

STAPLES®

Canonical Model Governance

2011

Enterprise Integration Services



that was easy.™

Canonical Model Governance



- **Roots**
- **Implementation**
- **Governance**

Corporate Overview

- Staples is the world's largest office products company and a trusted source for office solutions.
- Provides products, services and expertise in office supplies, copy & print, technology, facilities and breakroom, and furniture.
- Invented the office superstore concept in 1986
- Now has annual sales of \$25 billion, ranking second in the world in eCommerce sales.
- With 90,000 associates worldwide, operates in 26 countries throughout North and South America, Europe, Asia and Australia, making it easy for businesses of all sizes, and consumers.



that was easy.®

IT Overview

2400 FTE capacity in the global IT organization

Multiple data centers – domestic and international

A portfolio exceeding 800 applications

IT development, management and governance activities

Applications

- Manage and prioritize enterprise work
- Reduce 'lights on' costs by consolidating applications
- Migrate existing applications to common enterprise services

Infrastructure

- Virtualization and enterprise governance
- Standard service catalog with well understood SLAs
- Implement ITIL, CMDB methodologies and tools



Canonical Model Governance

Roots

- Enterprise architecture
- SOA
- Integration architecture

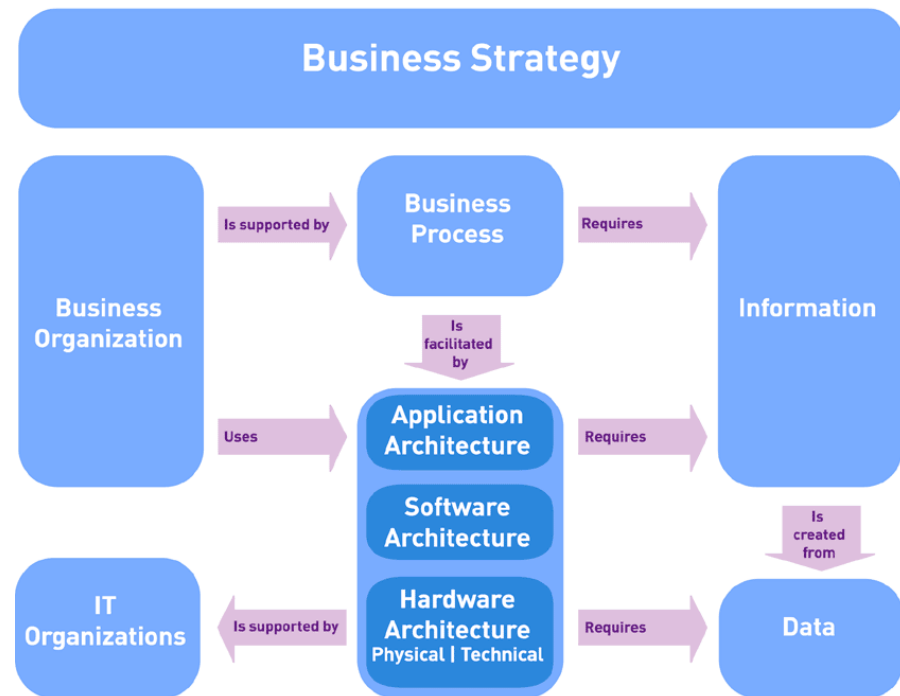


Roots

Enterprise architecture

A strategic commitment to analyze:

