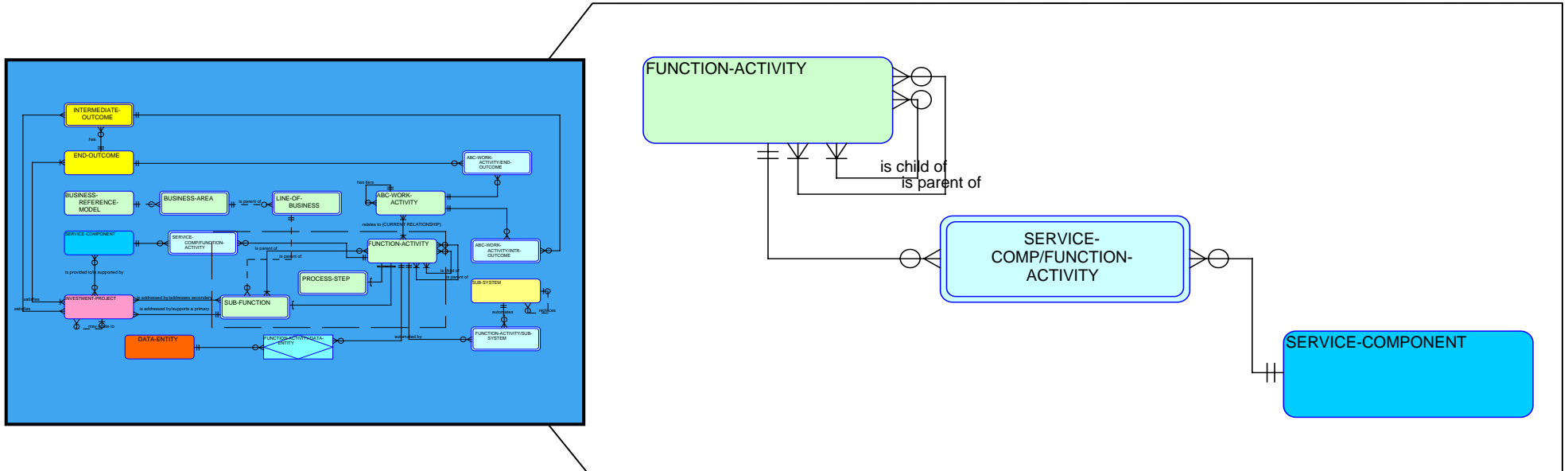


•  
•  
• BRM

BRM DRM -  
many-to-many

( / [www.doi.gov](http://www.doi.gov)

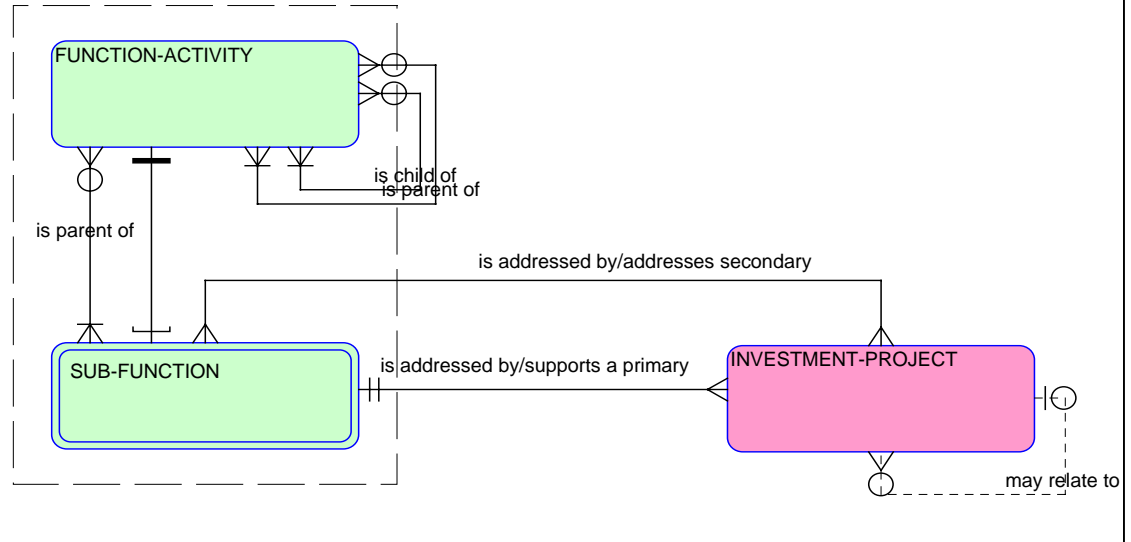
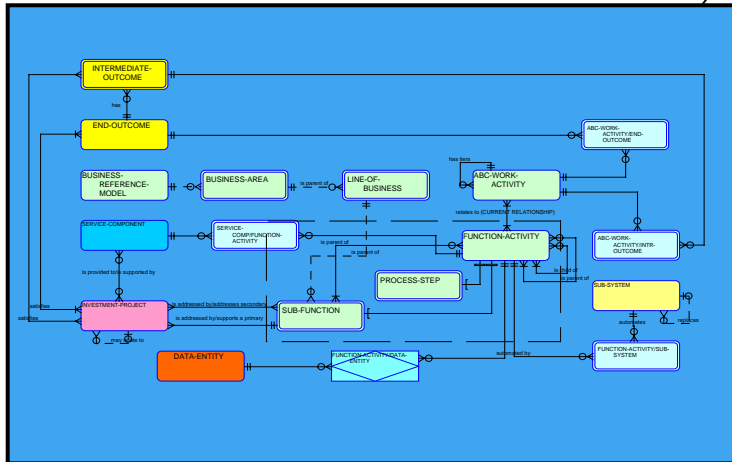
# BRM SRM



가 0, 1, many 가

( ] [www.doi.gov](http://www.doi.gov)

