Service Oriented Architecture through Stewardship

Government of Ontario
Enterprise Architecture Conference

Date: 12th of June 2007

By: Robert (Bob) Weisman, CGI Ottawa
Partner and Enterprise Architecture Practice Lead
275 Slater, Ottawa (613)566-4689
robert.weisman@cgi.com

CGI

Agenda

- What is:
  - Service Oriented Approach
  - Service Oriented Architecture
- Demystifying Stewardship
- Stewardship and SOA
- Stewardship Dimensions
- SOA/Stewardship Implementation Way Ahead
- Concluding Comments

Service Orientation – Nothing New

- Mainly Business Focus
- "…paradigm for organizing and utilizing distributed capabilities that might be under the control of different organizational owners." (GoC)
- Programs and Services Model
- Government Strategic Reference Model
  - Service Integration and Accountability Models
- Citizen Centricity
  - Creation of Service Canada
  - Creation of Service Clusters
  - Institute for Citizen-Centred Service
- US Federal Enterprise Architecture Framework
  - Business Reference Model
  - Service Reference Model

Service Oriented Architecture (SOA)[1]

- SOA is an architectural style that supports service orientation. It is a way of thinking in terms of services, service-based development, and the outcomes of services.
- A service is a logical representation of a repeatable business activity that has a specified outcome. … It is self-contained, may be composed of other services, and is a "black box" to its consumers
- Old Wine in New Bottle
  - The technology is no longer the problem

1 – Open Group SOA Working Group

What is SOA ?

SOA is:
An enterprise and solution architectural design approach

whereby business activity components are packaged as **well-defined services**, accessible electronically by partners, suppliers and others

which is implemented within an **architectural technology Framework** optimized for this purpose.

Business focus + Technology focus

Stewardship

- Integrated Control Regime (Government of Canada)
- Stewardship = A Form of Horizontal Management

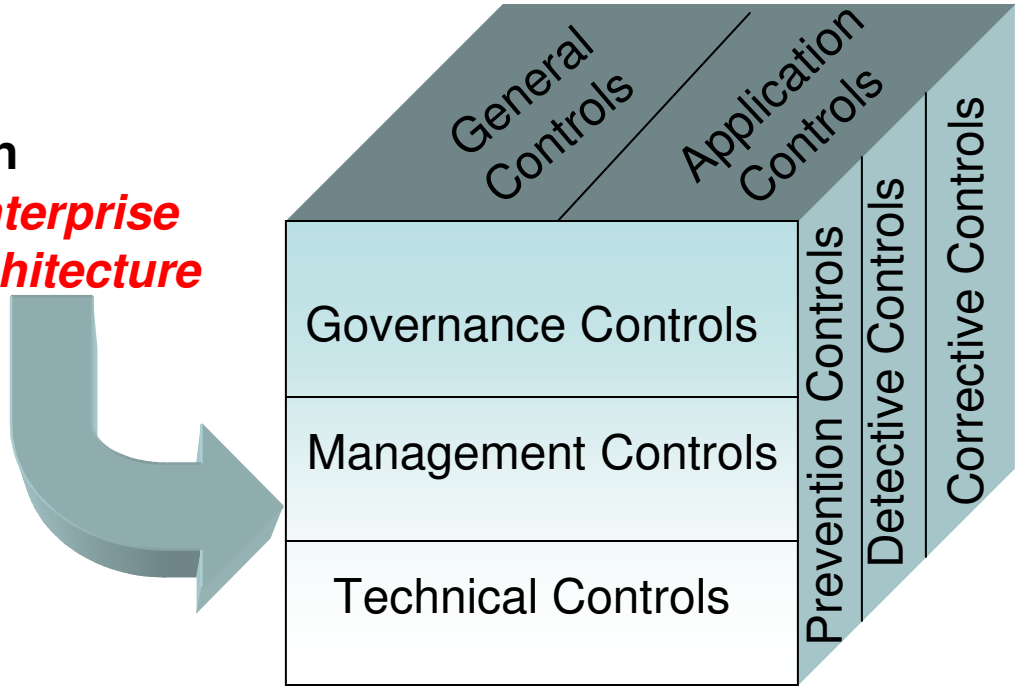
Stewards of a public trust, 5 fundamental obligations (from John Locke, *Treatise on Government*, 1690):

- **Enhance value**
- **Ongoing, continuing obligation**
- **Accountability**
- **Protection**
- **Increase yield**

Enterprise Architecture

Control Objectives for Information and Technology Systems (COBITS)

- Ensure Strategic Alignment
- Verify Value Delivery
- Manage Resources
- Manage Risks
- Monitor Performance



IT Controls
Global Technology Audit Guide

Stewardship versus Ownership

- Stewardship
  - Custodianship on behalf of the enterprise, service to fellow employees
- Ownership
  - End-to-End possession of a service to enable the enterprise
- Data Stewardship enables Integrated Service Delivery

Stewardship

Service to fellows

Ownership

Often places fellows at odds

Moving Towards Stewardship and SOA - The Issues

- Business Planning Management Framework
  - Accountability
  - Performance Management
- Architecture Management Framework
- Portfolio and Project Management Framework
  - Funding
- System Development
- Operations Management Framework

Accountability & Performance Management Frameworks

Ontario

Aligned by

Business Process

(Service)

