The Business Value of Reference Model Architectures

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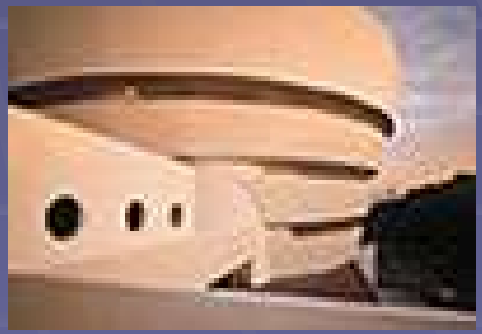
Objective

- 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…

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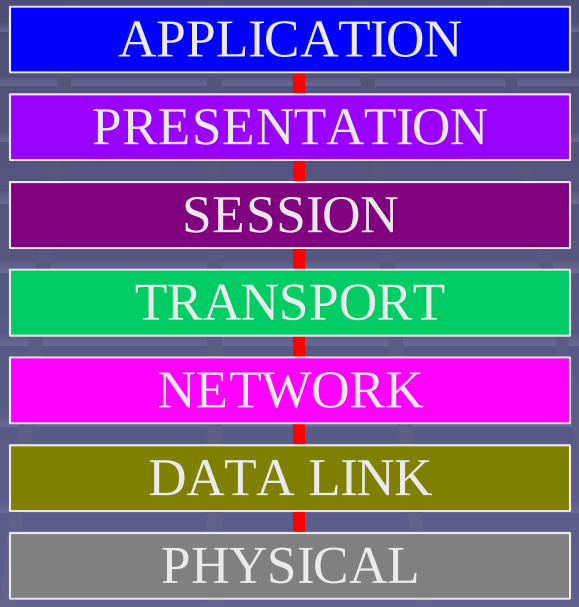
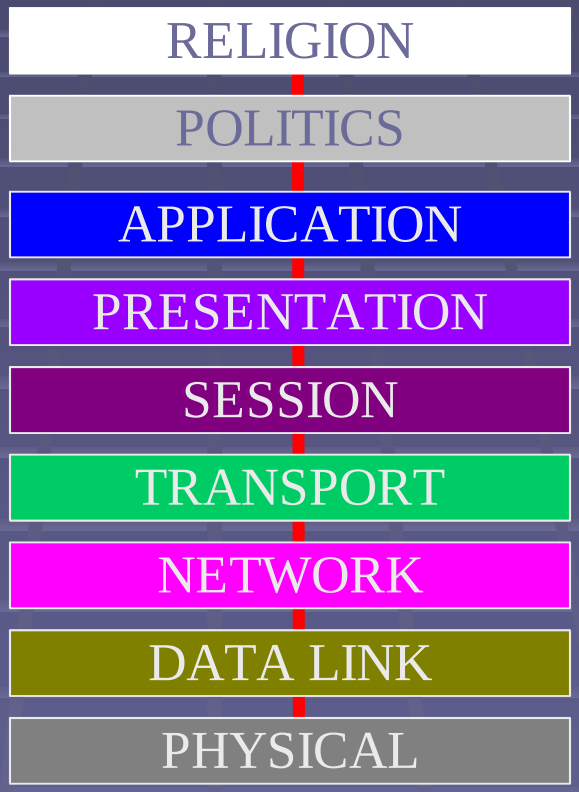
Gartner Group