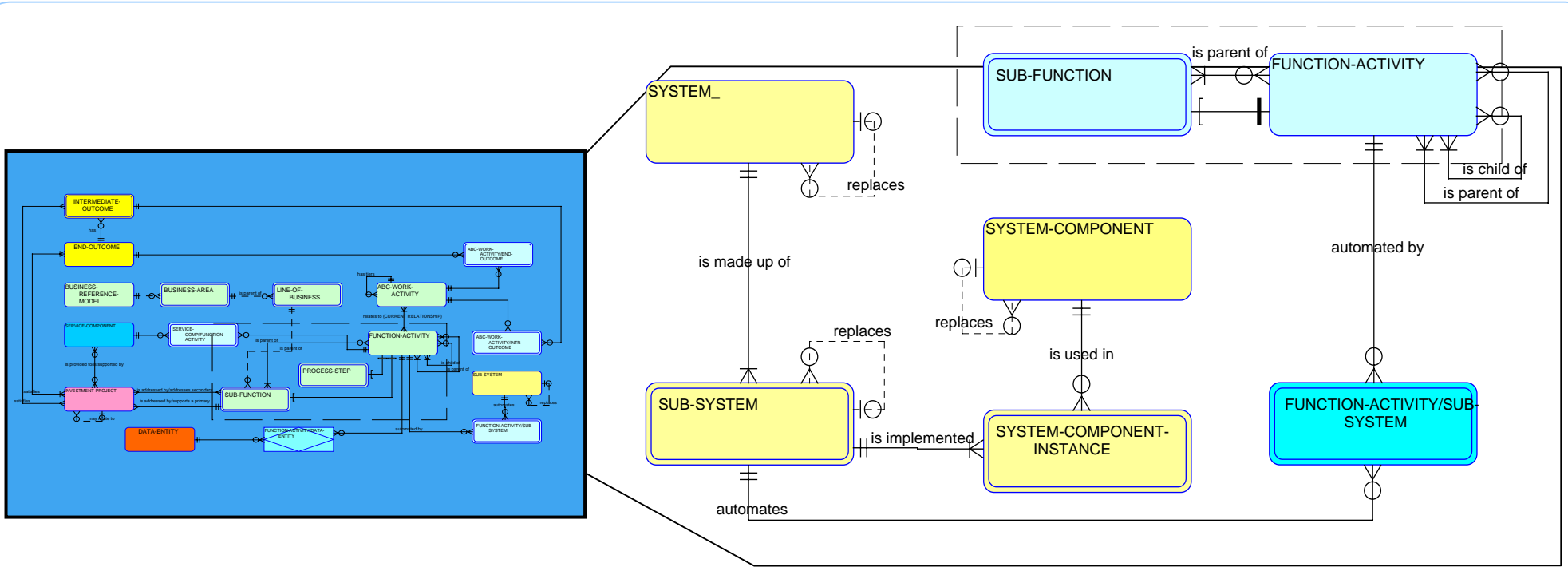
# BRM



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- 

( [ [www.doi.gov](http://www.doi.gov) ] )

# BRM System



- DOI
- DOI 0, 1
- DOI DOI 0, 1
- (OMB BRM 2 )

( ] [www.doi.gov](http://www.doi.gov)

