Enterprise Infrastructure Architecture

RL Information Consulting LLC
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Agenda

- Lifecycle of Distributed Systems
- Enterprise Infrastructure Architecture Model
- How the Model Fits Enterprise Business Applications
Enterprise Infrastructure Architecture (EIA) Defined

- Structured methodology and life-cycle for distributed systems, client/server technologies
  1) Enterprise Planning, Infrastructure Model
  2) Systems (Enterprise & Process) Design
  3) Tool Selection
  4) Integration
  5) Deployment
  6) Support and Maintenance

- Process engineered independently from platform decisions and based on application and business needs
Enterprise View of Infrastructure & Architecture

IT Policy

Architecture

Infrastructure

Application “Projects”

People • Process • Technology
Organization • Integration

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Lifecycle of Distributed Systems

- Enterprise Planning
- Infrastructure Architecture
- Systems Design
- Tool Selection
- Integration
- Deployment
- Support/Maintenance
Infrastructure Architecture Model

Current Environment | Transition Plan | Target Environment

Business Functions | Architecture | Technology | Organization | Financial | Training

“Roadmap”
Infrastructure Architecture Model

Systems Foundation, that Requires:

- Structured Architecture Methodology
- Solid Business Practices
- Defined IT Processes
SolutionMethod™ Methodology

- SolutionMethod™ is a simple, certain method for undertaking systems integration in an open systems world
- Takes account of business, social and technical systems
- Exploits architecture-verified configurations

SolutionMethod™ Methodology

- Partnerships
  - Methods for change
  - Management
  - Implementation
    - Capturing vision
      - Evolving business strategy
      - Quantifying business benefits
      - Evolving technical strategy
      - Developing architecture
        - Engineering processes & Information
        - Preparing the organization
        - Selecting & verifying technology

Convergent Architecture
Convergent Architecture
Standards

NET, UNIX/LINUX, OSS
WebSphere, J2EE, XML, nTier

Foundation

Standards
Infrastructure Architecture Standards

HARDWARE
- IBM, HP, EMC, etc.
- Environmentals
- Reliability, Availability, Service-ability

SOFTWARE
- HP/UX
- UNIX, TCP/IP, OSI
- DB2, Oracle
- Websphere
- ODBC, SQL
- Versata
- XML
- Data Model
- Clover Leaf
- Language Standards
Hardware and Software

**Hardware**

Selection Criteria
- RAS
- Scalability
- Price/Performance
- Local experience/preference

**OS & Middleware**

Selection Criteria
- Comply to standards
- Hardware decisions
- Make vs. Buy
- Experience, preference
- Scaleable, Portable
EIA Model Summary

Applications
- Financial
- Manufacturing
- Engineering
- HR, Client Access
- 4GL Development

DBMS Selection
- Legacy Migration
- Standards Compliance
- Application Decision
- Price/Performance
- Data Model
EIA Management “Bricks”

Enterprise Management Disciplines, or “Bricks”

- Support the entire infrastructure
- Common OO data model to manage cooperative data within the enterprise
- Encapsulated functions of the model
- Provisions for bricks must begin early
- Omission will cause downstream problems
EIA Management “Bricks”

ITIL - IT Service Management Areas

- Security Management
- Problem Management
- Change Management
- Configuration Management
- Availability Management
- Financial Management
- Capacity Management
- ETC… Service Delivery, Service Support Areas
Physical and Logical Interfaces

with all other elements of the enterprise model

- Business Rules
- Applications Interface
- Software
- DBMS
- Hardware
- Standards & Methodology
EIA Management “Bricks”

**Capacity Management**
- Performance & Tuning
- Capacity Planning

**Asset Management**
- Software Licensing
- Asset Register

**Data Management**
- Backup and Recovery
- Archiving
- Device Management

**Network Management**
- Operations
- Capacity Management

**Problem Management**
- Fault Management
- Help Desk
- User Management

**Security**
- Data, Network
- Physical Assets
- Authentication

**ITIL**

**ITSM**

**Application Management**
- Database Management
- Application Administration

**Other ITSM Areas ETC.**
- Service Delivery
- Service Support
“To complete the enterprise model”
Influences on the Model

- Hardware Leapfrog Effect
- Time-to-Market
- Staff Availability & Expertise
- SW/Dominance

Business support
Services & delivery
Hardware
Operating System
Standards
Foundation
Design Methodologies

System qualities are:

• Potential for Change, Availability, Usability, Security, and Performance
• Perspectives of Enterprise Managers, Users, Service Providers, and Application Developers
• Systems Architecture
Solutions will vary based on requirements:
- Required Infrastructure characteristics
- Current Environment
- Budget
- Future IT Strategy
- Corporate Culture

Infrastructure solution components vary, based upon sliding scale:
- Hardware components
- Software components
- Service components
- Support components

Design Factors

Factors Scale
- Reliability
- Availability
- Scalability
- Serviceability
- Interoperability
- Manageability
- GUI Interface
- PC Compatibility
- Security
- Cost

Low Best
Business and IT Perspectives

- Business Perspectives
  - Enterprise Management
  - Trading partners
- Business system
- Employees
- Customers
- Enterprise management
- Information system
- Application developers
- Service Providers
- Technology Perspectives
- Users

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### Perspectives and Qualities

#### Requirement Matrix

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<th>Potential for Change</th>
<th>Availability</th>
<th>Usability</th>
<th>Performance</th>
<th>Security</th>
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<td>Enterprise Management</td>
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<td>End Users</td>
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<td>Service Providers</td>
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<td>Application Developers</td>
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Tool and Technology Selection

• Architecture Selection based on Business Requirements

• Functional Tool Selection traceable to business and technical architectures

• Potential benefits from vendor partnerships for large, strategic projects
How to Model and Plan for Your Business

- When right-sizing and re-engineering, assume you need client/server and plan around multiple “n-tiers”
- Provide business and requirements-based planning
- Apply existing methods, tools, expertise to distributed systems
- Adopt a structured approach to assessment, planning, design, and implementation of client/server initiative
- Utilize outside vendor partnerships to leverage knowledge, and share risks/benefits
Conclusion

- Modeling methods can be used to design and plan client/server services and applications
- SolutionMethod™ (or similar) methodology can provide legitimacy to the infrastructure and architecture enabling risk reduction
- Modeling is especially useful in audits/reviews of existing architectures and operations

Take apart and critique existing model
Review brick by brick, modular approach