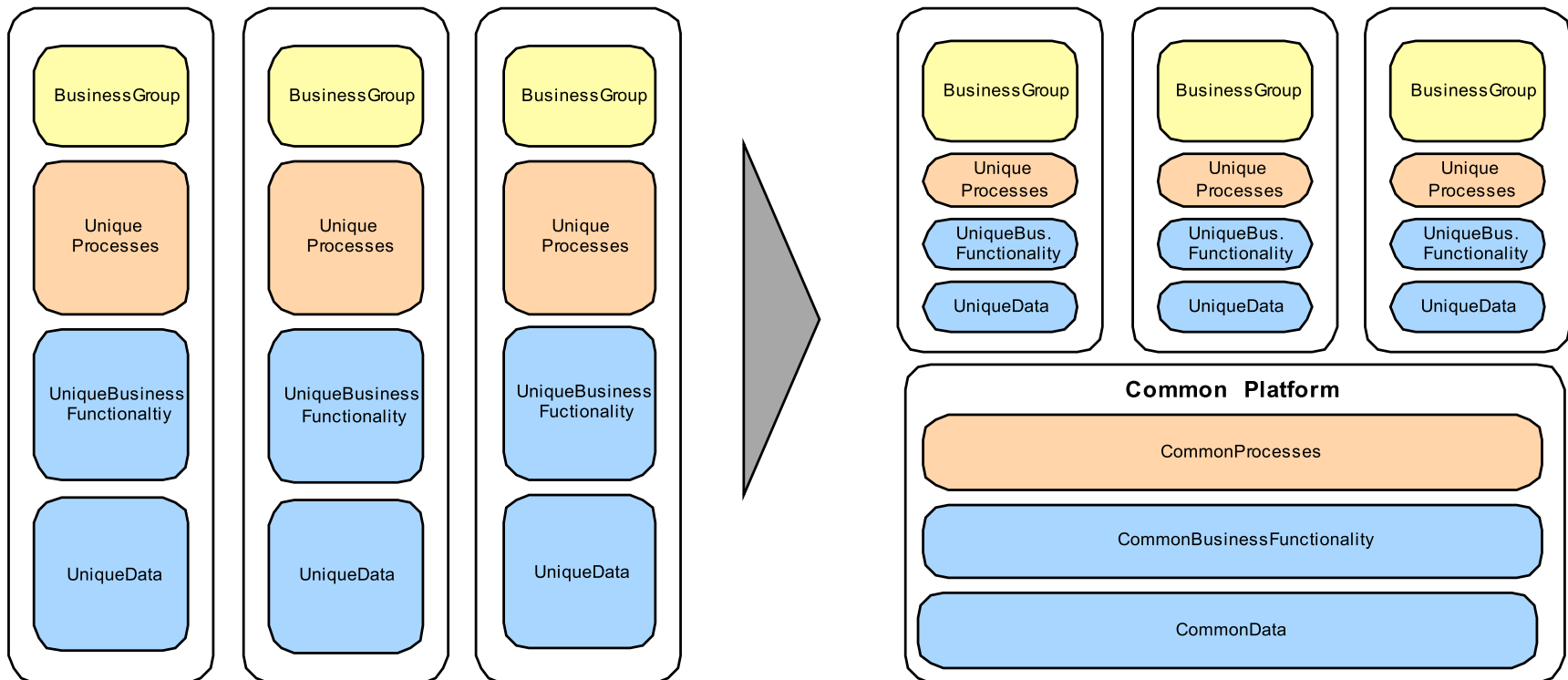
- Key business processes
- The applications that support them
- Their information needs



Roots

SOA

Services program initiated in 2002.



Roots

Integration architecture

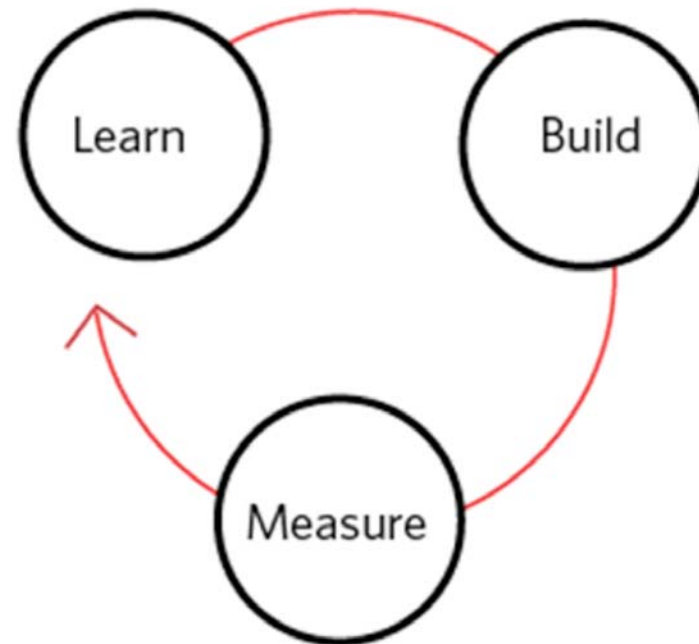
- A long term commitment to integration:
 - EDI (1992)
 - Messaging (2000)
 - Routing (2000)
 - B2B (2000)
 - EAI (2005)
 - Canonical Models (2007)
 - ESB (2009)