# PRM/BRM

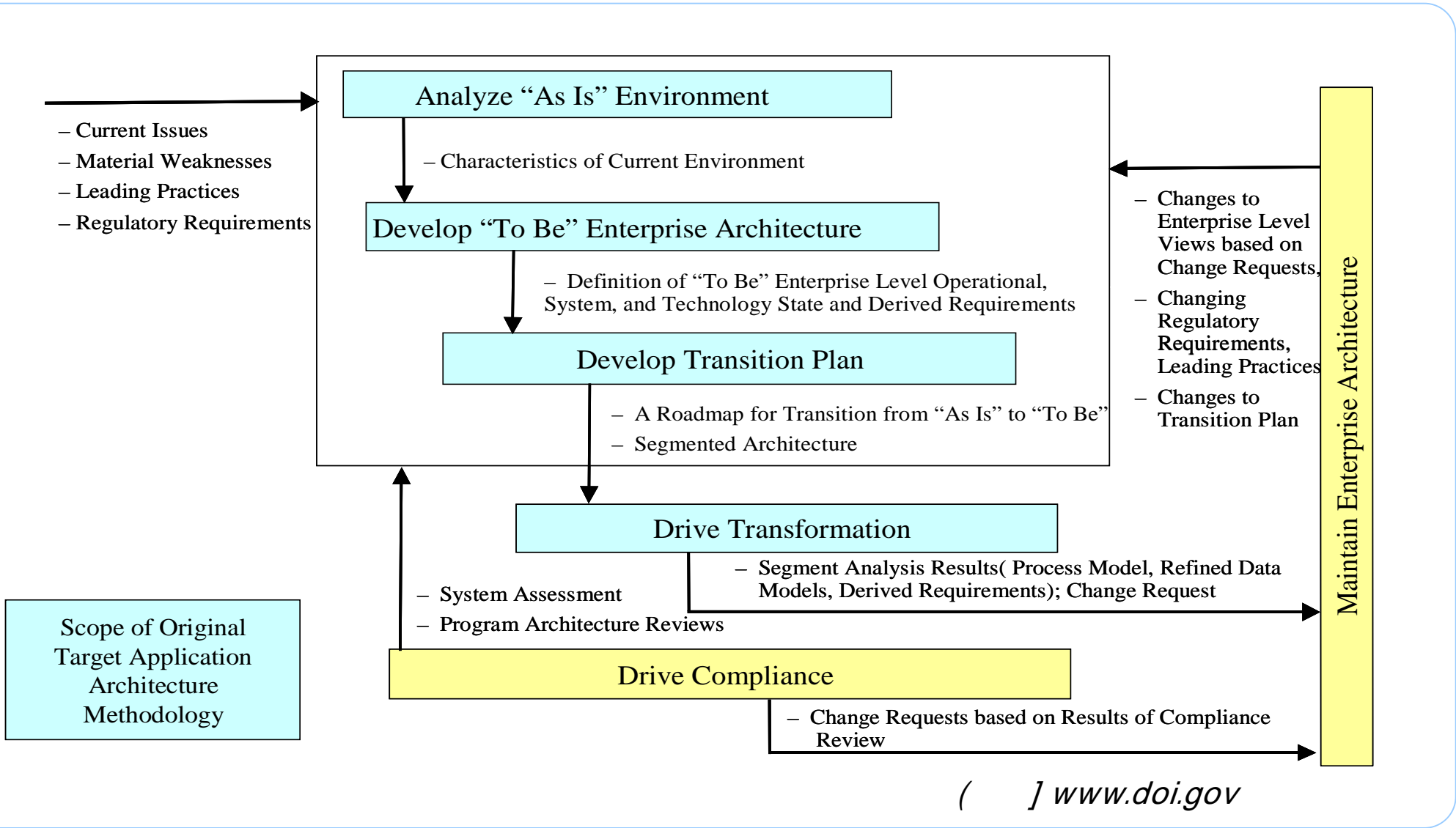
PRM

BRM

, , IT ,

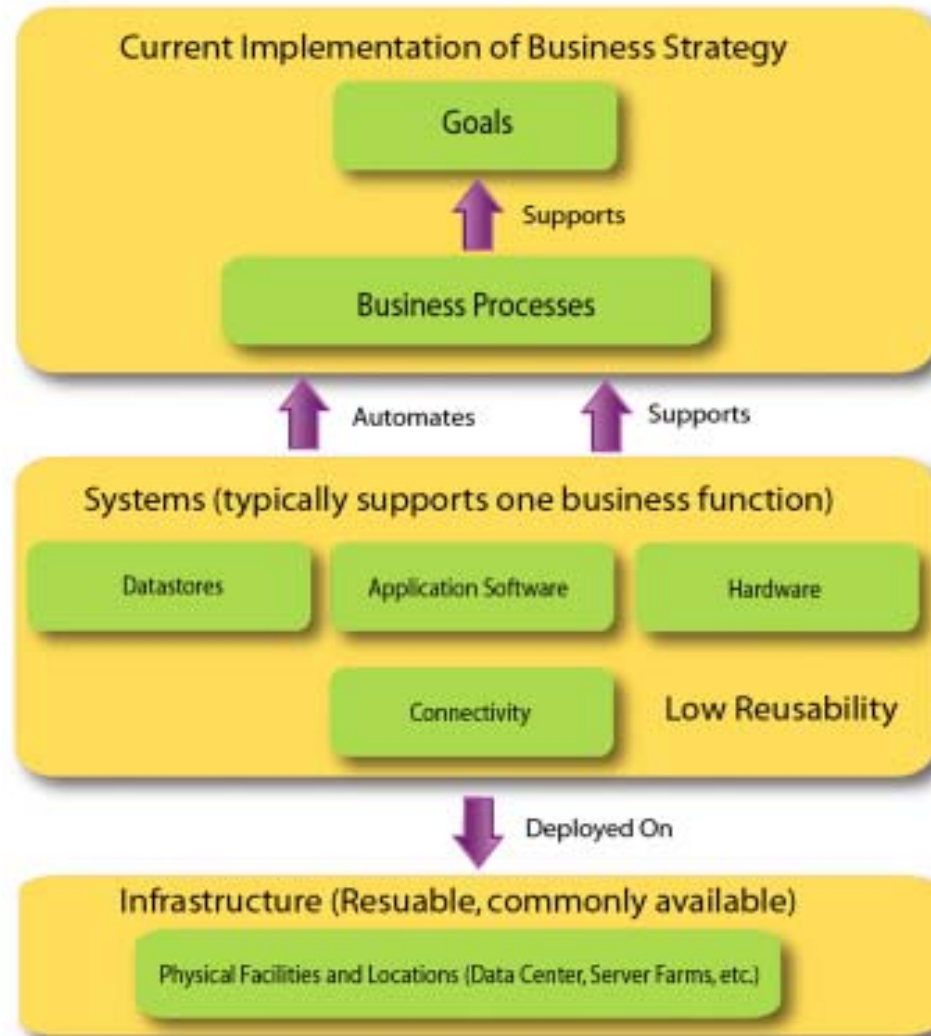
가

# ( ) DOI EA



( ] [www.doi.gov](http://www.doi.gov)