Performance Management

Delivering the Service

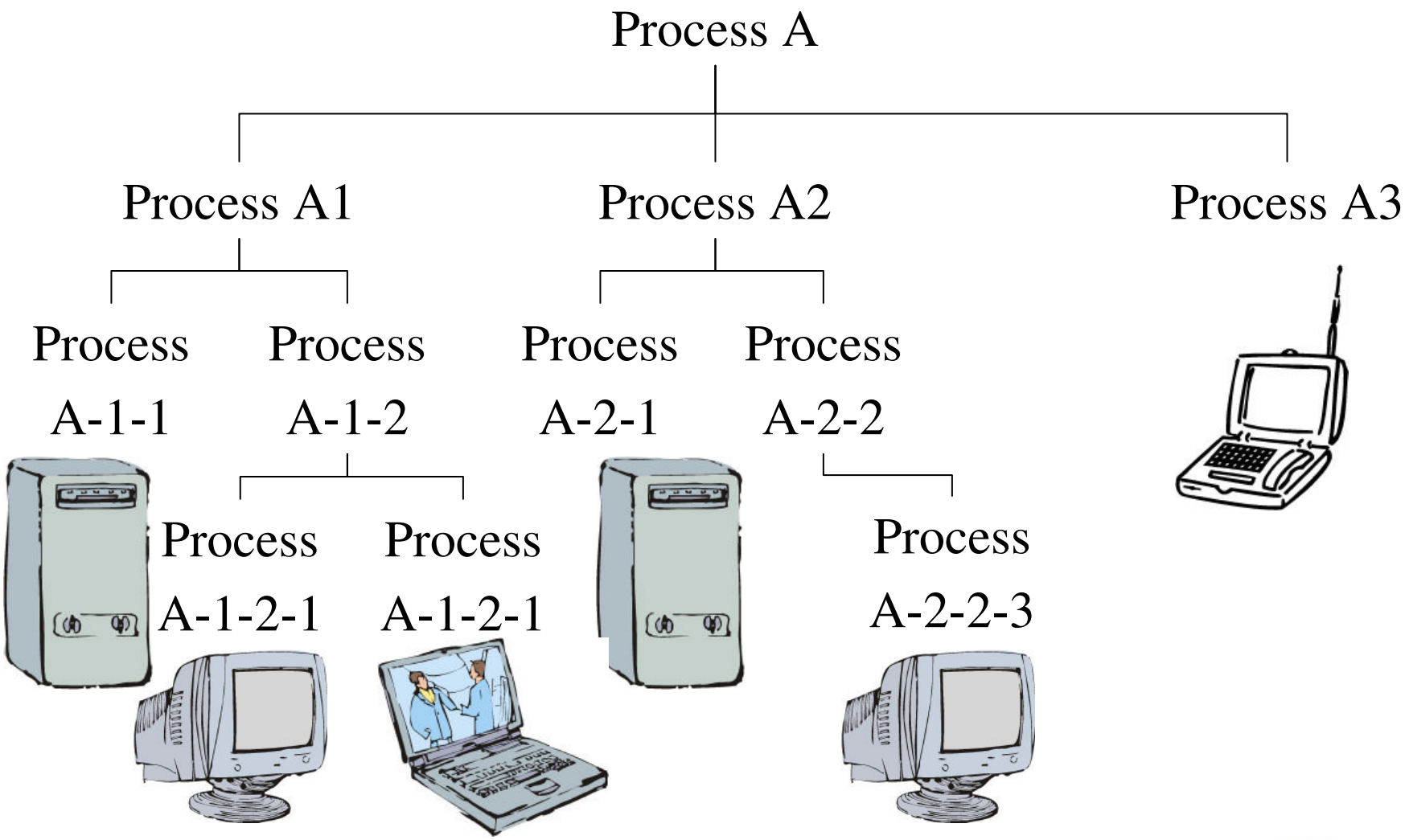
Credit for Helping

Another Vertical Deliver their Service

CGI

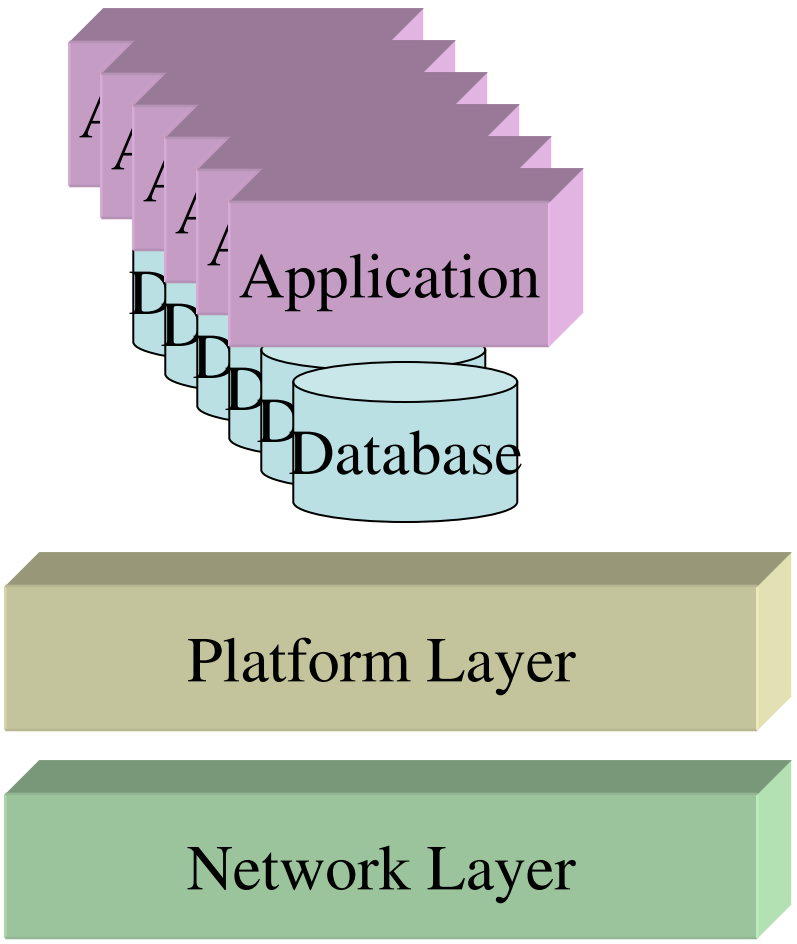
The Way that Systems Evolved: A Process Centric View of the World