An Important Reference Model



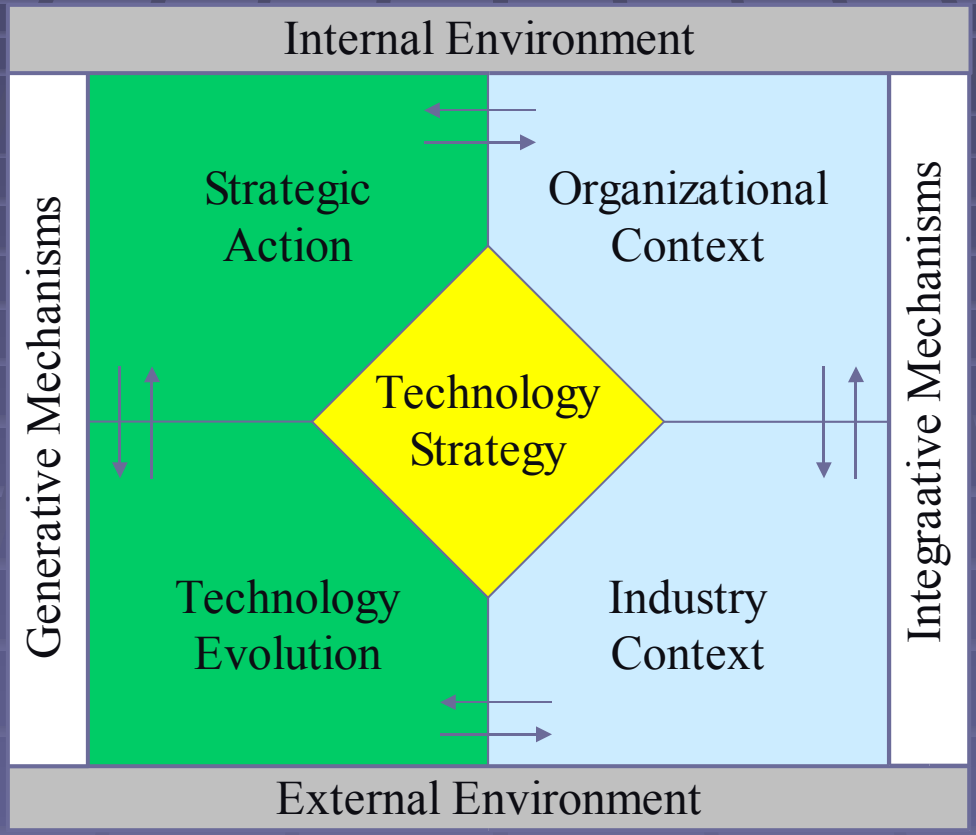
Extending the Model to Reflect Enterprise Realities



Value of Reference Architectures

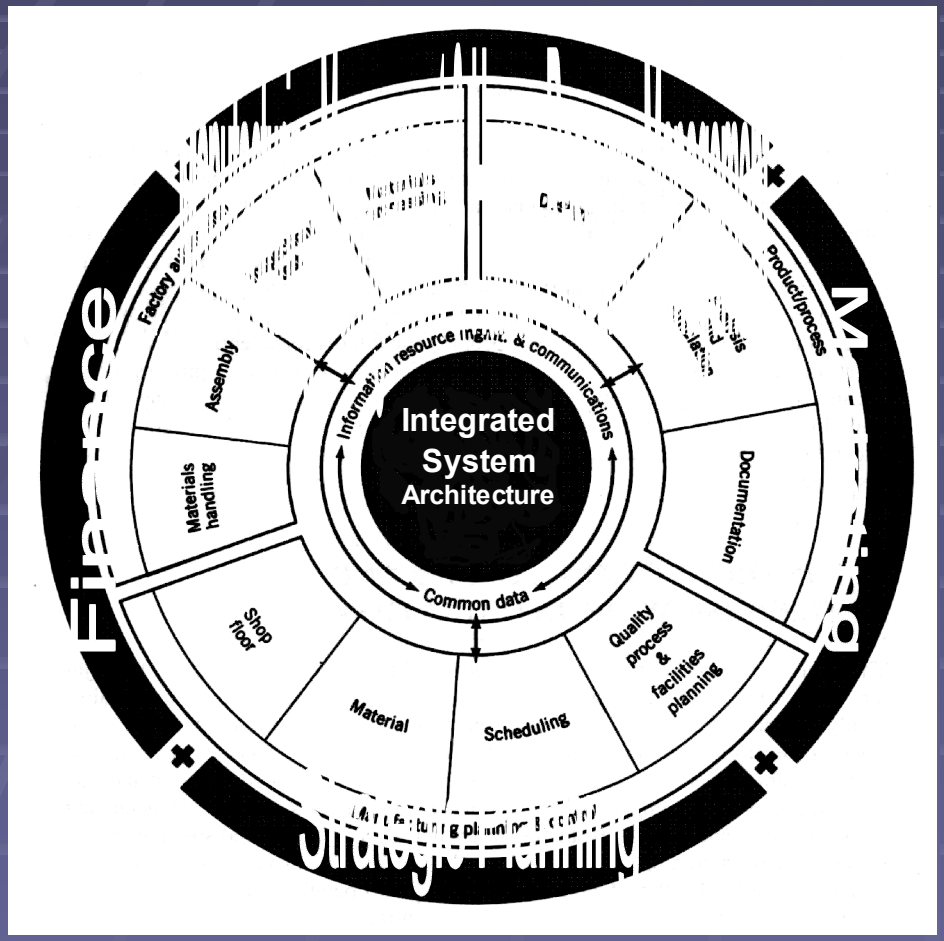
- Architecture must inform decision-making
- Guiding technological evolution in alignment with business objectives
- Structuring information content to meet business needs
- Defining the business logic and process flow
- Defining the technology infrastructure