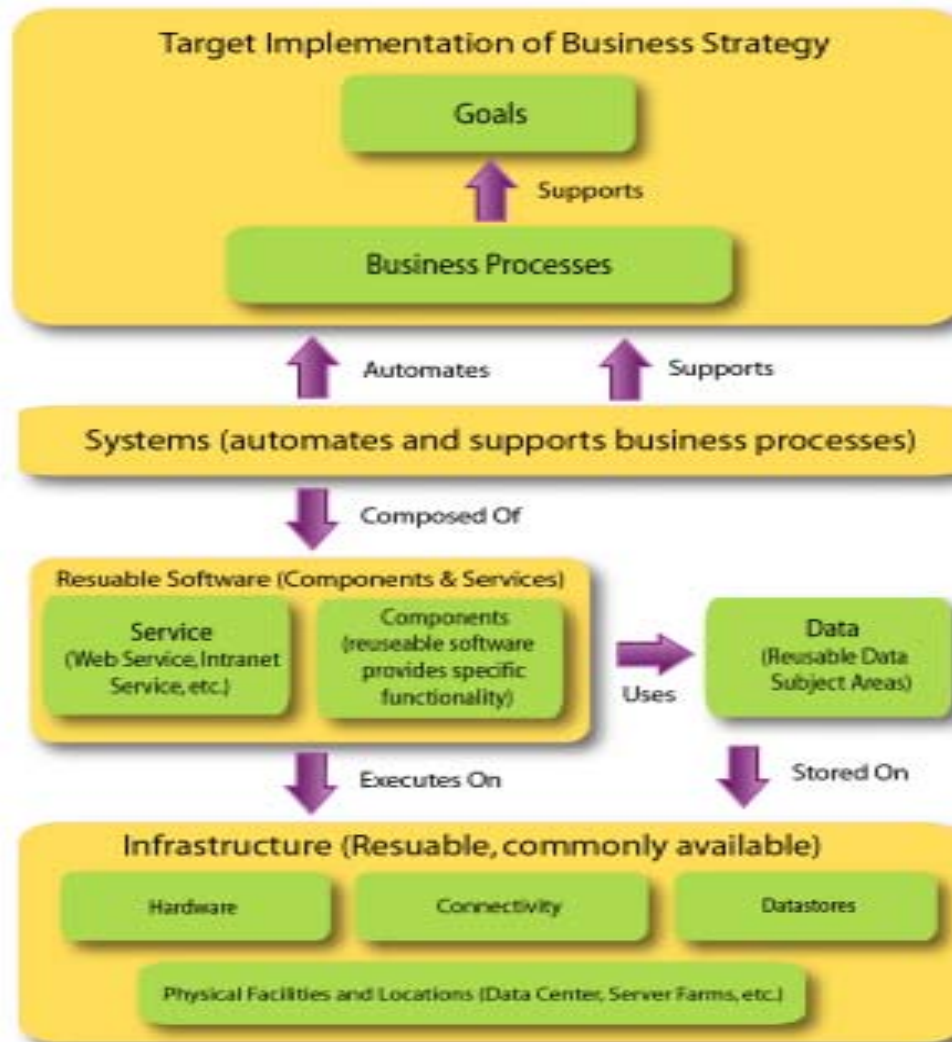
# ( ) DOI EA



( ] [www.doi.gov](http://www.doi.gov)



# ( ) DOI EA











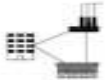











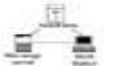

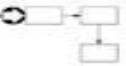



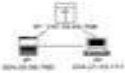

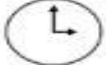

( ] [www.doi.gov](http://www.doi.gov)

## NCA

( )

	업무	응용	데이터	기술	보안
CEO/CIO	<ul style="list-style-type: none"> <li>» 비전/전략</li> <li>» 조직/업무</li> <li>» 업무아키텍처 원칙</li> </ul>	<ul style="list-style-type: none"> <li>» 응용아키텍처 원칙</li> <li>» 업무 대비 응용시스템 식별서</li> <li>» 응용시스템 유지보수 계획서</li> </ul>	<ul style="list-style-type: none"> <li>» 데이터아키텍처 원칙</li> <li>» 주요 데이터 목록</li> <li>» 주요 데이터 사전</li> </ul>	<ul style="list-style-type: none"> <li>» 기술아키텍처 원칙</li> <li>» 정보 자원 목록</li> <li>» 기술 참조모델</li> <li>» 표준 프레임워크</li> </ul>	<ul style="list-style-type: none"> <li>» 보안 아키텍처 원칙</li> <li>» 보안 정책 기술서</li> </ul>
책임자	<ul style="list-style-type: none"> <li>» 업무 계층도</li> <li>» 업무 절차도</li> </ul>	<ul style="list-style-type: none"> <li>» 전사 응용 구성도</li> <li>» 응용시스템 주요 기능 및 관계 설명서</li> </ul>	<ul style="list-style-type: none"> <li>» 개념 데이터 모델</li> <li>» 정보 교환 정의서</li> </ul>	<ul style="list-style-type: none"> <li>» 정보 시스템 구성도</li> <li>» 시스템 용량 계획서</li> </ul>	<ul style="list-style-type: none"> <li>» 보안 개념 정의서</li> </ul>
설계자	<ul style="list-style-type: none"> <li>» 업무 절차 및 관계 세부 설명서</li> </ul>	<ul style="list-style-type: none"> <li>» 응용 세부 구성도</li> <li>» 응용시스템 세부 기능 설계서</li> </ul>	<ul style="list-style-type: none"> <li>» 논리 데이터 모델</li> <li>» 데이터 CRUD 매트릭스</li> </ul>	<ul style="list-style-type: none"> <li>» 정보 시스템 인터페이스 정의서</li> </ul>	<ul style="list-style-type: none"> <li>» 보안 구조 기술서</li> <li>» 관리적, 기술적, 물리적 보안 논리 모델 정의서</li> </ul>
개발자	<ul style="list-style-type: none"> <li>» 직무 기술서</li> </ul>	<ul style="list-style-type: none"> <li>» 프로그램 목록</li> </ul>	<ul style="list-style-type: none"> <li>» 물리 데이터 모델</li> </ul>	<ul style="list-style-type: none"> <li>» TRWSP vs. 제품</li> <li>» 정보 시스템 인터페이스 상세 정의서</li> </ul>	<ul style="list-style-type: none"> <li>» 관리적, 기술적, 물리적 보안 물리 모델 정의서</li> </ul>

# Zachman Framework

	<i>Data (What)</i>	<i>Activities (How)</i>	<i>Locations (Where)</i>	<i>People (Who)</i>	<i>Time (When)</i>	<i>Motivation (Why)</i>
<b>Objectives / Scope (Planner's view)</b>	List of things important to the enterprise 	List of processes the enterprise performs 	List of enterprise locations 	Organization approaches 	Business master schedule 	Business vision and mission 
<b>Enterprise model (Business Owners' Views)</b>	Language, divergent data model 	Business process model 	Logistics network 	Organization chart 	State / transition diagram 	Business strategies, tactics, policies, rules 
<b>Model of Fundamental Concepts (Architect's View)</b>	Convergent e/r model 	Essential data flow diagram 	Locations of roles 	The viable system, use cases 	Entity Life History 	Business rule model 
<b>Technology Model (Designer's View)</b>	Data base design 	System design, program structure 	Hardware, software distribution 	User interface, security design 	Control structure 	Business rule design 
<b>Detailed Representation (Builder's View)</b>	Physical storage design 	Detailed program design 	Network architecture, protocols 	Screens, security coding 	Timing definitions 	Rule specification program logic 
<b>Functioning System</b>	<i>(Working System)</i>					
	Converted data	Executable programs	Communications facilities	Trained people	Business events	Enforced rules

BA

EA BA

I.