Ontario



CGI

The Resulting Architecture View



Information Systems Architecture

ERPs create partial consolidation

Applications and Databases

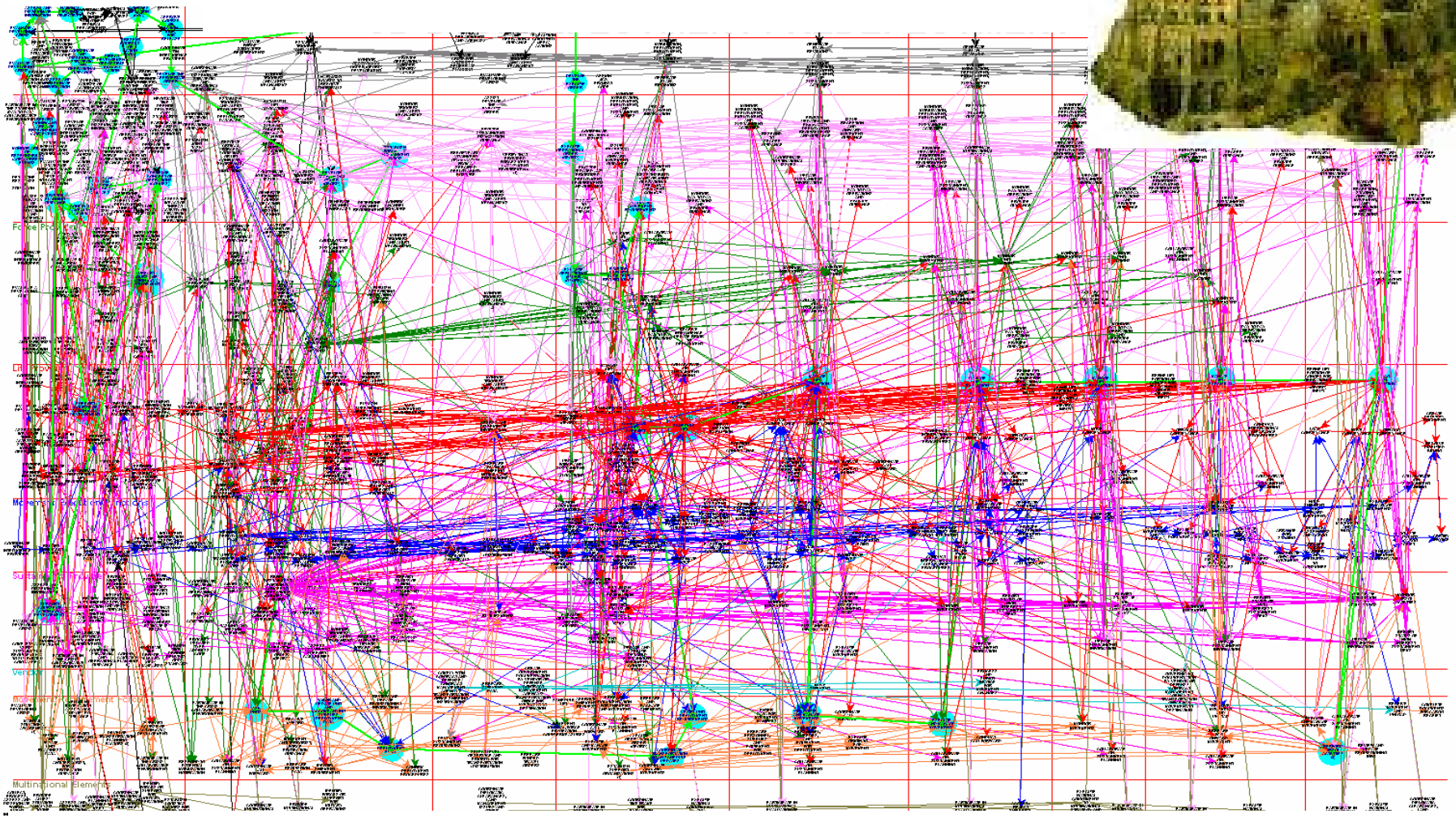
Closely Coupled

Platforms and Hardware

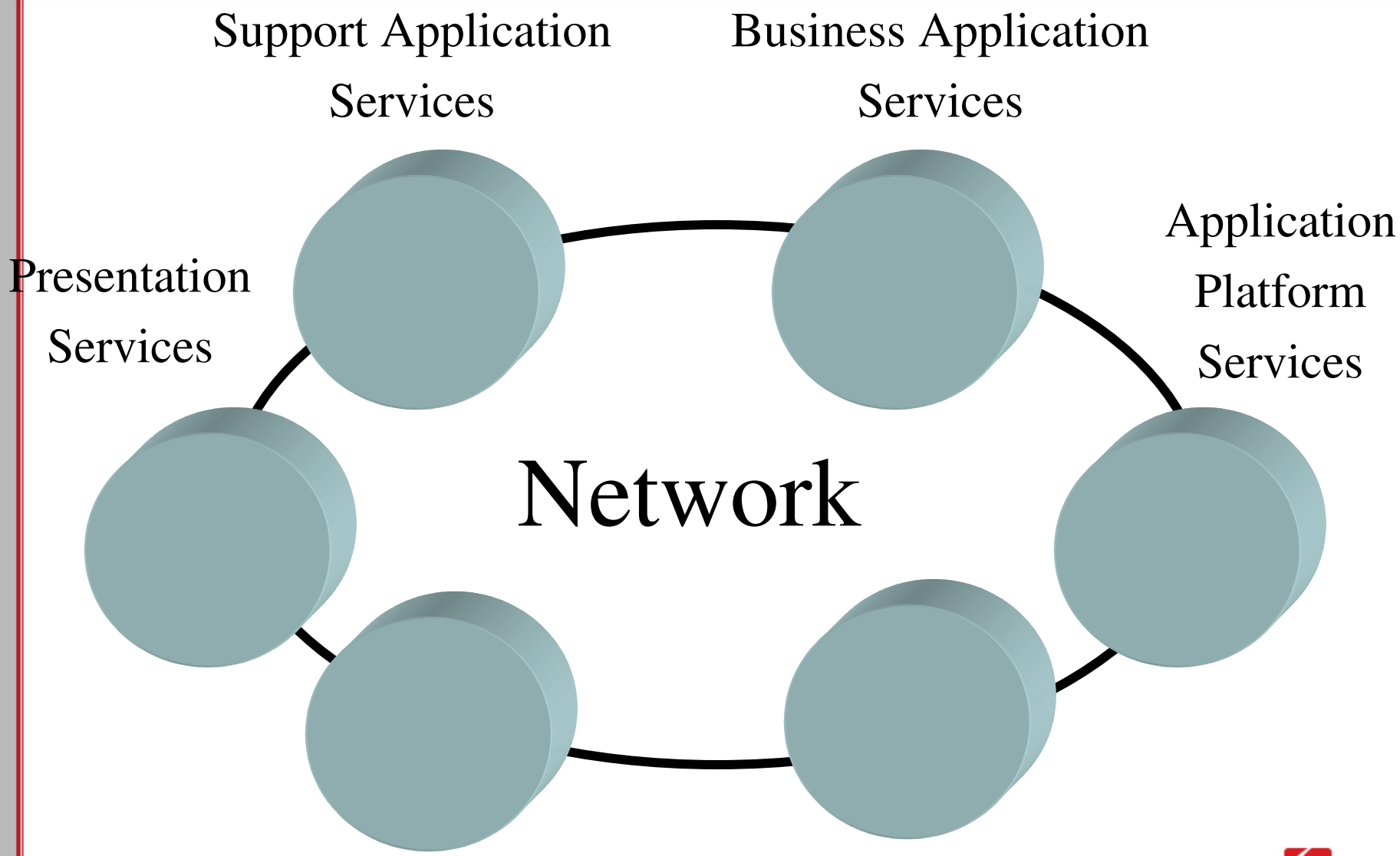
Commoditized and Consolidated

Networks Consolidated

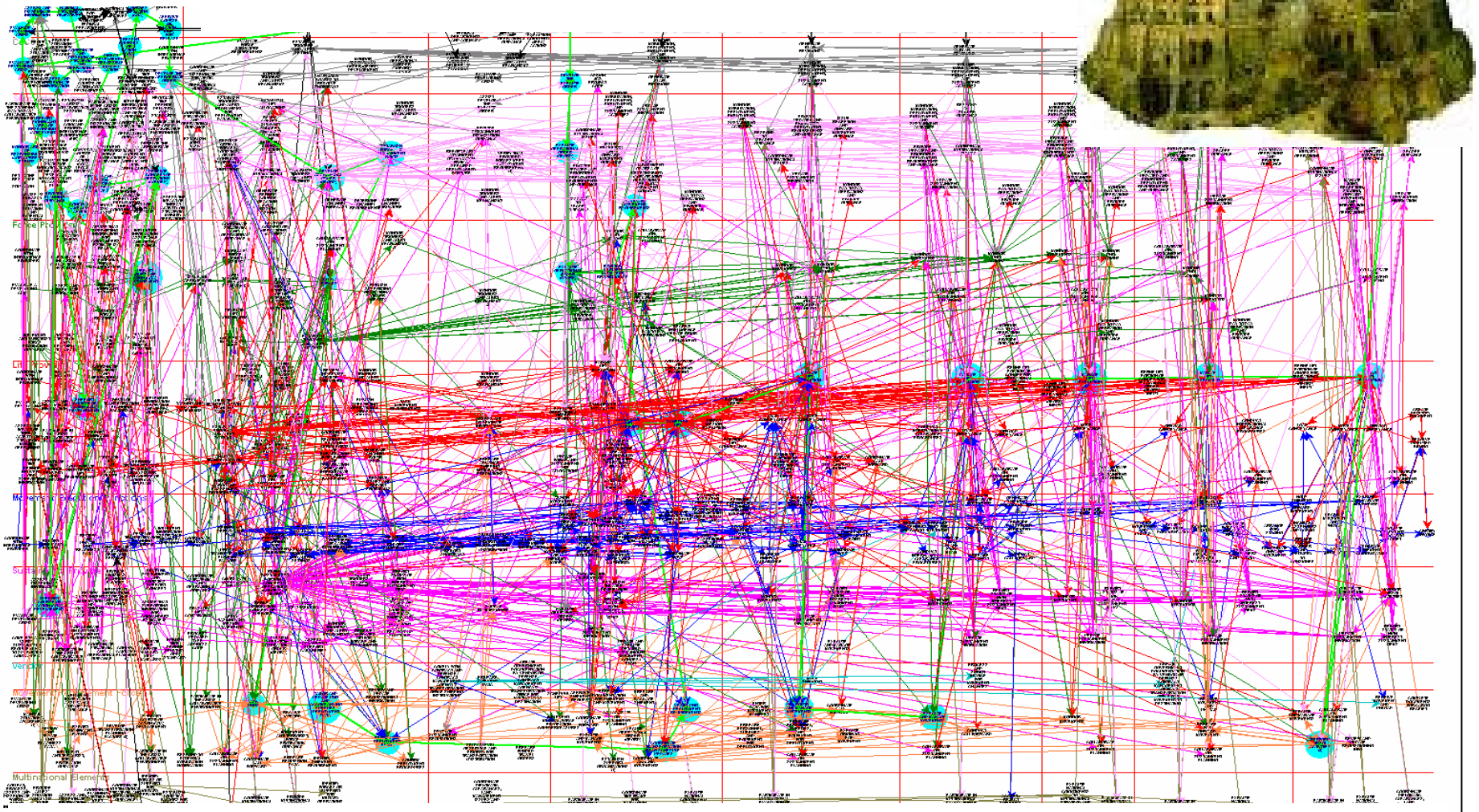
The Daunting As-Is



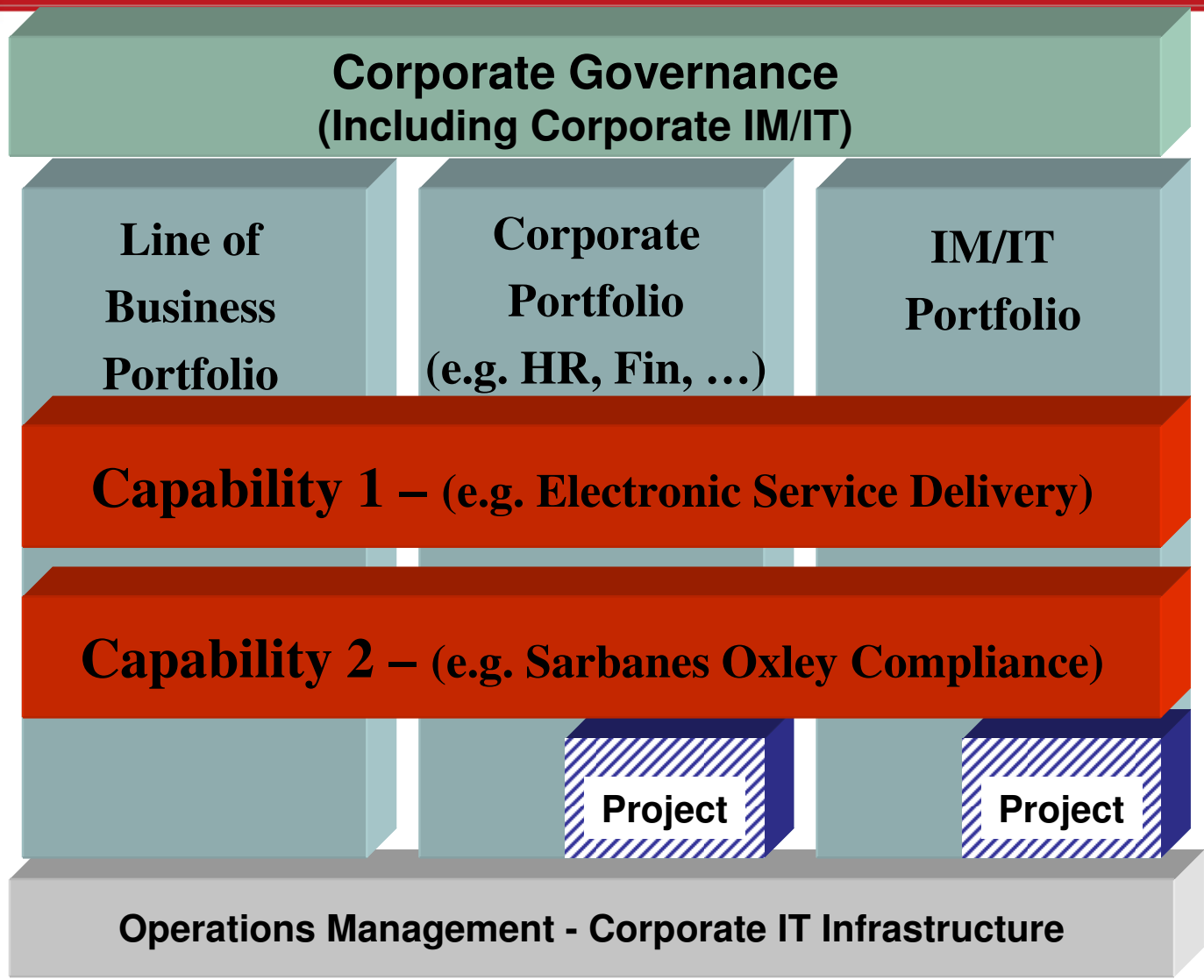
Service Oriented Architecture
All On the Same Level