Determinants of Technology Strategy



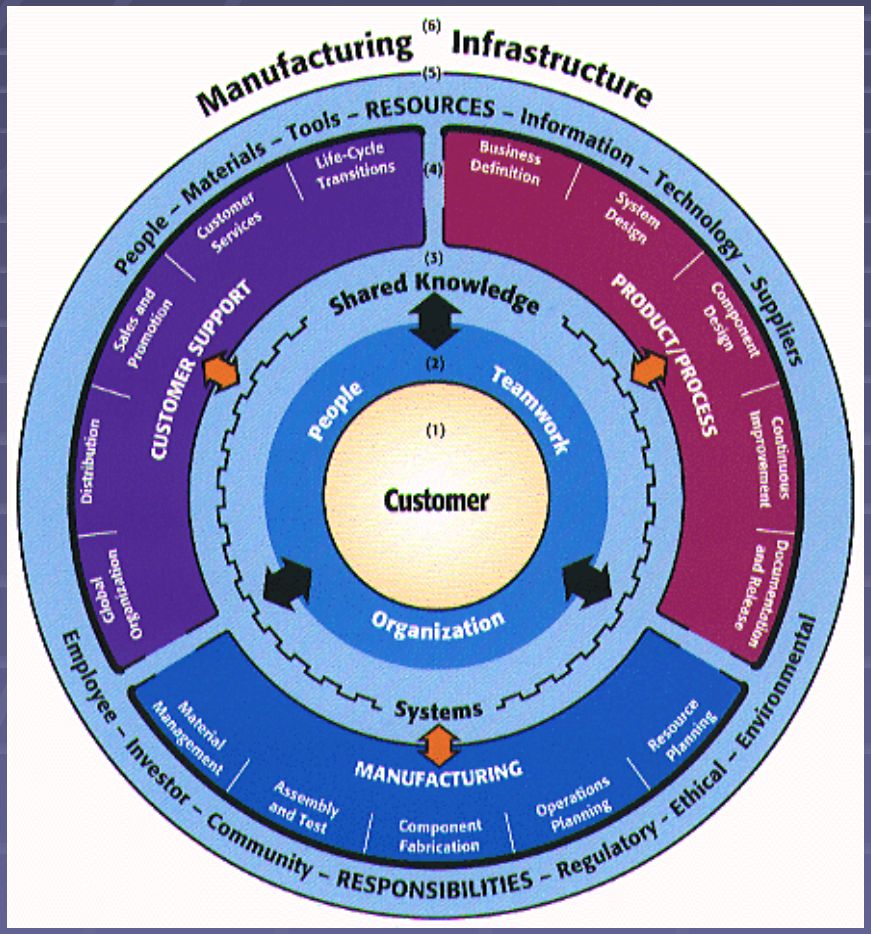
Source: Burgelman, et. al. (2001).