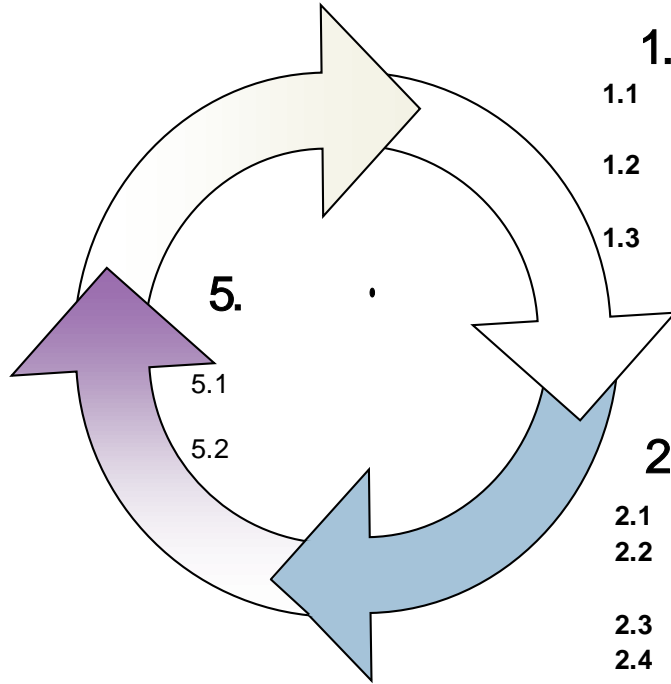
II.

III.

IV.

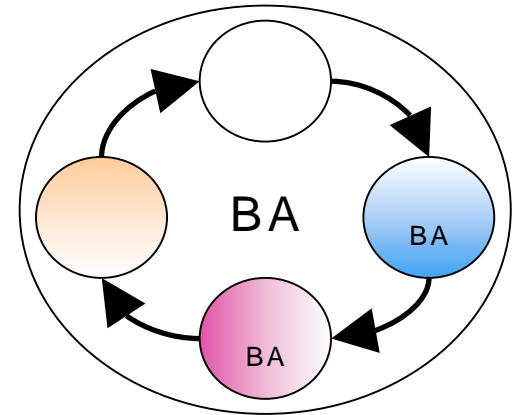
# EA

**4.**  
4.1  
4.2



**1.**  
1.1  
1.2  
1.3  
**2.**  
2.1  
2.2  
2.3  
2.4

**3.**  
3.1  
3.2



# BA

( ( , ) )

BA

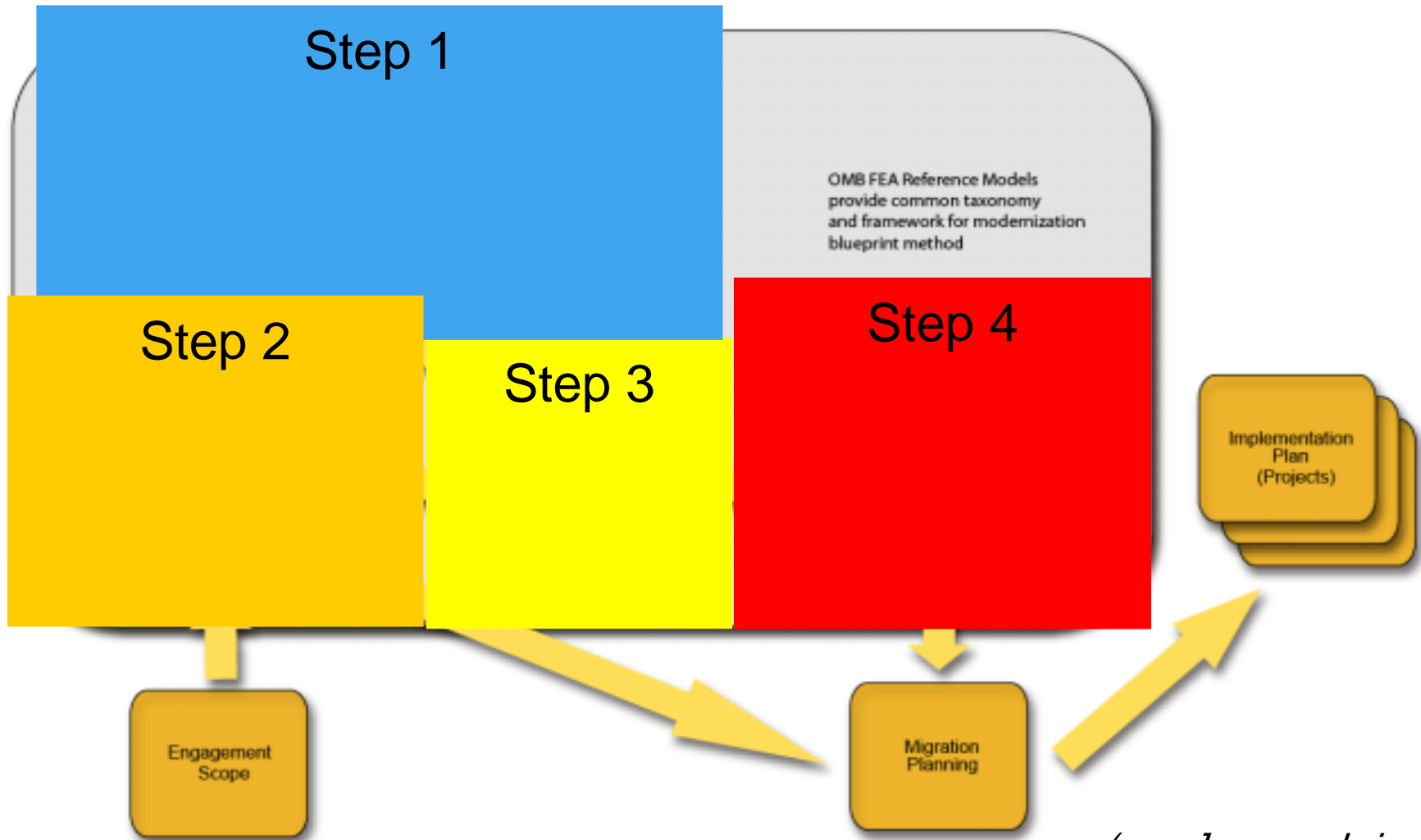


BA

( )