The Daunting SOA Will-Be Without Architecture



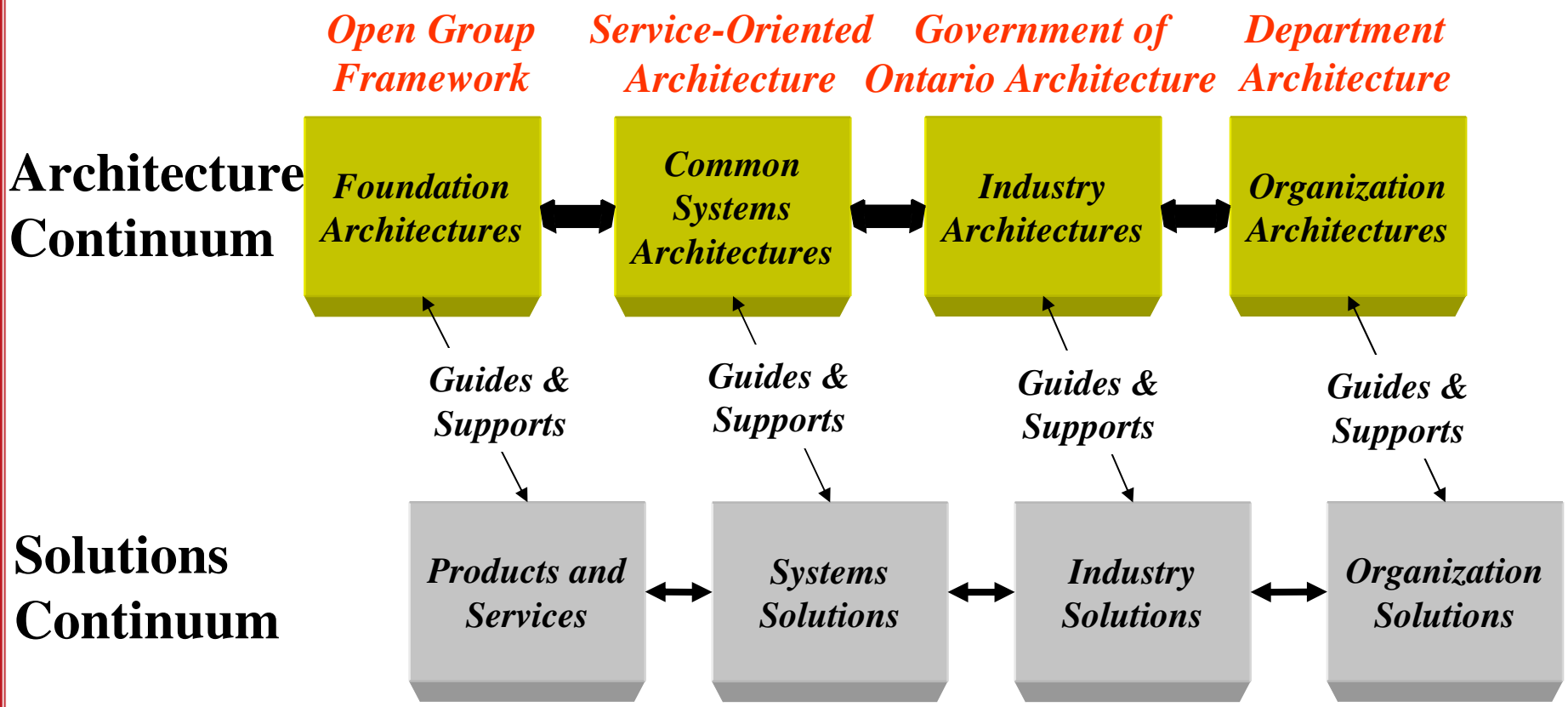
Stewardship – Addressing Horizontal Capabilities



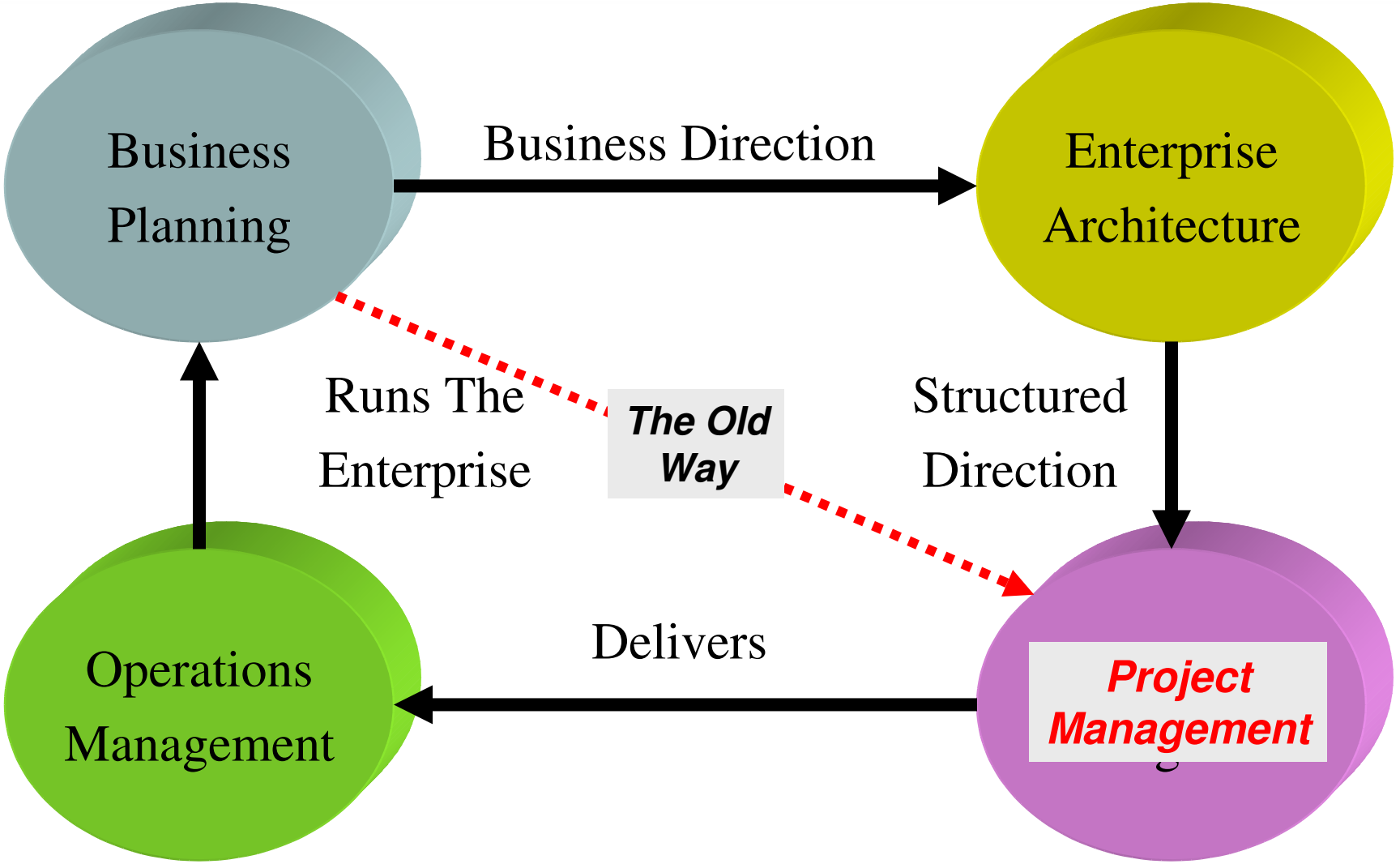
Functional Management (Vertical)

Capability Management (Horizontal)