Canonical Model Governance

Implementation

- Late 2009
- Debate
- Approach
- Concepts
- Spring 2011

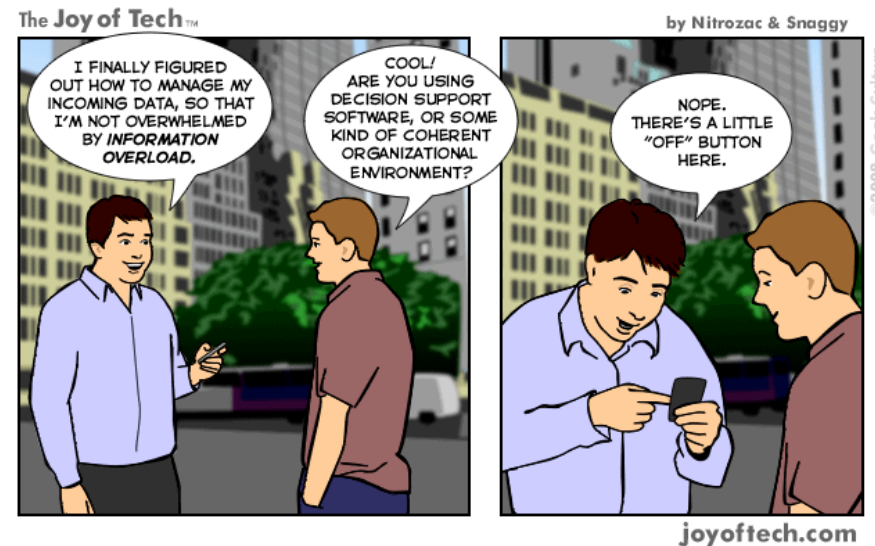


Learn > Build > Measure
Start out informed

Implementation

Fall 2009

- 10 schemas with few standards
- Consolidate to a single integration suite
- Build an ESB to support 10 million transactions / hour
- Develop 150+ new integrations using canonical models
- Build a patterns based process



Implementation

Debate

Cost

- Is it worth the effort and cost?

Ownership

- Who has the expertise and commitment?

Approach

- How much gets implemented?
- Adopt a standard or develop internally?



Implementation

Debate

By establishing an information model, we are moving away from...

Tower of Babel Model

- Application teams interfaces are in many languages – no definitions of terms provided during integration design
- ESB team is responsible to understand all the dialects and translate between them accurately
- Chances for agile and accurate integrations are low



Implementation

Debate

We are moving towards...

UN Model

- Application teams interfaces are in many languages – but definitions are documented and approved in an ICD – so *individual languages are well defined and contained*.
- ESB team models and shares a common language – we know our terms and can correlate them to application definition in their own language.
- Availability and use of common language leads to organizational understanding
- Increases agility – applications can be integrated quickly and accurately.



Implementation

Approach

Cost

- Partner with transformative / strategic programs and projects

Ownership

- ESB has the relevant horizontal view across organizations.

Approach

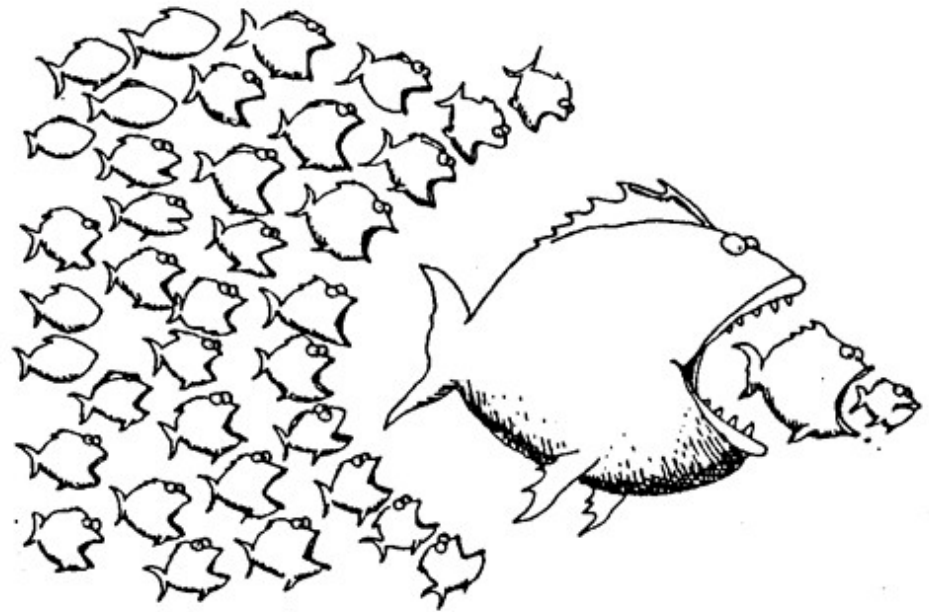
- Use canonical pattern as default for integrations
- Reference ARTS and OAGIS standards but build internally