BA 가

# DOI EA



( [www.doi.gov](http://www.doi.gov) )

(Mission Statement)  
(goals and Objectives)

/

/

가(program evaluation)

: GAO/GGD-10.1.16



# – BRM (1)

1) BRM

BRM  
)

(

BRM

BRM

2) BRM

BRM

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가

# – BRM (2)

3)

( )

가

4)

(baseline)

4, 5, 6,

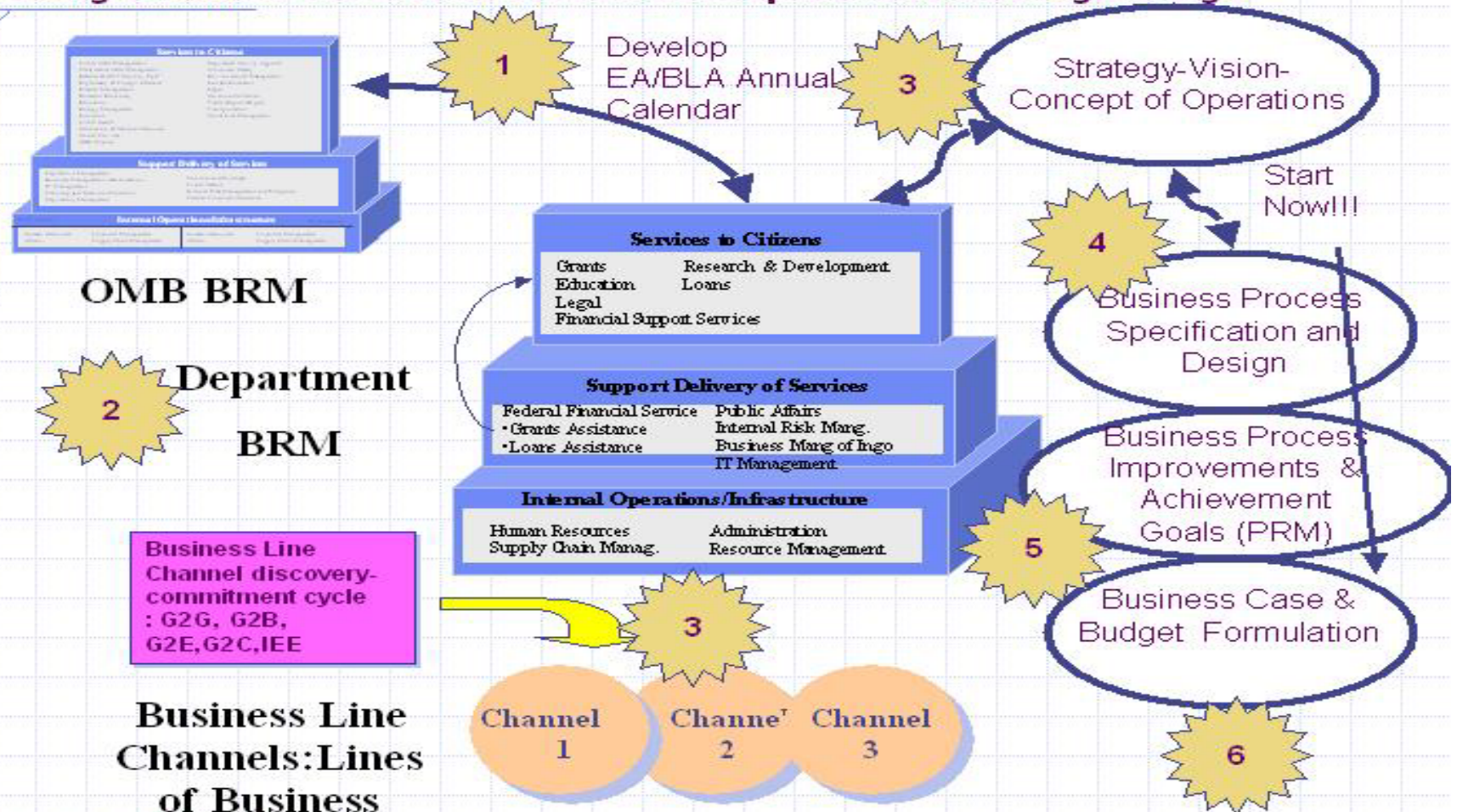
,

5)

6)

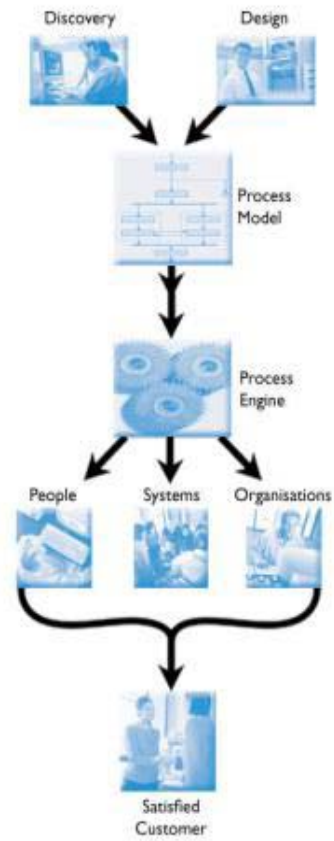
# BRM

## Using Business Reference Model: Conceptual and Strategic Stage



IACEA SIG Draft – This is a work in progress

## Approach to Creating Business Process Models and Making Operational



## BPMS

: ebXML,  
BPML,  
BPEL4WS

# BPML & BPMN

BPMI(Business Process Mangement Initiative)가  
(BPMI.org)

BPMN(BPM notation)

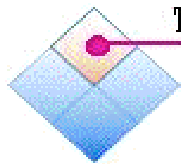
, 가 (BPML)

BPML(BPM language)

