

# Promoting Information Sharing through DHS SOA

Workshop on Information Sharing and  
Safeguarding Standards

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Presented by

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# Agenda

- Introduction to SOA
- DHS SOA Vision and Strategy
- DHS SOA Drivers
- DHS SOA Benefits
- DHS SOA Achievements
- DHS SOA Roadmap



# Introduction to SOA

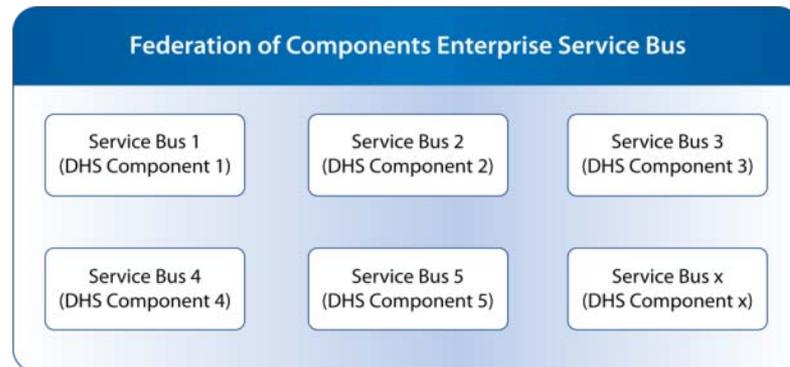
*“It’s not that you have what you want, but do you want what you have.”*

- The foundation of Service Oriented Architecture is based on Sharing existing resources
- Practice of building core business functions as a set of independent and reusable components (services)
- Method of conceptualizing, designing, and building applications by assembling reusable services
- Architectural model that enhances the efficiency, agility and productivity of an enterprise
- Rapid delivery of Information Technology capabilities that are necessary to support business operations



# DHS SOA Vision and Strategy

- Service Oriented Architecture (SOA) is one of the core IT Strategic principles to achieve mission critical objectives
- Promote collaboration and Information Sharing across DHS Component, Federal Agencies and Commercial/Private partners
- DHS SOA will expedite the realization of SOA through
  - DHS SOA Technical Framework
  - DHS SOA Message Service Header Framework
  - DHS SOA Federated Security Model
  - DHS SOA Service Registry and Repository
  - DHS SOA Lifecycle and Governance



# DHS SOA Standards

- DHS SOA is grounded adopts a standards-based approach
  - Web Services Standards (WS-\*)
    - UDDI, SOAP, XML, WS-Security, WSDL
  - NIEM is required for all external service interactions
  - Messaging Protocols (SOAP/HTTPS, JMS, AMQP)
  - Vendor neutral and technology agnostic
- SOA Infrastructure is based in open architecture using federated ESB model across the department

