



***CMS Gate Reviews (Topic 1)***  
***Data Services Hub (Topic 2)***  
***ISM 2011***



# Agenda



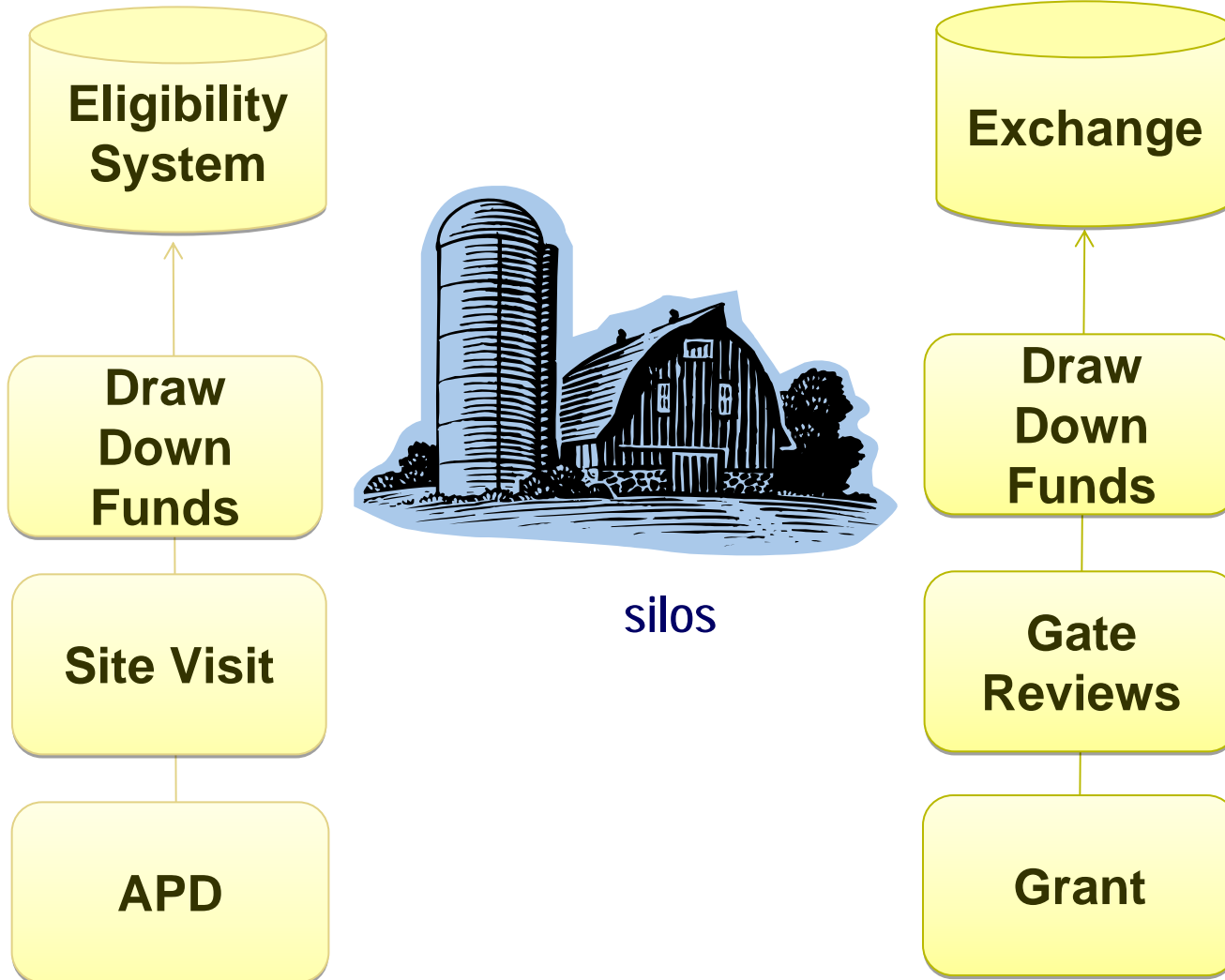
- **Gate Review Process**
- **Data Services Hub: An Overview**
- **Data Services Hub: Demonstration**
- **Q&A**