가 XML ,

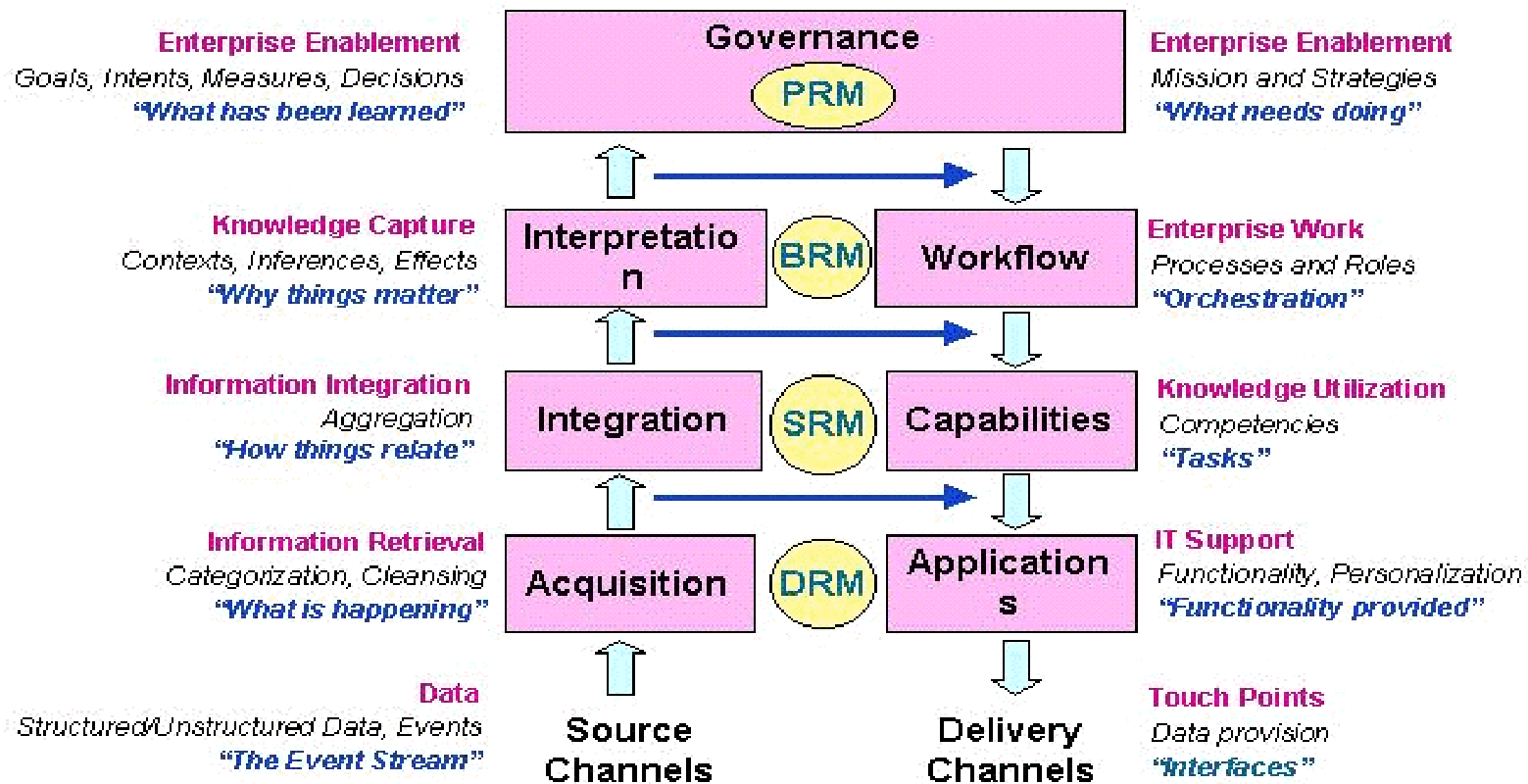
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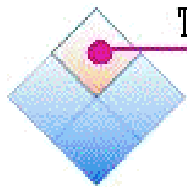
# Semantics for EA