The CASA Wheel circa 1985



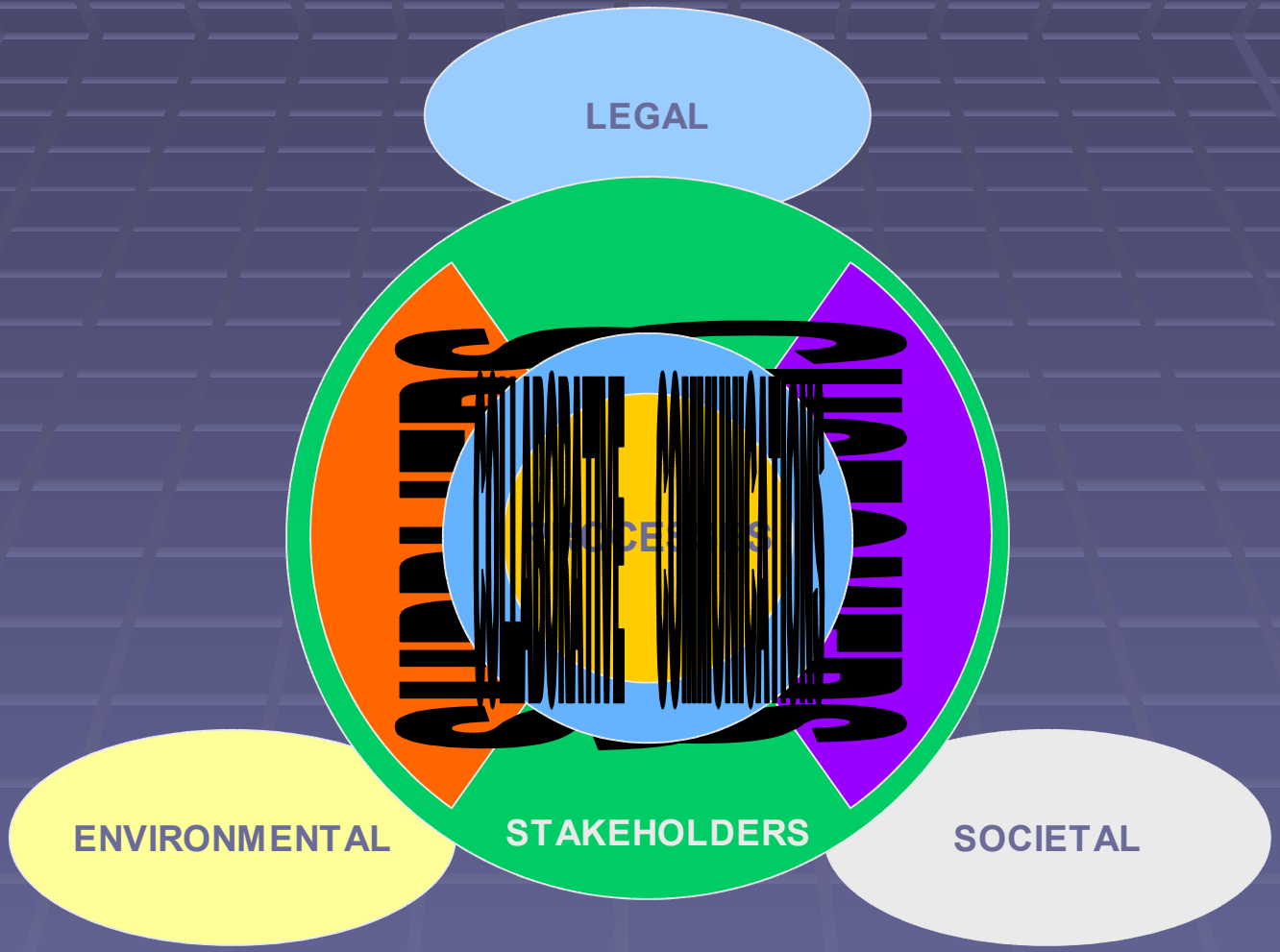
- The Society of Manufacturing Engineers (SME) and its Computers and Automated Systems Association (CASA) created its original "CIM Wheel" Enterprise Model in 1985
  - An architectural model for Computer Integrated Manufacturing
  - Focused on tying technical systems across functional areas
  - Rationale: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