# Gate Reviews:

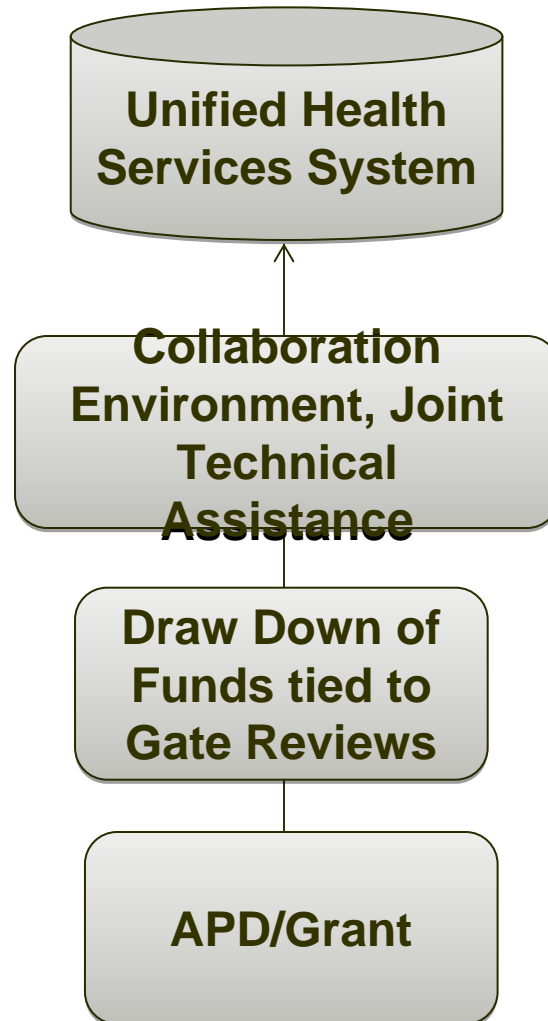


- **How We Traditionally Operated**
- **Today's Vision**
- **Application Lifecycle Management**
- **ELC and Gate Reviews**
- **ELC Review Process**

# How CMS Would Traditionally Operate



# Today's Vision for Medicaid and Exchanges



*Two funding streams,  
one unified model*

# Application Lifecycle Management (ALM) Supports Gate Reviews



- **ALM is a System Development platform within CMS's Cloud Computing environment**
  - Manages application from cradle-to-grave
  - Supports Requirements management, System design, & Development
  - Supports Configuration management & Project Management tools
- **ALM is a Collaboration platform**
  - Document Management of all System Artifacts
  - Role based Access and sharing of information
  - Project Wiki, Communities, & Virtual Groups
- **ALM centralizes management of**
  - users, projects, processes, and assets
  - reduces costs, increases productivity, and improves visibility.
- **Security, Governance, and Workflow are Baked-in**
- **Assets from Medicaid and Exchange are stored by States in ALM**

# ELC - Gate Reviews

- CMS leverages its Enterprise Life Cycle (ELC) to:
  - oversee
  - guide
  - coordinate
- Development and implementation of the Exchanges and Medicaid eligibility and enrollment systems will follow the ELC process.
- Using gate reviews helps map Medicaid and Exchange activities in line with bench marks in an effort to achieve greater success.

# ELC - Gate Reviews

- The ELC will help unify systems development activities.
- State gate reviews will be used for:
  - monitoring progress
  - “go or no-go” determinations
- Each State gate review is conducted by a team of critical partners including:
  - CCIIO
  - Medicaid
  - CMS State project leads
- A major emphasis for each State gate review is placed on:
  - Progress along a continuum
  - Identification of all risks that may cause a problem in the future
  - Successful completion and achievement