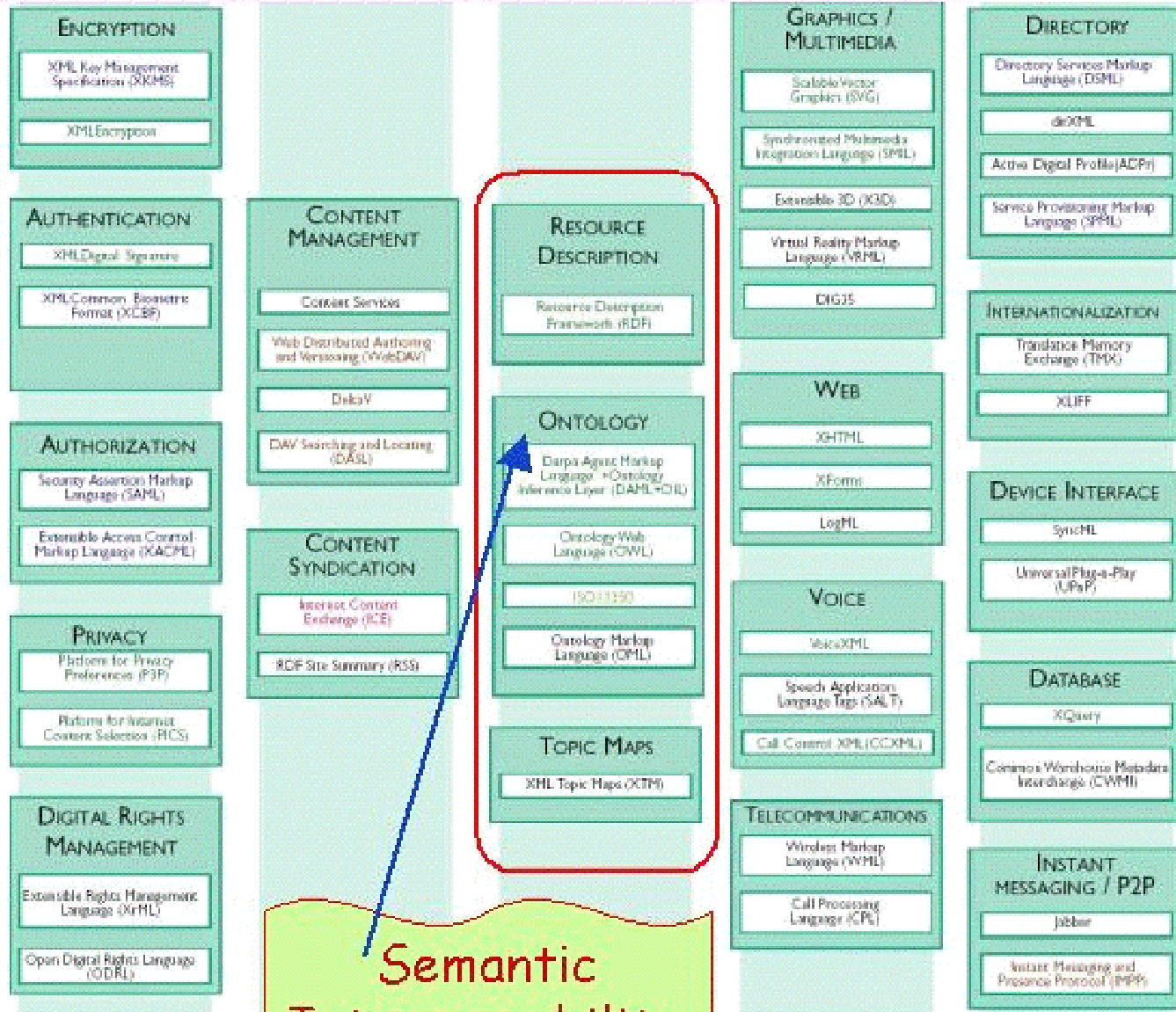
TopQuadrant

## The eGOV FEA as a Knowledge Architecture

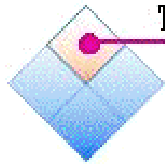




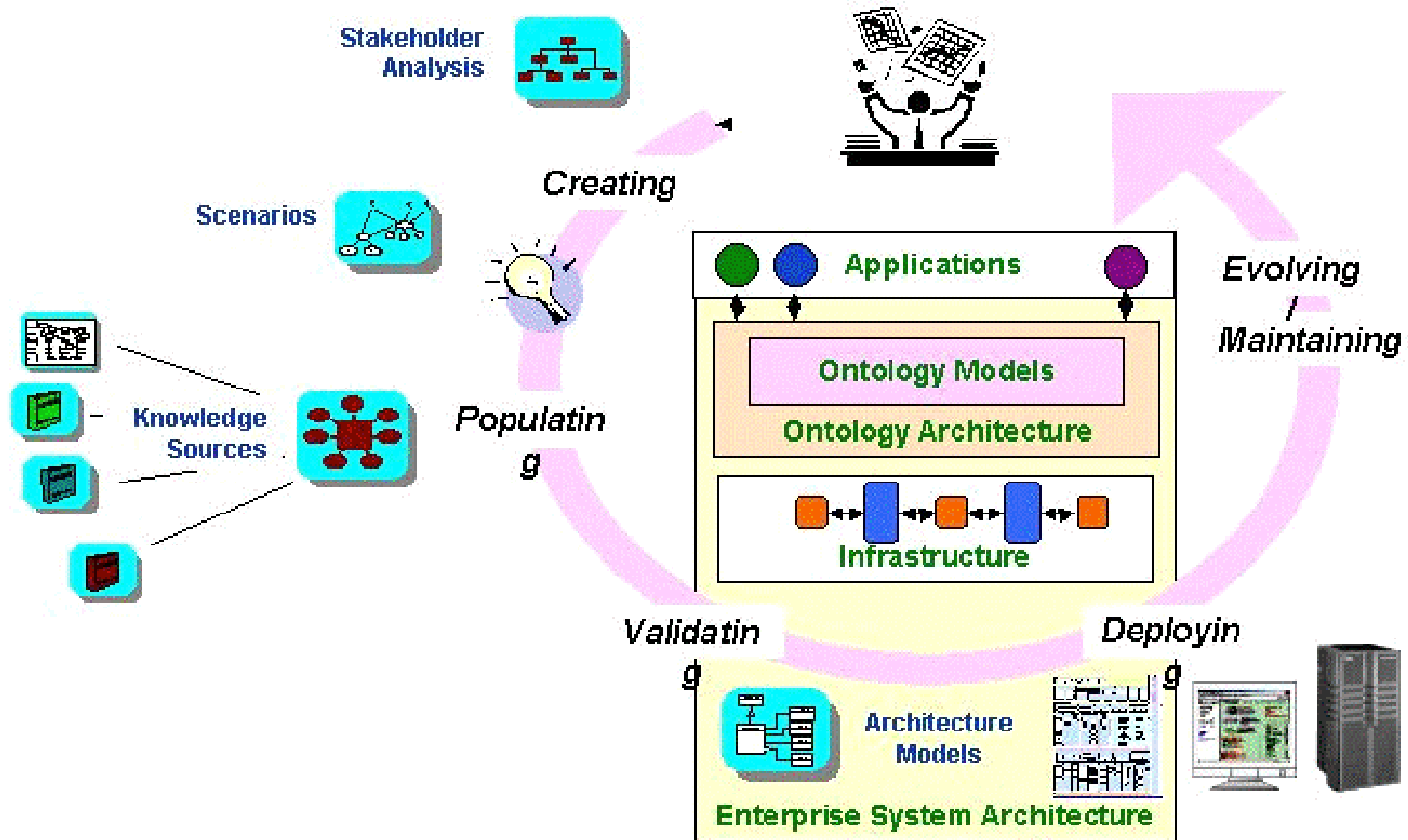
# Ontology Standards



Semantic Interoperability



# The Ontology Lifecycle





# Implications for Future Research

CSF/Best Practices for EA

Ontology Engineering for BA

BPML/BPEL4WS for BA specification

Business Rule Approach (Ron Ross, B. Von Halle)

“Stakeholoder” layer on “Business”