The Use of Service Oriented Architecture (SOA) for Back Office

--Case of New York City

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The NYC Vision

- Provide a scalable information sharing platform for all city government agencies to interact with each other
- Provide standard information products promoting accuracy and consistency across all government agencies
- Improve level of service that city agencies provide to New Yorkers
The Approach

- Build and deploy scalable IT infrastructure capable of adapting to business needs at the business speed
- Establish and adapt standards for all participant agencies
- Build highly scalable information brokering architecture capable of meeting today’s requirements and adapting to future needs
The Information Technology Challenge

Click to add subtitle
The Architecture Challenge

- Support a variety of application integration patterns
  - Request/replay
  - Notification/Pull
  - Publication/Subscription
- Support a variety of communication protocols & platforms
- Support a robust security architecture able to control, contain and identify threats
- Support comprehensive auditing & reporting
- Support a flexible business reporting dashboards
- Support operations, and support control panels
The IT Governance Challenge

- Manage Information Assets
- Manage Infrastructure Assets
- Manage Architecture Assets
- Maintain Information Transparency
  - Asset Discovery
  - Dependency Analysis
  - Quality of Service
The IT Security Challenge

- Support Identity Federation
- Support Transaction Management
- Support Adaptable Security Architecture
  - Dynamic policies
  - Dynamic assertions
- Support Threat assessment
- Support Control & Containment architecture
Success Stories

Click to add subtitle
Success Stories--311

- What is 311?
  - Central source of information about what residents, businesses and visitors require
  - The front door for NYC government
  - Constituents can call 311 for service request and status update
- How 311 could utilize the SOA platform?
  - Check the status of the service request
The Information Technology Answer
Datashare 3.0 Overview

**What Is Datashare?**
Fundamentally, Datashare is to be a standardized information brokering platform for the City of New York and beyond. All participants (both external & internal participants) of Datashare must agree to adhere to these Datashare standards.

**What Are The Key Mandates of Datashare?**
- Provide a robust communication architecture
- Provide a scalable information brokering platform
- Define standardized data exchange formats across agencies
- Provide an Enterprise Repository for centralized discovery of:
  - Information Products such as Exchanges, Schemas, Data dictionaries
  - Datashare Services

**What Is e-Arraignment?**
- The workflow initiated from an arrest of a person till the printing of case packet that is to be submitted before a judge is referred to as the *e-Arraignment Process*. This process involves:
  - Close co-ordination between several agencies (NYPD, BXDA, DANY, OCA, etc.)
  - Brokering of information between agencies
  - Automation of business rules
  - Management Interface
  - User Interface
Service Oriented Architecture

- Modular by nature
- Loosely coupled
- Completely encapsulate implementation details
- Contract based design & development
- Event Driven Architecture
- Backbone for BPM technologies
- Business driven by nature
- Platform agnostic
- Language agnostic
- Rapid development/deployment
- Highly adaptable to business needs
### Evolution of Architecture

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Service Oriented Architecture Reference Model

- Transformation Roadmap
- Enterprise Architecture
- Governance
- Business Process
- Service Assembly
- Service
- Service Description
- Service Communication Protocol
- Transport
- Service Registry
- Policy
- Security
- Transaction

Methodology
Functions
Quality of Service
E-Government Beyond NYC

Click to add subtitle
Questions?

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Appendix

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SOA Governance Architecture