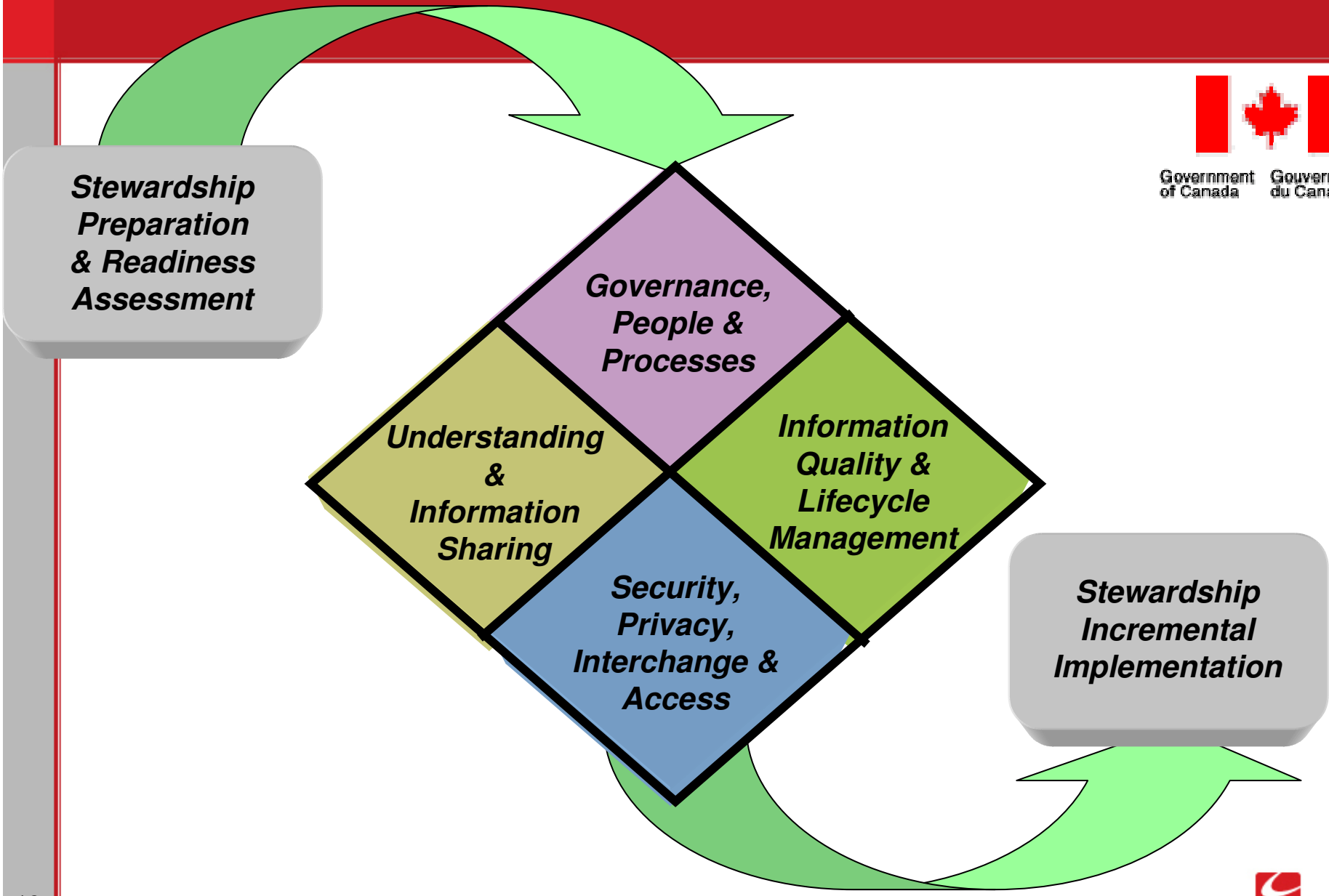
Illustrating the Enterprise Continuum



Coordinating the Management Frameworks



Information Stewardship: An Example



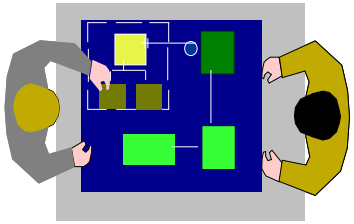
Preparing for Service Stewardship

Ontario

Service Stewardship Readiness Assessment

Business Case

Vision, Principles & Goals



Strategy

Service Stewardship Model

CGI

Stewardship Dimension – 2
Governance, People, Architecture, and Processes

Stewardship Roles & Governance

Communication And Education

Service Stewardship Governance, People Architecture & Processes

Plans, Policies & Architecture

Service Management & Tools

Personnel Selection & Training

Stewardship Dimension – 3

Service Structure and Quality

Information Service Naming, Definition & Metadata

Service/Information Lifecycle Management

Information Sharing Model & Semantics

Service Structure & Quality

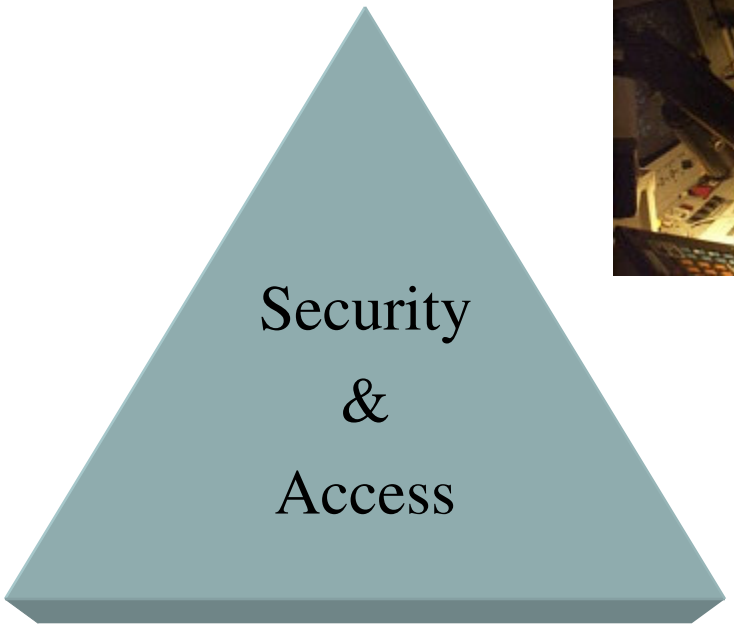
Information Capture, Validity & Integrity

Service/Information Standards Management

Service/Information Audit/Performance Management

Service Security and Access

Service/Information Security, Privacy, Confidentiality & Protection



Service/Information Access, Retrieval, Usage, Backup & Recovery

Service Information Storage, Distribution, & and Sharing

SOA Implementation

Ontario

Prepare the Incremental Implementation & Transformation Plan

Implementing The Architecture

Incorporate Lessons Learned and Improve

Coordinate:

- **Capability Management,**
- **Enterprise Architecture,**
- **Portfolio Management &**
- **Service Management**

CGI

Implementing Stewardship in SOA

An Implementation of SOA

- The Need is to Socialize SOA
- Need for Business Champion
- Organizational Maturity
- Quick Win
- Enterprise Integration
  - Presentation
  - Infrastructure
  - Information
  - Process (Application)

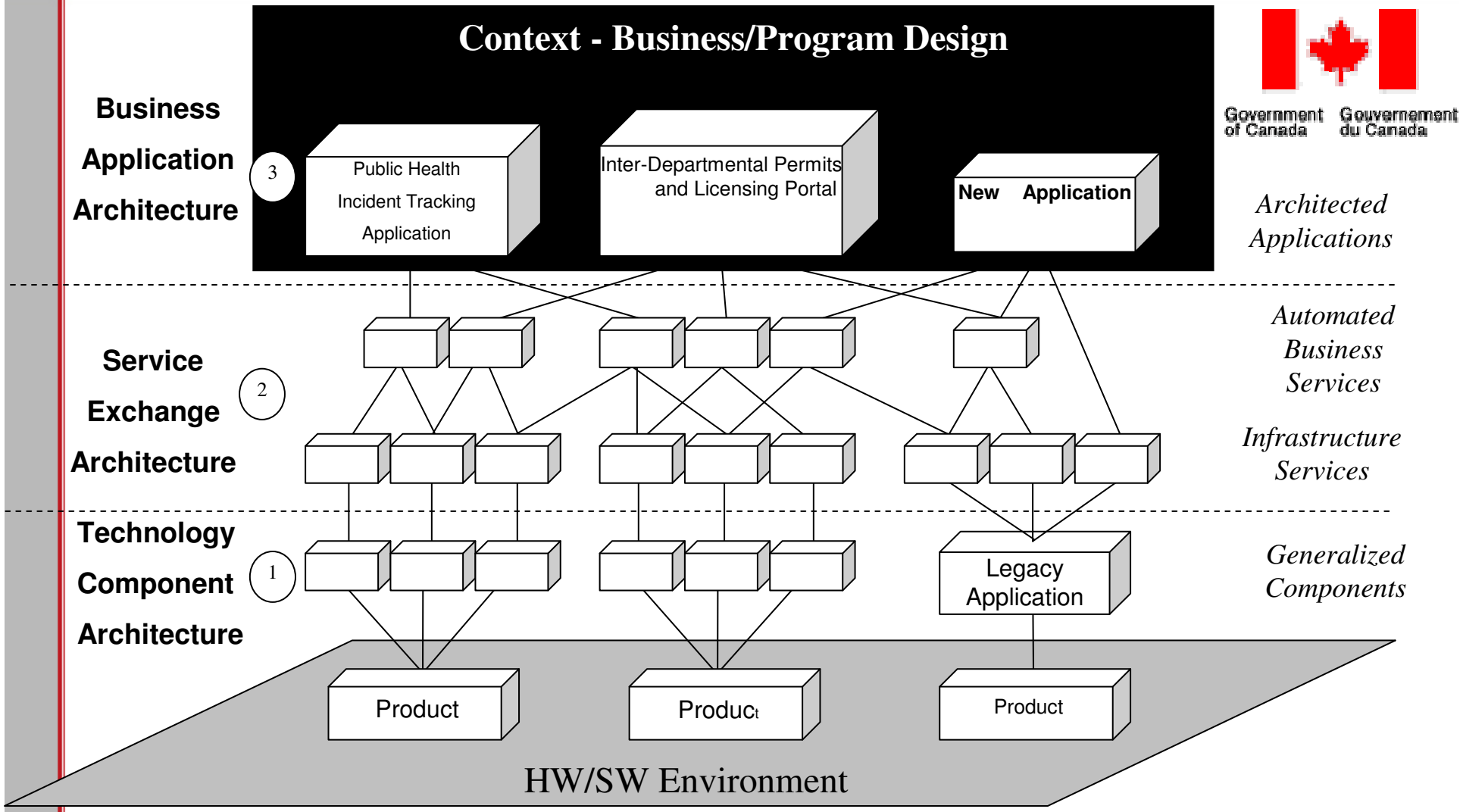
The Pitch - Challenges

- The Selling Points
  - Integrated Service Delivery
  - Quality Services and Information
  - Agility for new programs
  - IM/IT ability to focus on business functionality and decision support
  - Enterprise Awareness and Focus
    - Reward enterprise services
  - Evolutionary vice Revolutionary Roll-out

- Major Business Transformation Changes
  - Change = Fear = Lapse in Service Delivery
  - Status Quo = Jobs = Comfort Zone
  - IT Job Decrease
  - IM/IT Skill Sets and Professional Standards
    - E.g. Citizen & Employee Decision Support vice Database Administrator

