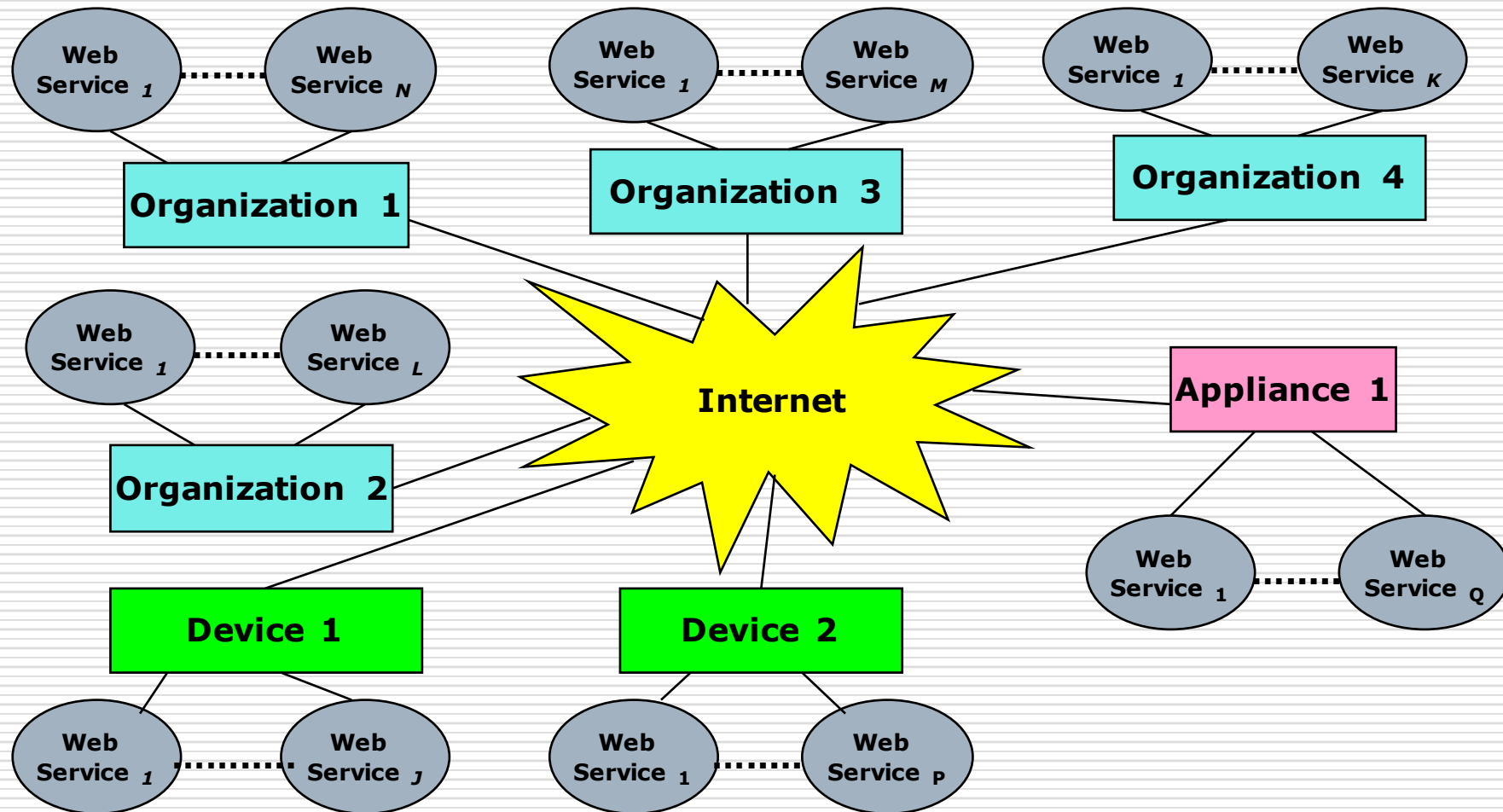# SECTION 2

INTEGRATED
SOA GOVERNANCE

Sample Web Service Topology

Why Governance?

- ❑ How do you develop Web Services in an organized and predictable way?
  - ■ Is a Web Service being considered? How are you going about it?
  - ■ Where is a Web Service in its life cycle?
    - ❑ Concept? Development? QA? Testing? Deployed?
- ❑ Questions if you have a complex *ecosystem* of services
  - ■ How do you manage them operationally?
    - ❑ What services are up/down, for how long, etc.
    - ❑ Are the services load balanced?
  - ■ What are policies for accessing the endpoints?
  - ■ How about security?