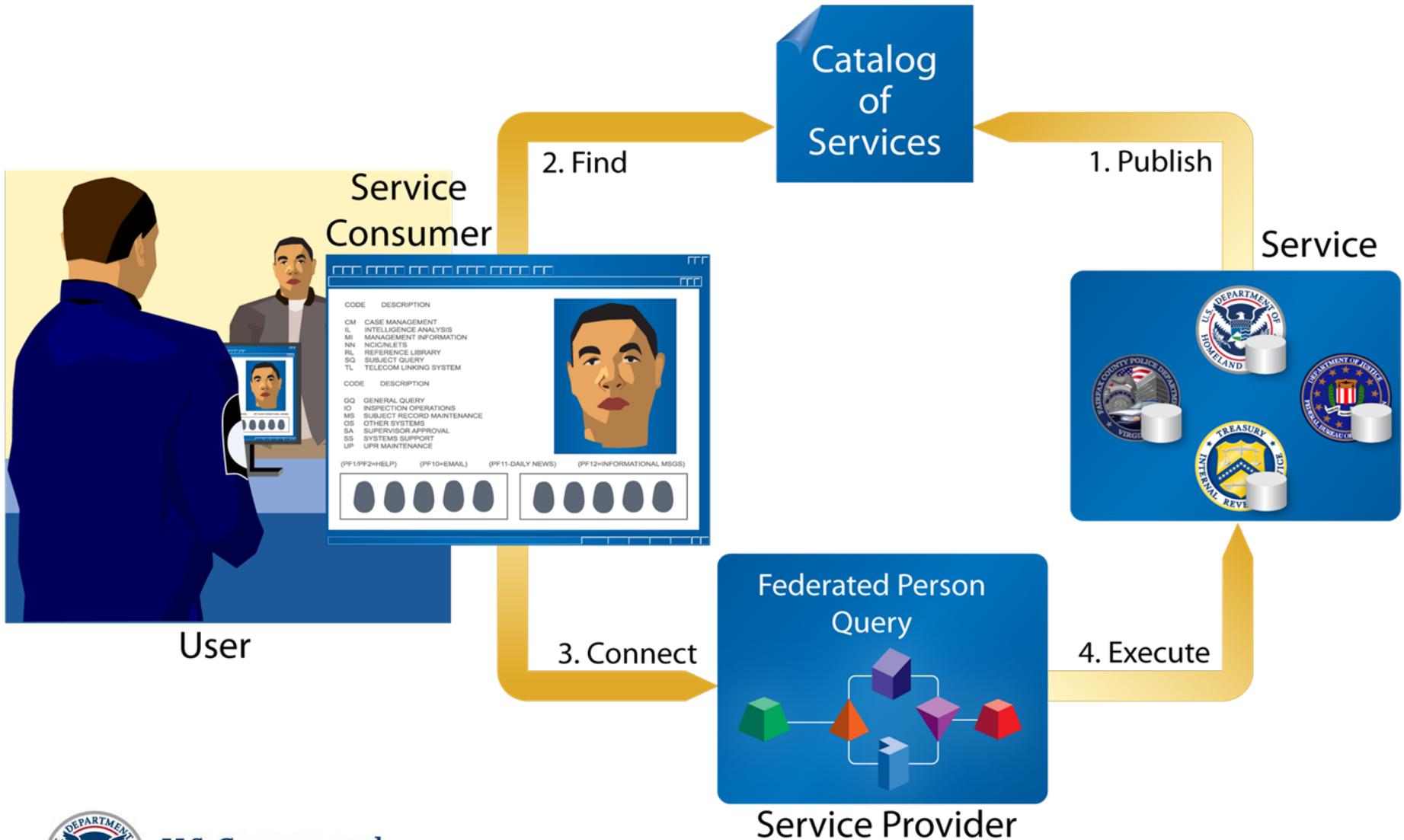


# SOA Success Story - FPQ

- Federated Person Query addressed the mission needs of CBP field agents:
  - Federated Person Query - The first CBP SOA Service deployed into Production
  - The application makes SOA-based requests to multiple sets of person-related databases internal and external to CBP
  - Results are returned in a standard format that consolidates the data into a common view for agents based on the information drawn from the various systems
  - This has been a great success story and welcomed by the OFO and the Border Agents
  - CBP's SOA has clearly demonstrated an improvement in the ability of border agents to get easy access to information about a subject during an encounter



# Federated Person Query SOA Service



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# Additional SOA Success Stories

- DHS Watchlist Service
  - Consuming from FBI/TSC
  - Providing to CBP, TSA Secure Flight, TSA Crew Vetting
- Interpol Query Service (Design to Production in 45 days)
  - Used by 140+ land border ports of entry
  - More than 25K transactions per day
- NCIC and NLETS Query Service (NNSV)
  - Orchestrated service call to NCIC and NLETS currently consumed with CBP
- Federated Registry Query Service (FRQS)
  - Ability to provide federated UDDI query capabilities