Determine SOA Architectural Approach

GoC SOA Strategic Direction

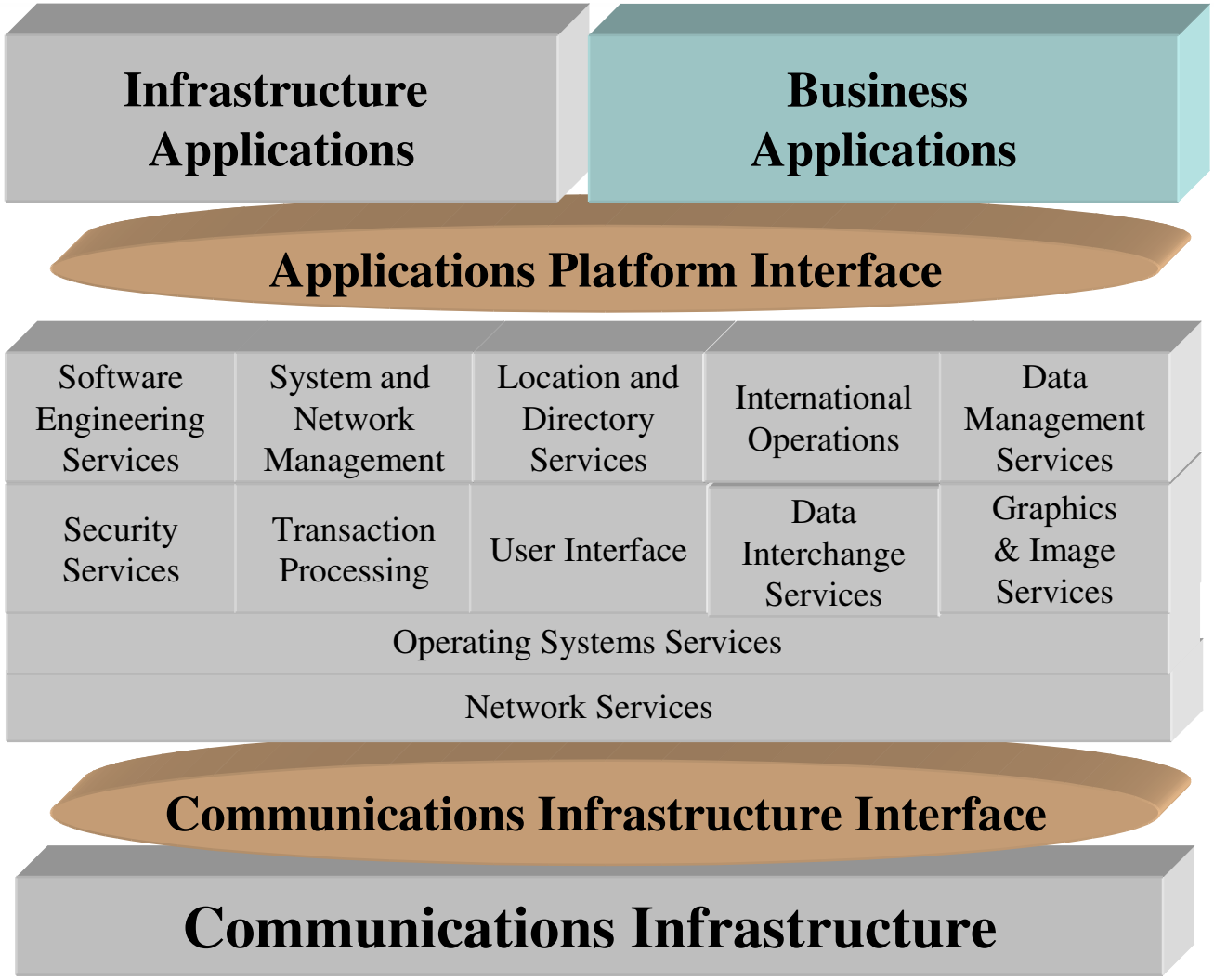


Governance

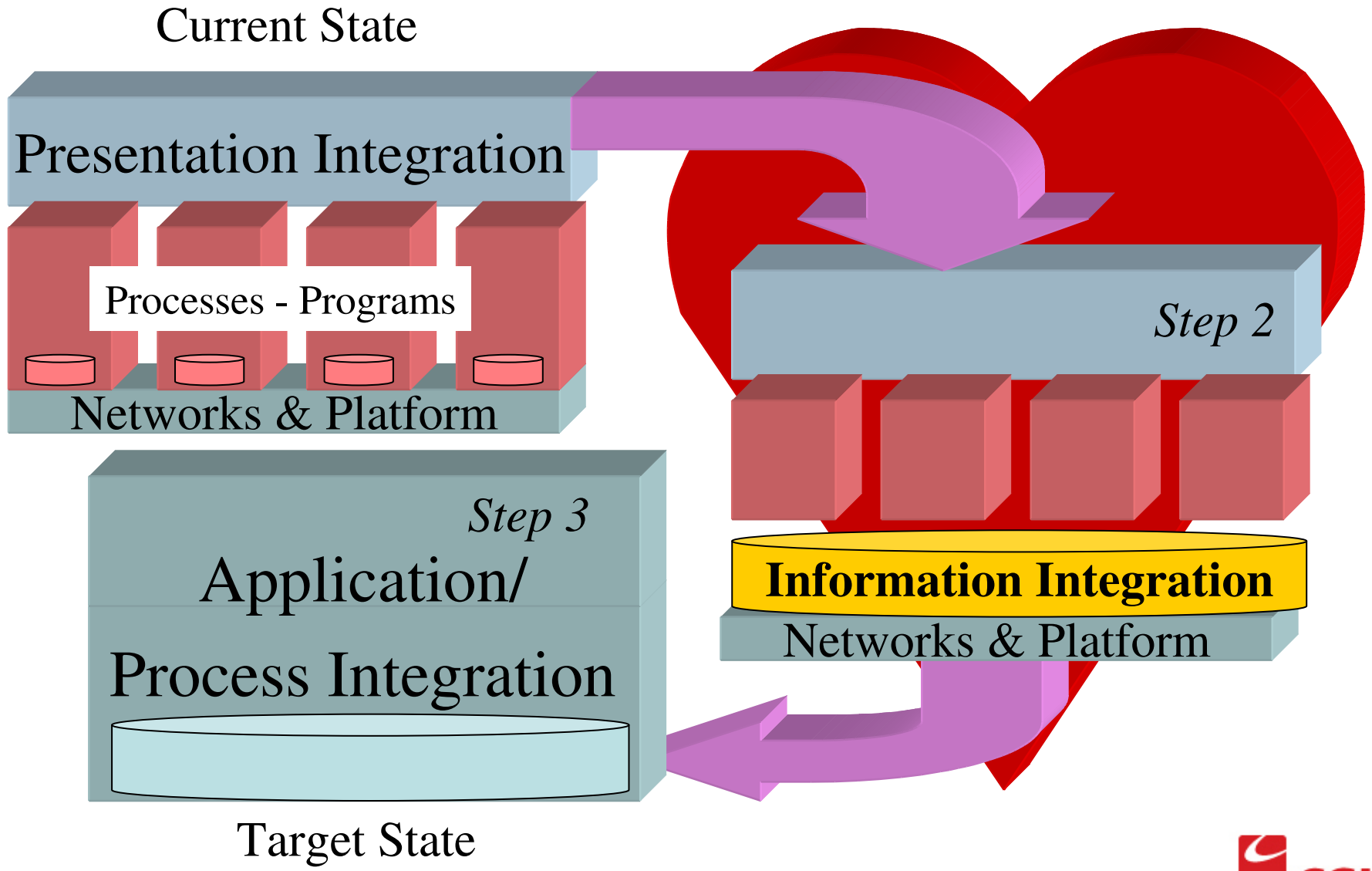
- Must be joint business/IM/IT
- Use Stewardship as the basic management technique
  - Others can also be used concurrently
- Set up at various levels of the business
- Install Initial Governance ASAP
  - Use the outline Stewardship Dimensions as the basis for initial Terms of Reference (TOR)
- Develop full governance once stewardship dimensions are established
  - Stewardship Dimensions for structure and TOR

Categorize Services to Be Offered
Technical Reference Model - Open Group – TOGAF 8.1