Integrated SOA Governance

- ☐ Integrated SOA Governance ensures the applicability, integrity and usability of a wide range of assets through all their lifecycle stages

- ☐ Lifecycle stages range from asset identification through asset deprecation

- ☐ The full lifecycle is split into:
  1. Planning governance
  2. Development governance
  3. Operational governance
  4. Policy Governance

Source: *SOA Software, Inc., 2008.*

Planning Governance

- ☐ Idea is to **build the right things**
- ☐ New area for SOA
- ☐ Allows organizations to identify potential services in a planned and managed community
  - ■ Enterprise Architects
  - ■ Business Analysts
  - ■ Portfolio Managers
- ☐ Recognized by industry as critical
  - ■ Booz Allen Hamilton/US Government
  - ■ Kaiser (Revitalized Claim Systems)
  - ■ Consulting companies such as Infosys

Source: *SOA Software, Inc., 2008.*

Planning Governance Cont'd

- Key Task: Identification & Analysis
  - Define Services
  - Define Policy
  - Define Profiles
  - Define Process
  - Define Test Cases
  - Information Architecture
  - Identify other assets

Source: *SOA Software, Inc., 2008.*

Planning Governance Cont'd

- ☐ Typical Questions During Planning:
  - ◼ What capabilities should be exposed as Web Services?
  - ◼ What existing and planned applications would benefit from consuming shared services?
  - ◼ What services should be priority?
  - ◼ Who should access a specific service and how do we ensure appropriate access?
  - ◼ How about "Megaprogramming" [Boehm et al.] questions?

Source: *SOA Software, Inc., 2008.*

Planning Governance Cont'd

☐ Think about Megaprogramming Key Success Factors (KSF) & Natural Market Analogs [Boehm et al.]

Megaprogramming KSF	Natural Market Analog KSF
A. Architecture Determination	A. Product Line (market) Structuring
B. Architecture/Component Description	B. Product Line (market structure) description
C. Component construction	C. Producer
D. Component composition/assembly	D. Consumer
E. Component interchange	E. Brokerage

Planning Governance Cont'd

- ☐ Solutions require integration with:
  - ■ Wide range of existing enterprise repositories
  - ■ Application portfolio management
  - ■ Enterprise architecture planning solutions

- ☐ Output from Planning Governance Process
  - ■ **Candidates** for a suitable architecture
  - ■ Set of **candidate services** that feed into the Development Governance process
  - ■ Set of **candidate policies** that feed into the Policy Governance process

Source: *SOA Software, Inc., 2008.*

Development Governance

- ☐ Idea is to **build things right**

- ☐ Marshals an asset through the development process

- ☐ Development process typically spans:
  - ■ Design
  - ■ Development
  - ■ Testing
  - ■ Staging

- ☐ Development Governance includes:
  - ■ Workflow mechanism to approve migration between phases
  - ■ Policy compliance validation
  - ■ Clear separation (logically, physically, or both) between lifecycle stages

Source: *SOA Software, Inc., 2008.*

Development Governance Cont'd

- ☐ Solution *depends* on Policy Governance for:
  - ■ Compliance policy definition
  - ■ Management, and validation
- ☐ Policies are used to determine:
  - ■ Relevance and suitability of services at each lifecycle stage
  - ■ Determine if assets meet enterprise standards and guidelines before they can promoted to the next stage of the lifecycle.
- ☐ *Example*--For a service to move from design to development, the enterprise may require:
  - ■ There is a design document in the repository
  - ■ The service has a WSDL
  - ■ The services are categorized appropriately
  - ■ Registered consumers waiting for the service

Source: *SOA Software, Inc., 2008.*

Operational Governance

- [ ] Idea is to **ensure what's built behaves right**
- [ ] Controls the runtime aspects of SOA
- [ ] Typically includes
  - Web Service monitoring
  - Security and management
  - Runtime policy system
- [ ] Relies heavily on Policy Governance solution
  - Need to discover policies for implementation & enforcement

Source: *SOA Software, Inc., 2008.*

Operational Governance Cont'd

- ☐ Key goal of a well architected system is to fully abstract service consumers & providers from complexity
- ☐ Complexity includes:
  - ✓ Policy implementation
  - ✓ Enforcement
  - ✓ Service endpoint location
  - ✓ Transport
  - ✓ Standards
  - ✓ Message Exchange Pattern
  - ✓ Other impedances to operability
- ☐ Should provide:
  - ✓ Agents & delegates
  - ✓ Network resident intermediary for service virtualization

Source: *SOA Software, Inc., 2008.*

Policy Governance

- Key goal is to have a uniform policy for all governance areas
- Policy Governance does the following:
  - Defines and manages policies
  - Associates polices with assets
  - Validates and reports on policy compliance
- Policy types include:
  - Metadata compliance policies applied in Planning and Development Governance
  - Security, reliability, and service-level policies applied through an Operational Governance solution

Source: *SOA Software, Inc., 2008.*

Summary of Integrated SOA Governance

Source: "Integrated SOA Governance for Microsoft", *SOA Software, Inc., 2008.*