Implementation

Concepts

- Use a 'bottom up' style
- Model 'just in time'
- Use OAGIS and ARTS standards and best practices
- Factor in many inputs to arrive at a view of the common

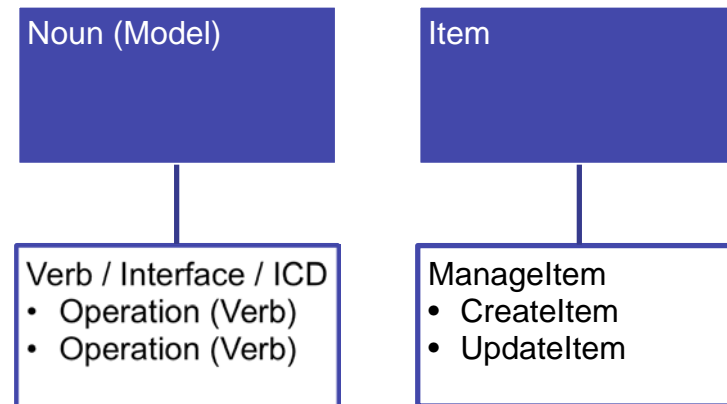


Larson

Implementation

Concepts

- Derive canonical interfaces from the model
- A canonical interface is a filtered, versioned view of the canonical noun
- Implement canonical interfaces on the ESB
- Each interface has its own namespace and version – shared nothing schemas
- Canonical interfaces are SOA endpoints



Implementation

Spring 2011

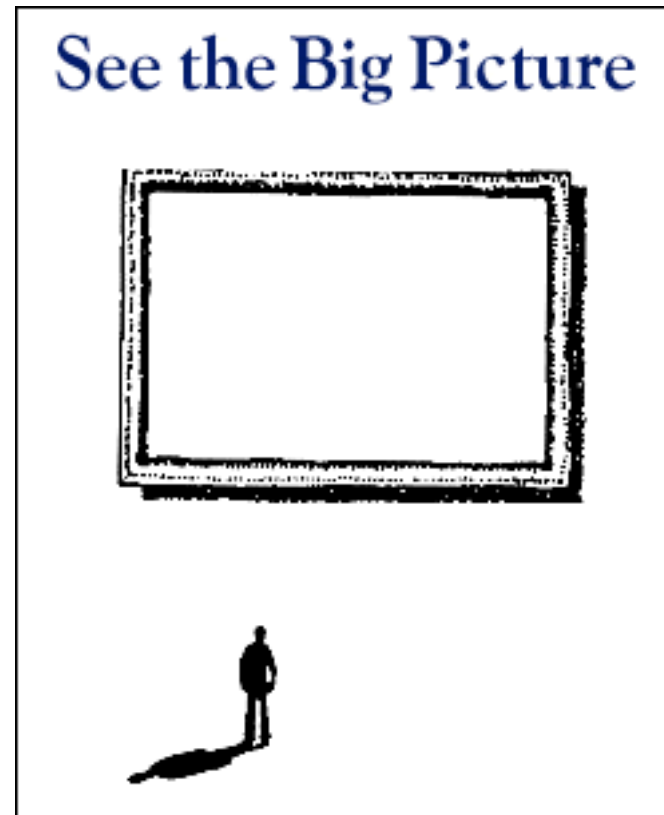
- Canonical model with 20 nouns
- Full set of standards implemented
- 70+ canonical interfaces derived from model
- Rotating noun ownership
- ESB go-live June 2011
- 150 integrations built
- Patterns based design process instituted



Canonical Model Governance

Governance

- People
- Process
- Technology
- Challenges



Governance

People

- Explain key concepts
- Share the model publicly
- Listen to then address concerns
- Make the model real – implement it
- Help simplify technology partners work