# ELC - Gate Reviews

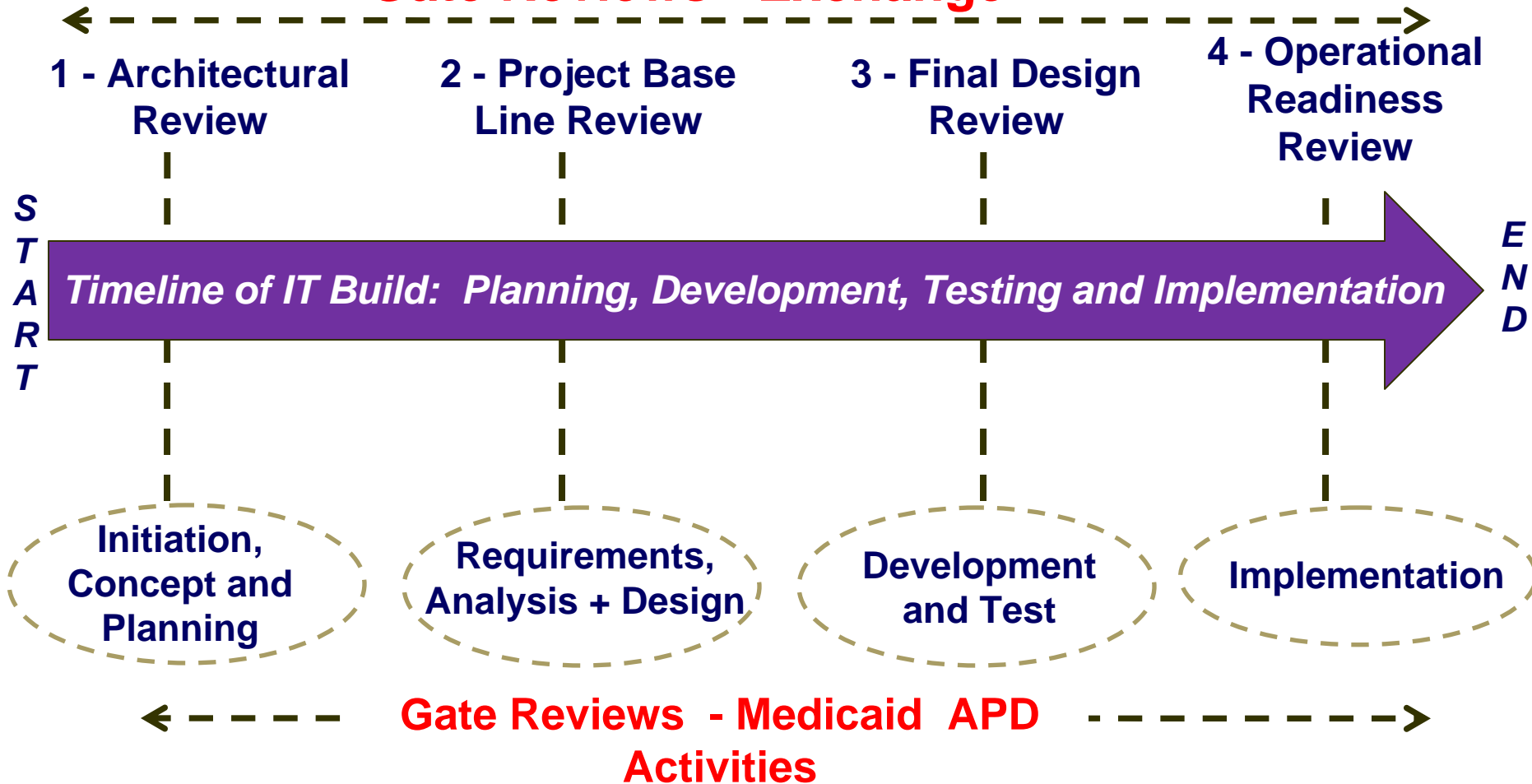


In summary, Federal grant dollars and Medicaid Federal financial participation monies are released in accordance with gate reviews – thus, one review process, two funding streams.

# The ELC Review Process



## Gate Reviews - Exchange



# ELC

## Initiation, Concept, and Planning

## Requirements, Analysis, and Design

## Development and Test

## Implementation

### REVIEWS

1

Architecture Review

2

Project Baseline Review

3

Design Review

4

Operational Readiness Review

Project Startup Review (PSR)

Architecture Review (AR)

Project Baseline Review (PBR)

Preliminary Design (PDR)

Detailed Design Review (DDR)

Final Detailed Design Review (FDDR)

Pre-Operational Readiness Review (PORR)

Operational Readiness Review (ORR)

- C Acquisition Strategy (F)
- C Risk Analysis (F)
- C Scope Definition (F)
- C Project Management Plan (P)
- R Concept of Operations (F)
- R Alternatives Analysis (F)
- R Performance Measures (F)
- C IV&V/Quarterly Reports (F)
- C Business Rules (F)
- C 7 Standards/Conditions (f)

- C Architectural Diagrams (F)
- R Business Process Models (F)
- C 7 Standards/Conditions (f)

- C Requirements Document (P)
- C Information Security Risk Assessment (P\*)
- C System Security Plan (P\*)
- C Test Plan (P)
- C Technical Architecture Diagrams (F)
- R Logical Data Model (F)
- C 7 Standards/Conditions (f)


- C Requirements Document (I)
- C System Design Document (P)
- C Interface Control Document (P)
- C Database Design Document (P)
- C Data Management Plan (P)
- R Physical Data Model (P)
- R Data Conversion Plan (P)
- C 7 Standards/Conditions (f)

- C Test Plan (F)
- C Contingency / Recovery Plan (P\*)
- C Implementation Plan (P)
- C User Manuals (P)
- C O&M Manual (P)
- C Training Plan (P)
- C Test Reports (P)
- C Data Use/ Data Exchange/ Interconnection Security Agreement (P)
- C Information Security Risk Assessment (F\*)
- C System Security Plan (F\*)
- R Automated Code Review Results (F)
- R Business Product (P)
- R Training Materials (P)
- C 7 Standards/Conditions (f)