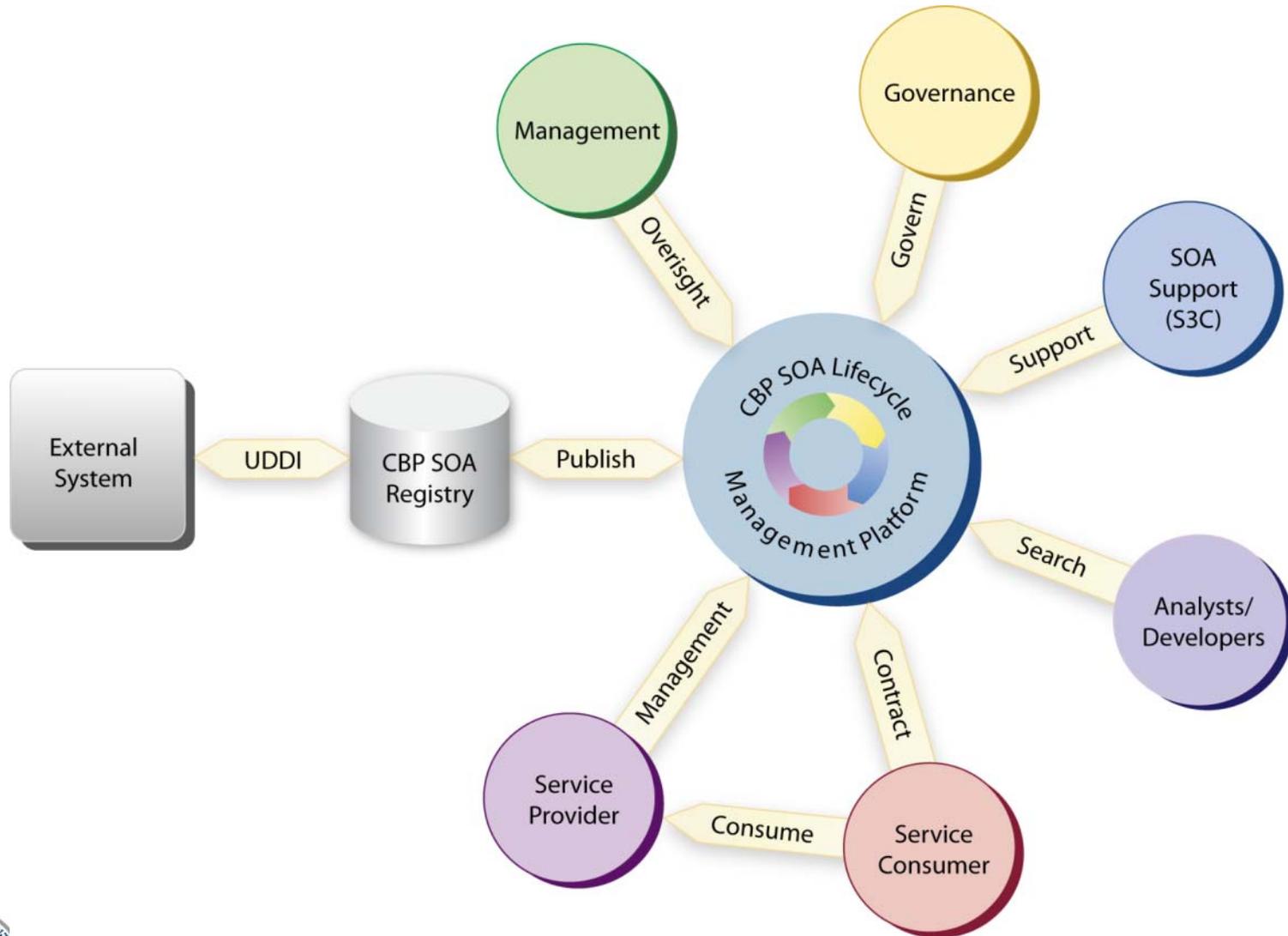


# SOA Service Governance

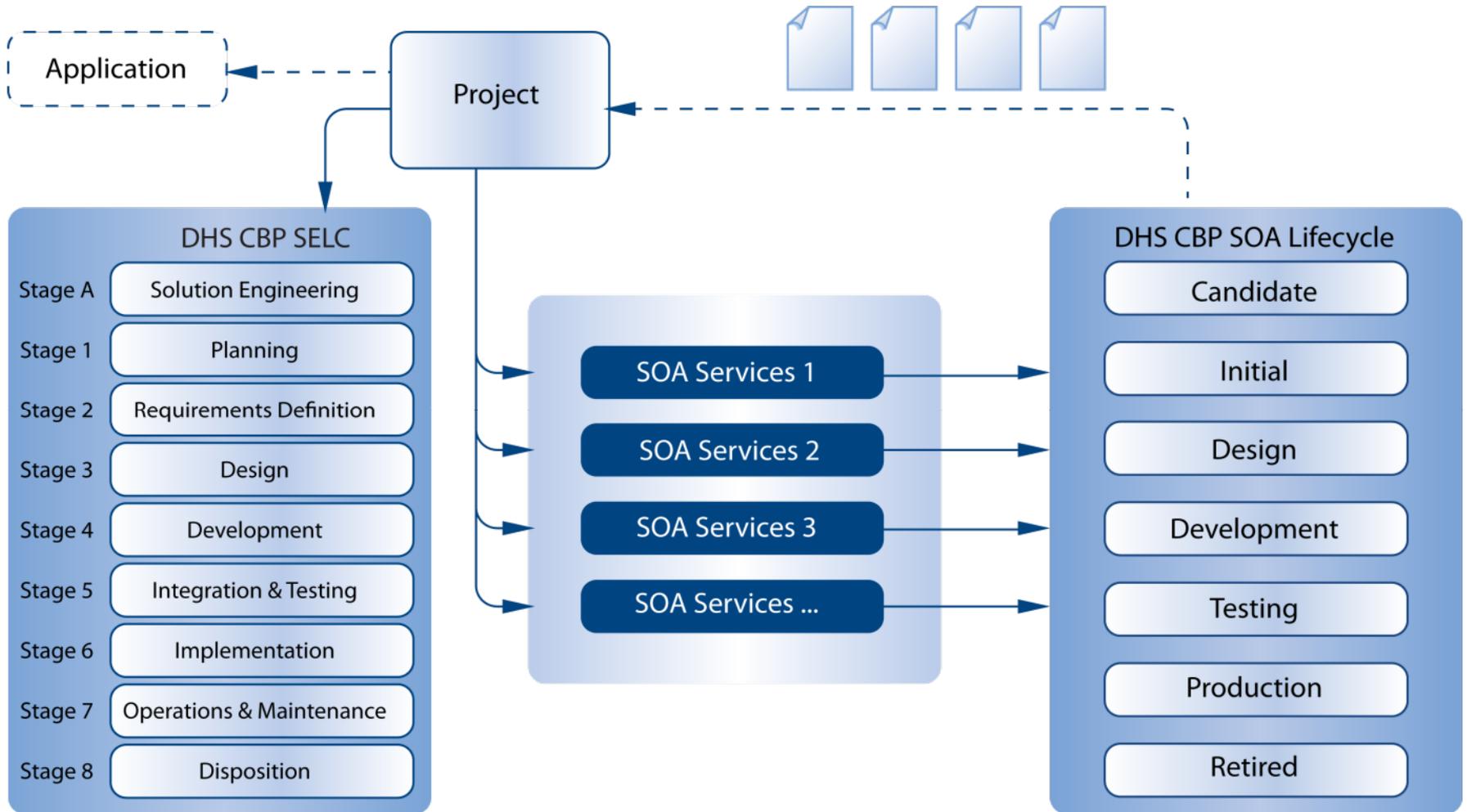
- Automated SOA Lifecycle and Governance processes
- Tailored DHS/CBP SELC Process for SOA Services
- Enforces consistency of artifacts and compliance with enterprise-wide policies and mandates
- Integrates SOA centric information and artifacts
- Streamlines the SOA Service Life Cycle process
  - Able to achieve Concept to Production in under 45 days



# SOA Service Lifecycle Management



# Alignment with DHS/CBP SELC



# DHS SOA Accomplishments

## Completed

- DHS SOA Technical Framework – Version 1.0 published in FY2007
- DHS SOA Working Group – Created in FY2010
- DHS SOA Header Framework v1.0 – Completed FY2010

## In Process(Near Term)

- DHS SOA Service Standard Definitions – ETC Q1FY2012
- DHS SOA Header Framework v2.0 – ETC Q2FY2012
- DHS SOA Governance CONOPS – Q2FY2012



# DHS SOA Roadmap

- DHS SOA Registry (Adoption of the CBP SOA Registry)
- DHS SOA Service Lifecycle Management (Adoption of the CBP SOA Lifecycle)
- Publish the DHS SOA Technical Framework Version 1.5
  - DHS Unified SOA Service Standard Definitions
  - DHS Unified SOA Header Framework
- Operationalization of DHS SOA Registry
- Operationalization of DHS SOA Service Lifecycle Management



# Questions?

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# Backup Slides

# DHS Unified SOA Drivers

- Facilitate effective and rapid Information Sharing across DHS, OGA and mission partners
- Support dynamic missions and business environments with a high level of fluidity in the workforce and business processes
- Need to integrate and interoperate disparate technologies, platforms, systems and information
- Need to improve oversight, accountability, compliance
- Culmination of IT solutions and business services to drive strategic goals
- Respond to changes in policy, mission strategy, environment
- Applications supporting mission must be adaptive to rapid change, reducing costs downstream
- Quickly deliver new capabilities (e.g. domestic border screening and targeting, air marine operations, etc.)



# DHS Unified SOA Benefits

- Standardize SOA shared infrastructure implementation across DHS
- DHS SOA Technical Framework across the enterprise
- DHS SOA Governance to facilitate consistent enterprise wide processes and implementations
- DHS SOA Security guidelines, principles and implementation across the enterprise
- Ensure adoption of industry and government best practices
- Leverage existing investments across DHS Components
- Improve interoperability between systems across DHS
- Facilitate systems relocation to DHS datacenters
- Streamline Technology Acquisition