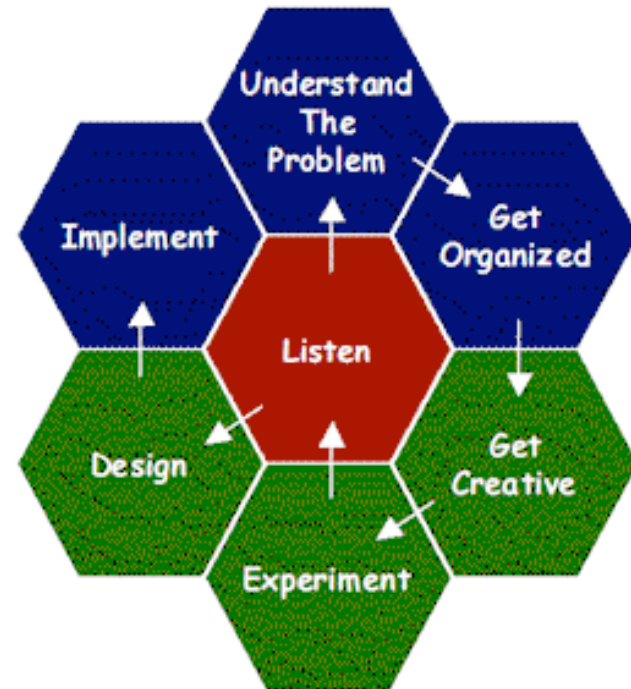


Governance

Process

Governing the canonical model is a process:

- Don't wait to start
- Expect the model to shift
- Help people understand
- Measure the cost and effort
- Let it settle
- Solicit feedback
- Improve again



Governance

Technology

- Process alone can't scale
- As model implementations grow, versioning and impact analysis become very important
- Difficult to follow standards, track versions, publish releases with an XML editor
- Do we build our own tools to manage change or find ways to focus on the big picture?



Governance

Technology

A canonical model must be:

- Manageable
- Consumable by many users.

We chose igniteXML for its:

- Modeling features
- Version control
- Release control
- Central repository
- Schema consumption features

We are federating igniteXML and CentraSite for better SOA governance.

igniteXML



CentraSite™

Challenges

Vocabulary management and model relevance

- Business facing
- Application specific
- Database schemas
- Visibility to relationships up and down the information stack

Federating metadata views in a way that enables enrichment of the canonical model (and vice versa)

- Enterprise architecture
- SOA
- Database architecture



Canonical Model Governance

Remember

Canonical model = big picture

Communicate about the model

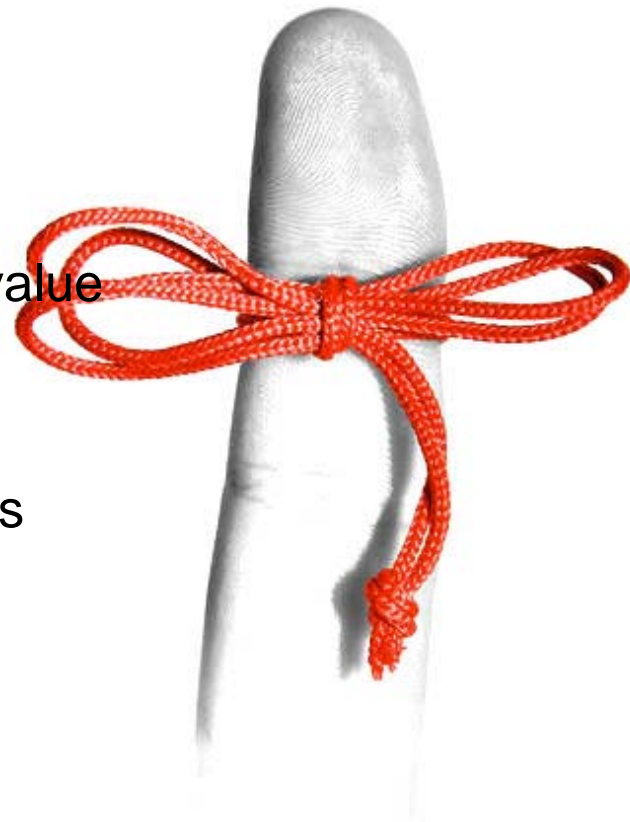
- Stakeholders and users need to hear the value proposition

Implement the model

- Make it a visible, central part of integrations

Govern the model and its state

- Demonstrates competence
- Drives reuse
- Creates trust



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Canonical Model Governance

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[Tower of babel link](#)

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