- C Project Management Plan and Schedule (F)
- C Project Process Agreement (F)
- C Release Plan (F)
- R Privacy Impact Assessment (P\*)
- C Cost Allocation Plan and/or Methodology (F)

- C Requirements Document (F)
- C System Design Document (F)
- C Interface Control Document (F)
- C Database Design Document (F)
- C Data Management Plan (F)
- R Physical Data Model (F)
- R Data Conversion Plan (F)
- R System of Record Notice (P\*)
- C 7 Standards/Conditions (f)

- C Implementation Plan (F)
- C Contingency / Recovery Plan (F\*)
- C User Manuals (F)
- C O&M Manual (F)
- C Training Plan (F)
- C Test Reports (F)
- C Data Use/ Data Exchange/ Interconnection Security Agreement (F)
- R Business Product (F)
- R Training Materials (F)
- R System of Record Notice (F\*)
- R Project Completion Report (F)
- R SLAs / MOUs (F)
- R Privacy Impact Assessment (F\*)
- R POA&M (F\*)
- R Authority to Operate (F\*)
- C 7 Standards/Conditions (f)

 Must be Performed by CMS and Other Key Stakeholders

 May be delegated

### Deliverables

- C Core
- R Recommended
- (P) Preliminary
- (I) Interim
- (F) Final
- (\*) Input into Federal System Certification and Accreditation

### Non Phase-Specific Deliverables include:

- S508
- Security
- Earned Value Management Data
- Periodic Investment Status Reports
- Periodic Briefings and Meeting Minutes

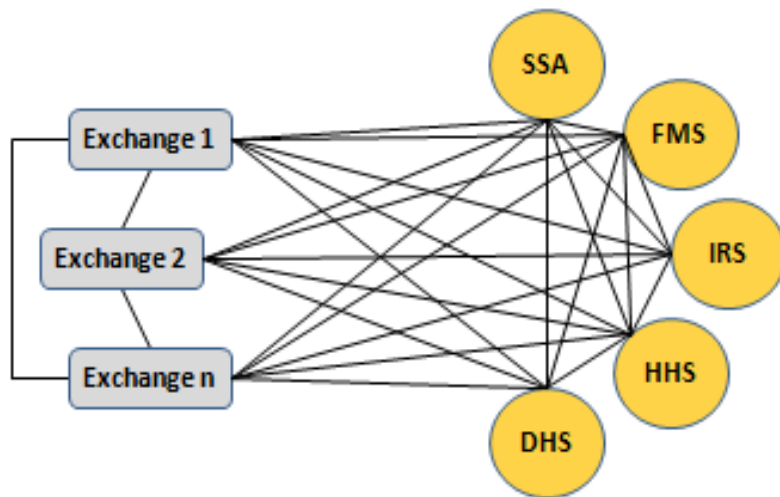


# Date Services Hub: Overview



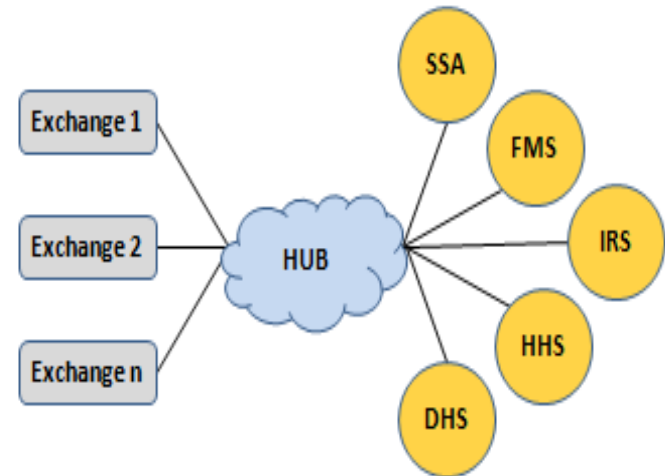
# Data Service Connection Options & Challenges

## ■ Point-to-Point Connections



- Long development timeline & slow response to bugs/issues
- Integration testing?
- Change & Configuration Management

## ■ Data Services Hub



- Need to safeguard the data moving through
- More complex rules for maintaining and managing of permissions for data access
- Audit trails are needed to track & protect access to data

# CMS Design Objectives & Approach

- **CMS Objective - Help states be successful**
  - Establish and enforce standardization
  - Promote Interoperability
  - Achieve cost savings and effectiveness goals
  