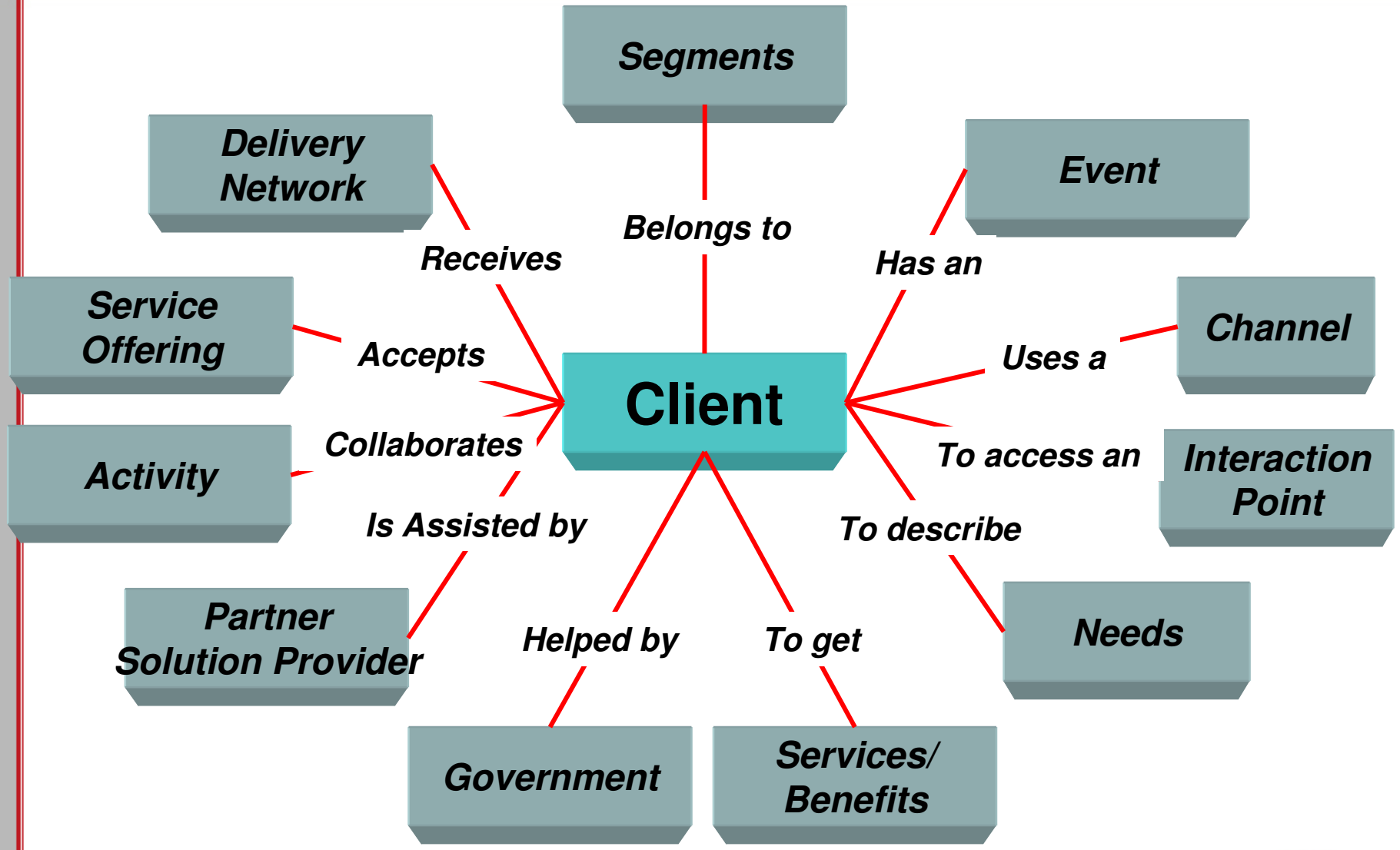
- Model and taxonomy of generic platform services
- IEEE POSIX 1003.0 based
- Standard Services pave way for COTS/GOTS support
- Assign Stewards for classes of Services



Enterprise Integration - Approaches



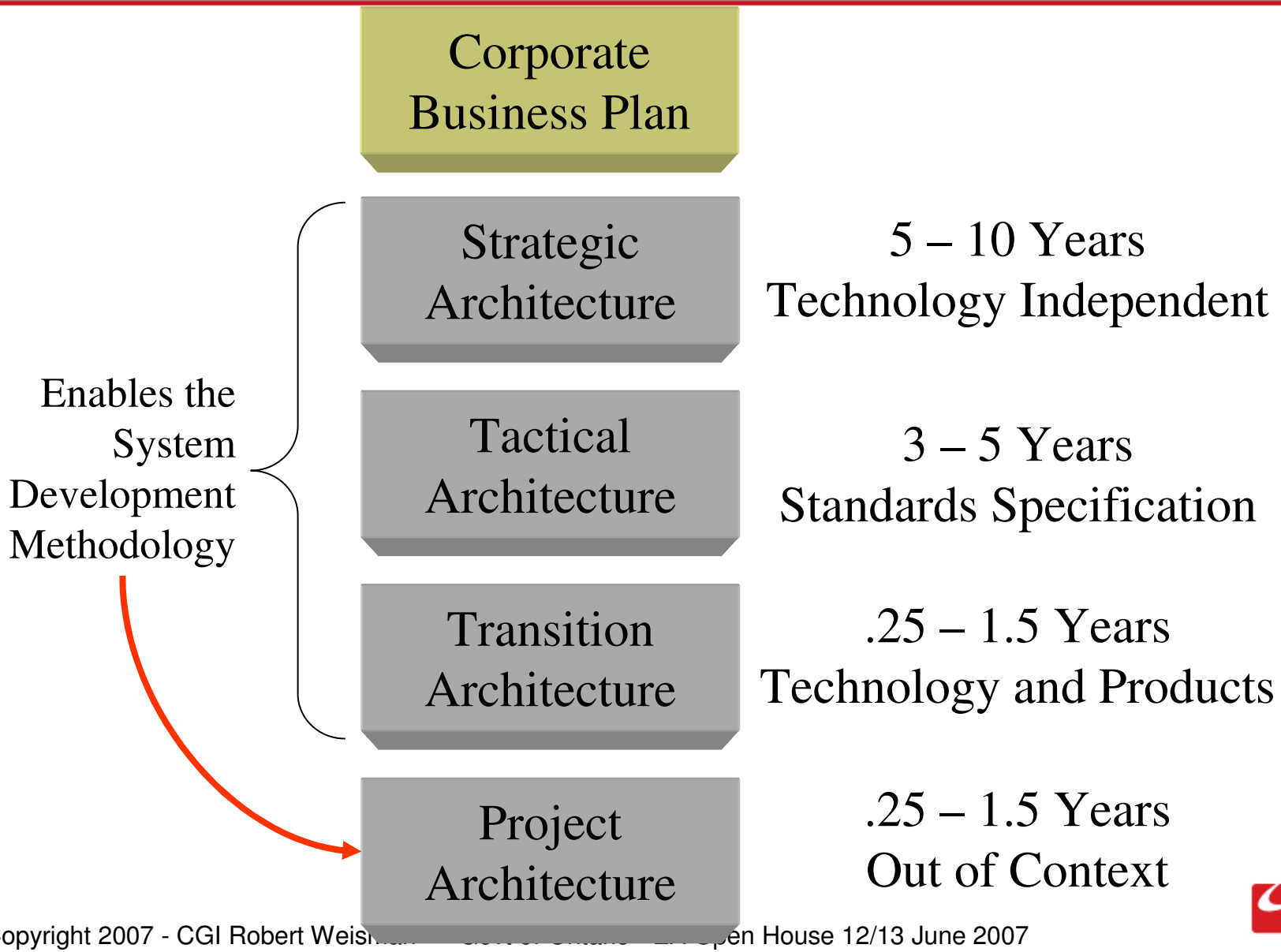
Use Common Subject Model as Basis for Assignment of Stewards



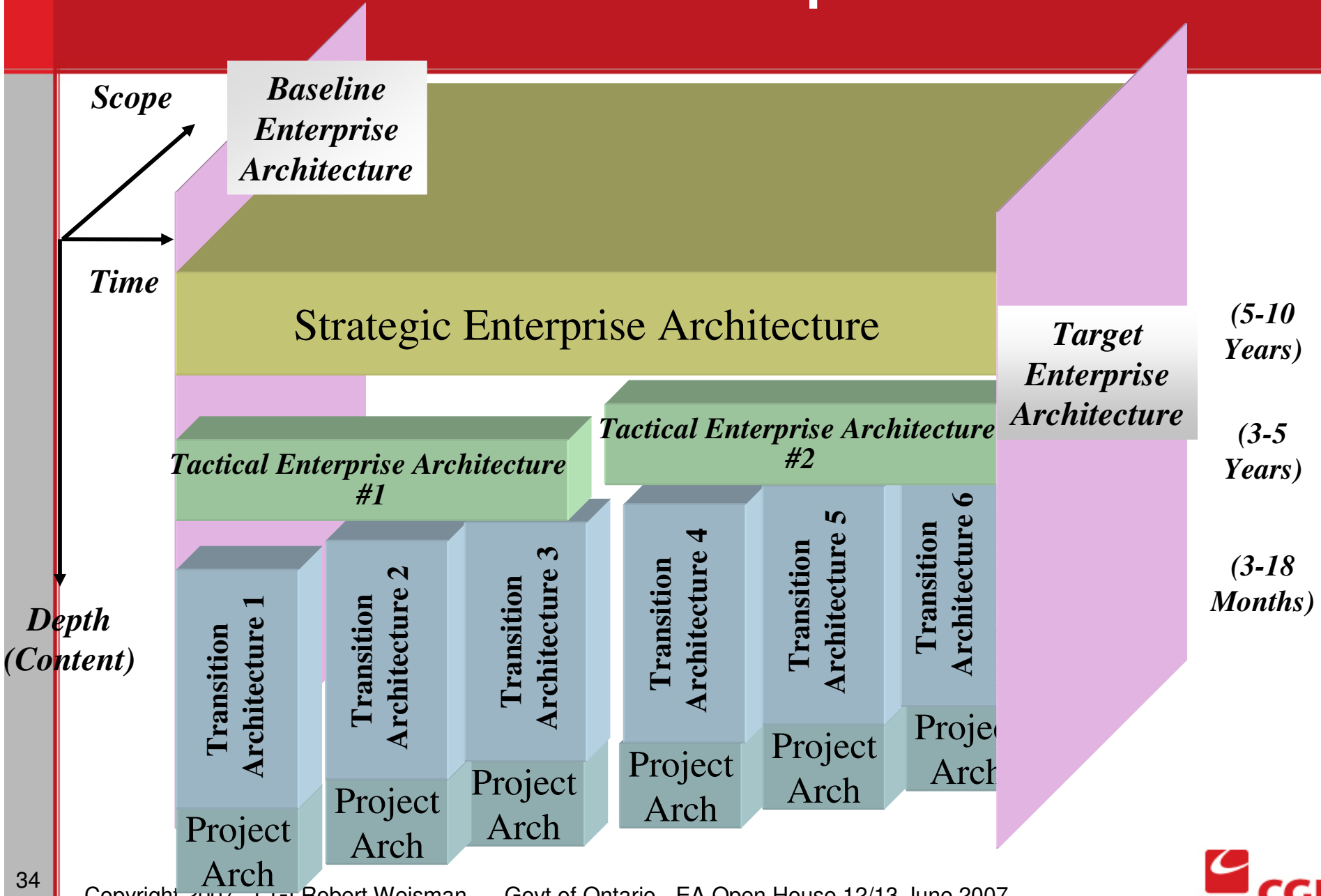
Information Integration - ROI

- Management of Information as a Corporate Asset
  - Reasonably well understood and accepted
- $10,000 per data element
- Large Org 500,000 data elements, needs 20,000 data elements
- Huge infrastructure, interfacing and maintenance bill
- Quantitative –
  - Savings in the $100s of Millions
- Qualitative
  - Enhanced Client Service
  - Greater employee satisfaction
- Stewards to Manage and Measure ROI

