The Business Value of Reference Model Architectures

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Objective

- Explore the issues and customer priorities in the reference model architectures presented:
  - U.S. Department of Defense
  - Federal Information Architecture
  - Homeland Security
  - Vendor Frameworks
  - Customer Internal Frameworks
God invented the heavens and the earth in seven days…

but he didn’t have an installed base…

(p=0.8)

Gartner Group
An Important Reference Model

- APPLICATION
- PRESENTATION
- SESSION
- TRANSPORT
- NETWORK
- DATA LINK
- PHYSICAL
Extending the Model to Reflect Enterprise Realities
Value of Reference Architectures

- Architecture must inform decision-making
- Guiding technological evolution in alignment with business objectives
- Structuring information content to meet business needs
- Defining the business logic and process flow
- Defining the technology infrastructure
Determinants of Technology Strategy

Source: Burgelman, et. al. (2001).
The CASA Wheel circa 1985

- The Society of Manufacturing Engineers (SME) and its Computers and Automated Systems Association (CASA) created its original “CIM Wheel” Enterprise Model in 1985
  - An architectural model for Computer Integrated Manufacturing
  - Focused on tying technical systems across functional areas
  - Rationale: Reducing islands of automation
The CASA Wheel circa 1992

- CASA created the current Manufacturing Enterprise Model in 1992
  - Customer Focused
  - Empowering People
  - Leveraging Shared Knowledge Systems
  - Integrating Processes
    - Customer Support
    - Product/Process design
    - Manufacturing
  - Extending the Enterprise
    - External Resources
    - Corporate Responsibility
The CASA Wheel circa 2003
Being Virtual

Inward focused Core Business Processes and Applications

Production

R&D & Engineering

Finance & Management

Procurement

Marketing Sales

Distribution

Customer Care

Supply Chain

Logistics

CUSTOMERS

DISTRIBUTORS

PARTNERS

SUPPLIERS
Integrating the Virtual Enterprise
Toward the Boundaryless Organization

- Cultivating a Healthy Hierarchy
  - How much structure is needed?
  - How flat should we be?
  - How many layers should there be?
  - How centralized/decentralized?

- How can we define an architecture that enables the organization to adapt to change over time?
The Open Group Architecture Framework – Technical Reference Model
“The great thing about standards is that there are so many to choose from...”
Architecture and Standards are Complimentary

Architecture without standards: Nobody knows what they should do.


Architecture-driven standards: Do what makes sense.

Source: Bob Lewis
“Make things as simple as possible, and no simpler.”

Albert Einstein