The CASA Wheel circa 1992

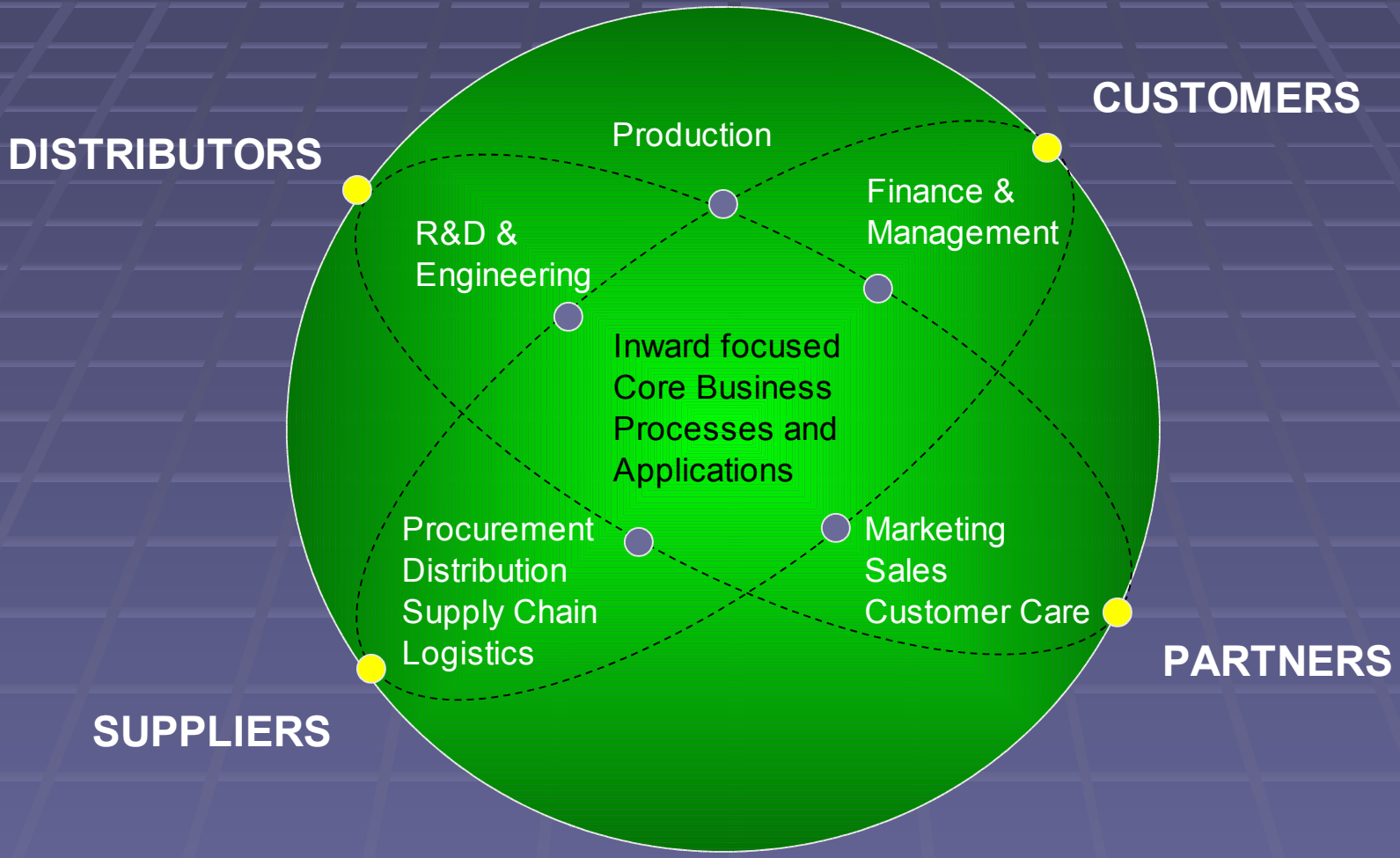


- CASA created the current Manufacturing Enterprise Model in 1992
  - Customer Focused
  - Empowering People
  - Leveraging Shared Knowledge Systems
  - Integrating Processes
    - Customer Support
    - Product/Process design
    - Manufacturing
  - Extending the Enterprise
    - External Resources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