Outline Architecture Views – Agility and Flexibility



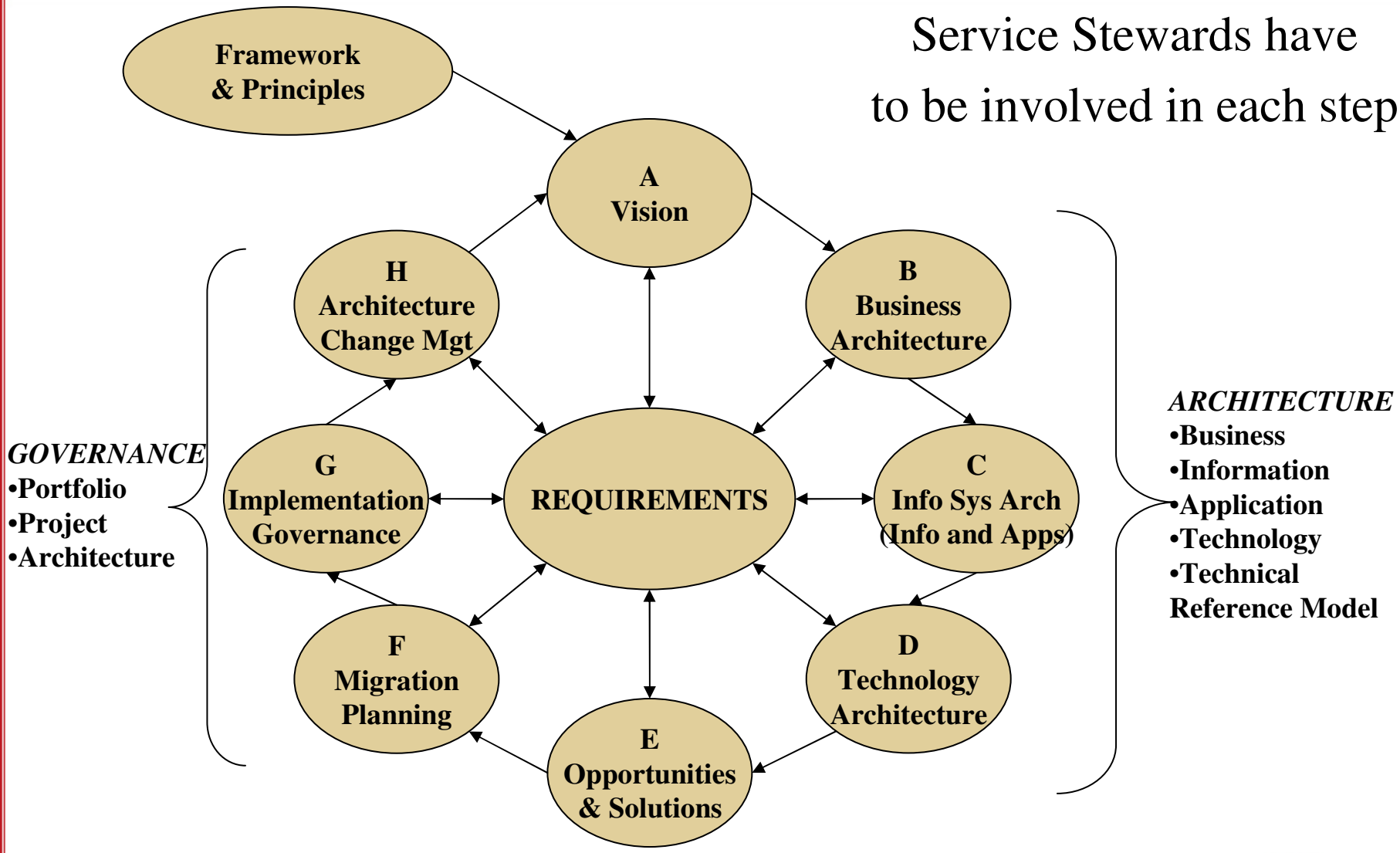
Architectures – Relationships



Settle on an Architecture Development Method (ADM) - **Open Group - ADM**

Ontario

Service Stewards have to be involved in each step.



CGI

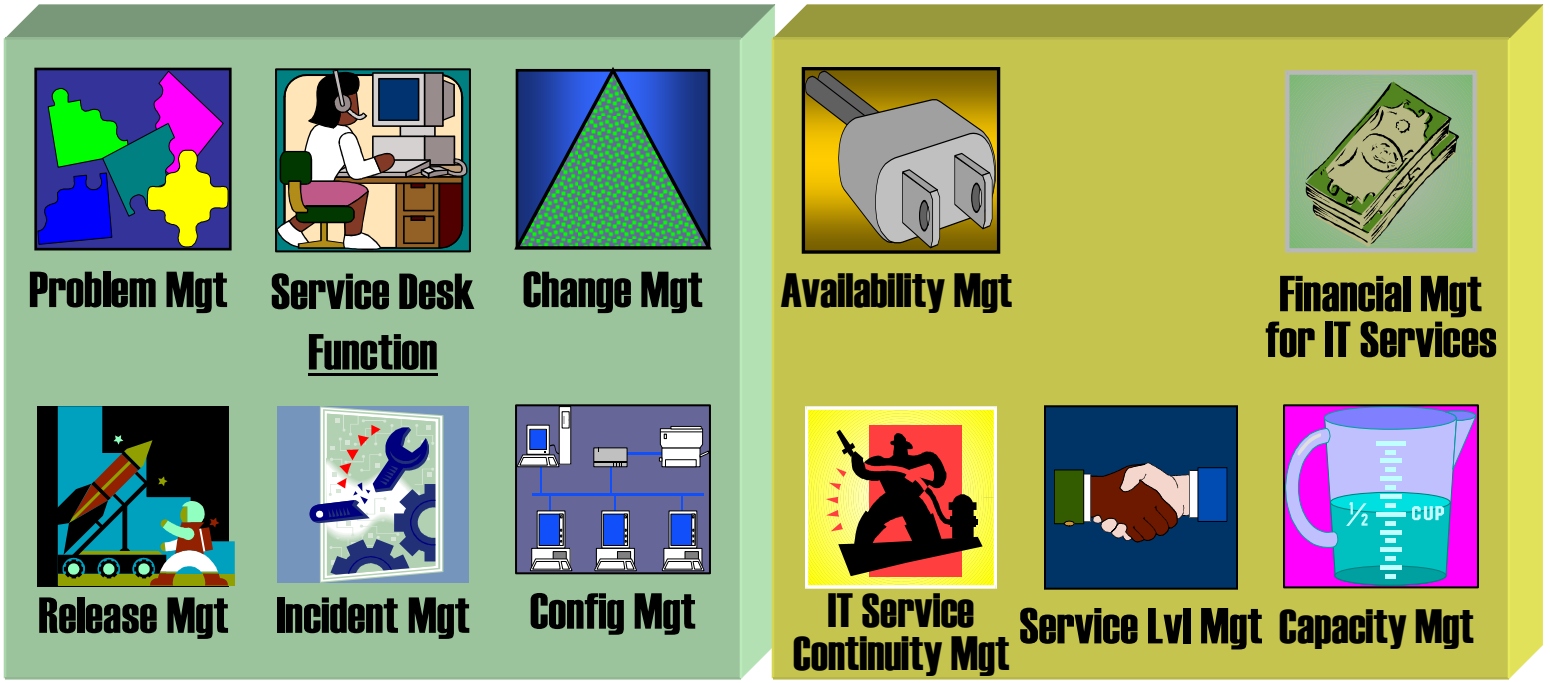
SOA Architecture Proof of Concept

- SOA Definition, Architectures and “miracle” products proliferating
- There is no “silver bullet” except for hard work and architecture
- Architecture and Solution Proof (s) of Concept
  - Show me several options
  - Get Business and IM/IT Buy-in
  - Trial Best Stewardship Techniques
  - Shows integration challenges
  - Assess Advantages and Risks
  - Pick best of breed for Departmental Approach

Stewards Manage Delivered Services in a Systematic Way

Ontario

ITIL® Modules



CGI

Next Steps

- SOA Standards are emerging
- Involve Business for Service Orientation and Stewardship
- Most corporate solutions will include a partnership between client, integrators and vendors
  - Use Open Standards AND Methodologies (e.g. TOGAF)
- SOA without Enterprise Architecture will become a mess
  - Remember Client Server hype
- Information Services could become a quick win
- Stay flexible through planning and architecture
- Test, test, test

Q&A

Questions?