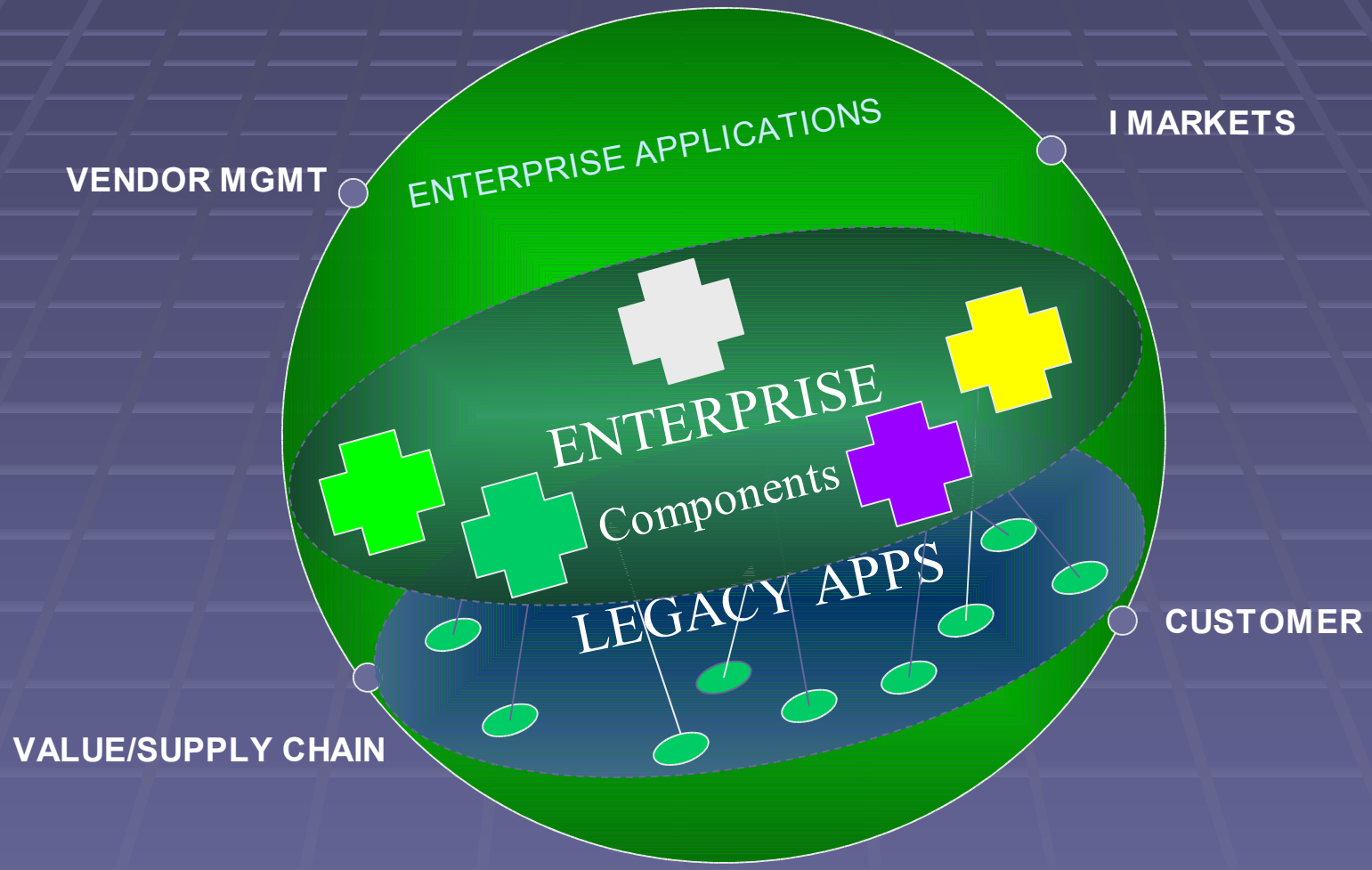
The CASA Wheel circa 2003



Being Virtual



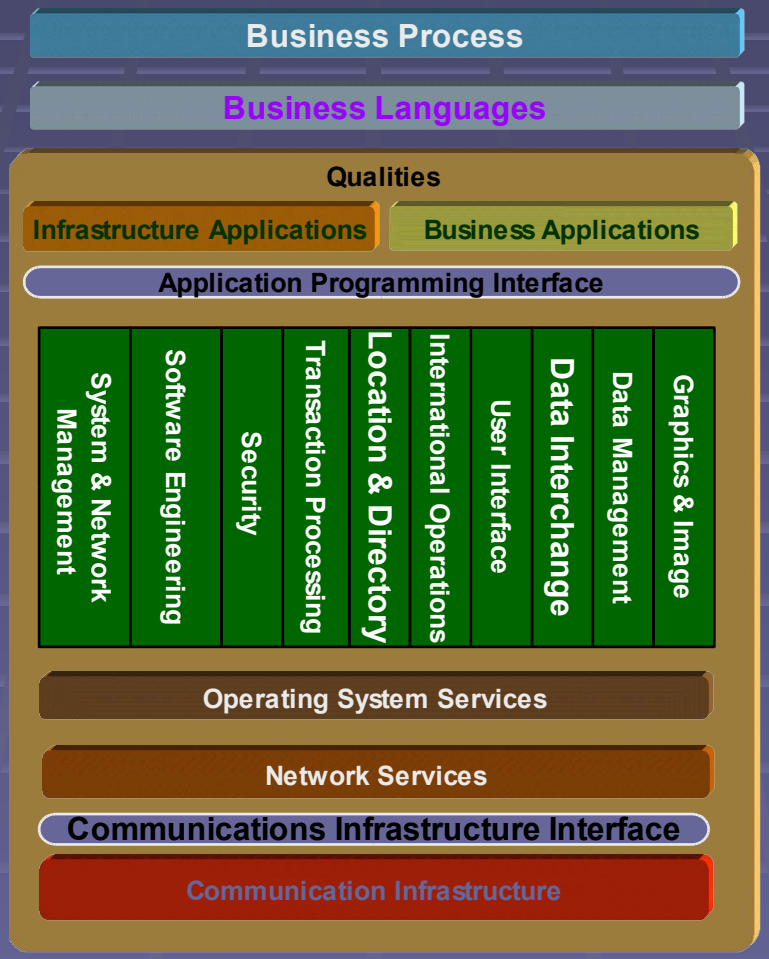
Integrating the Virtual Enterprise



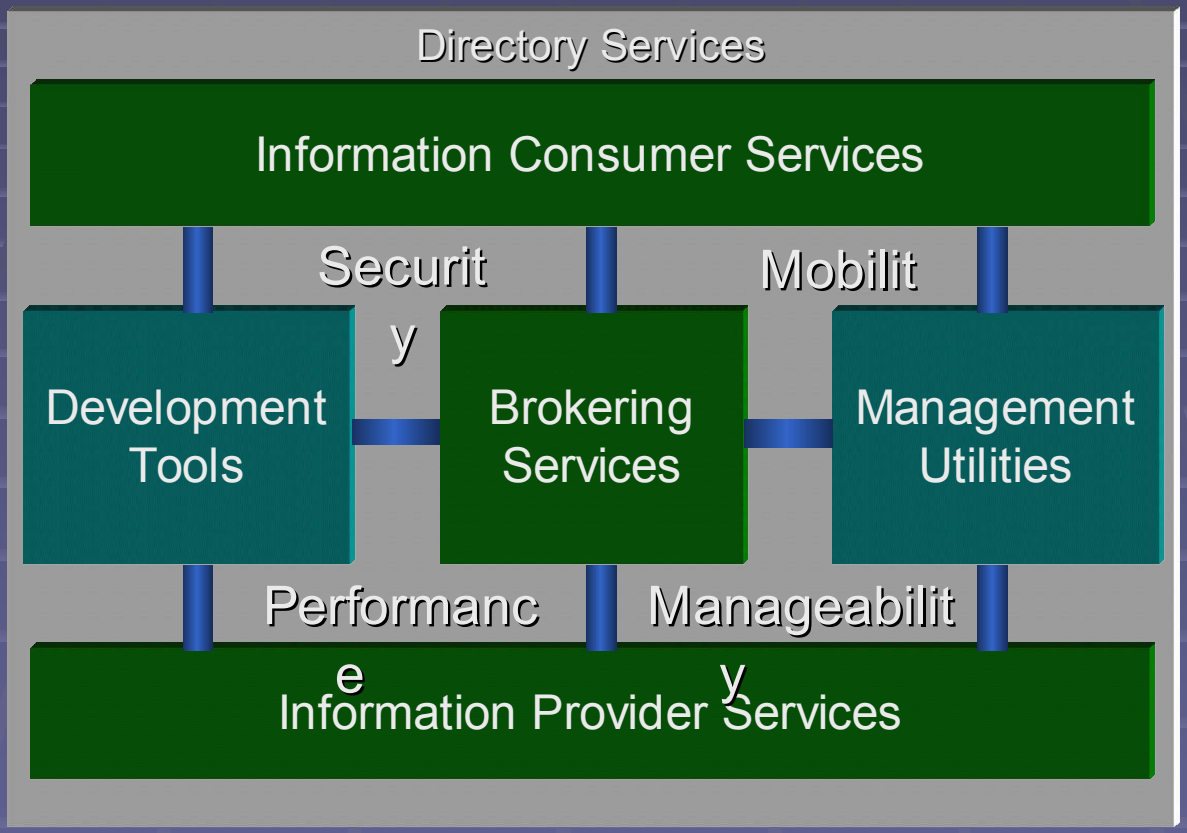
Toward the Boundaryless Organization

- 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 the enables the organization to adapt to change over time?

The Open Group Architecture Framework – Technical Reference Model



TOGAF In^3


Directory Services
Information Consumer Services
Securit
y
Mobilit
Development Tools
Brokering Services
Management Utilities
Performanc
e
Manageabilit
y
Information Provider Services

"The great thing about standards is that there are so many to choose from…"

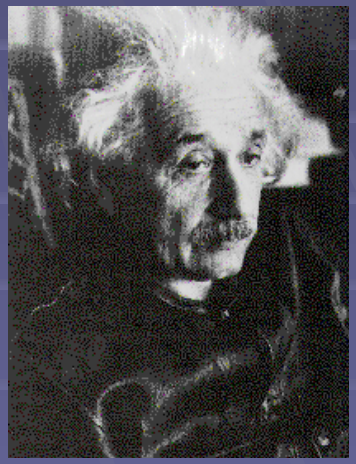
Architecture and Standards are Complimentary

Architecture without standards: → Nobody knows what they should do.

Standards without architecture: → The standards police: Enforcement of arbitrary rules.

Architecture-driven standards: → Do what makes sense.

Source: Bob Lewis

“Make things as simple as possible, and no simpler.”

Albert Einstein