- **CMS Approach to Data Service Hub Design and Development**
  - Define Business Process
  - Lead design of the DSH Solution
  - Optimize repeatable design patterns
  
- **CMS Output**
  - Common Semantic Data Model
  - Service Specifications (WSDL)

# CMS Design Objectives & Approach (Continued...)



## ■ DSH Enterprise Architecture Principles

- Open standards
- Service orientation design & architecture
- Vendor diversity
- Scalable on a commoditized infrastructure

## ■ CMS' DSH Design and Development approach for each DSH Business Service:

- Create XML schema
- Map and bind the schema
- Create the WSDL
- Publish the WSDL

# Data Services Hub: Proof-of-Concept

## ■ Four DSH Services (for Demo)

- Verify Eligibility (Medicaid, etc)
- Verify Citizenship
- Verify Income
- Calculate Premium Tax Credit

# DSH Technical Architecture

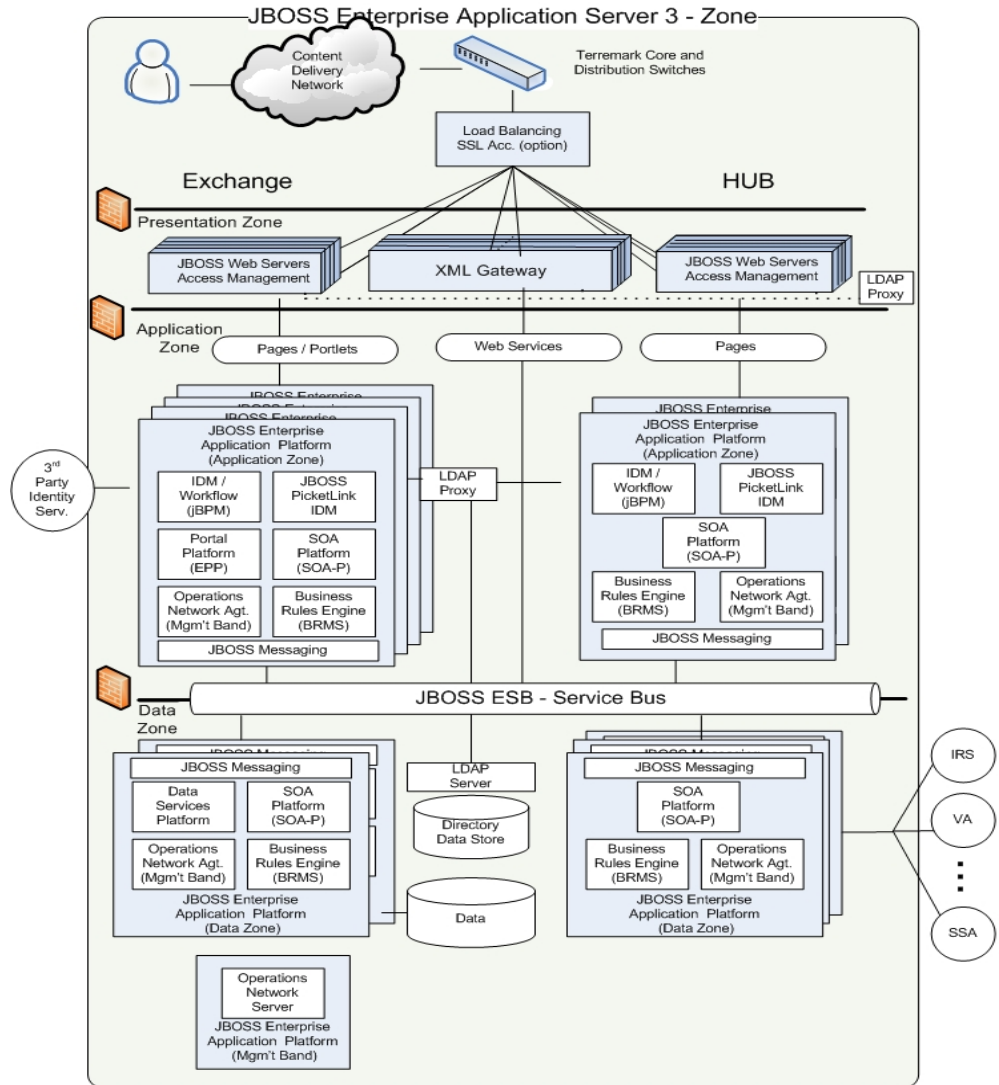
- 3-Tier Architecture

- Presentation
- Application
- Data Zone

- JBOSS Application Stack

- Workflow
- IDM
- SOA Platform
- BRMS
- Operations

- JBOSS ESB

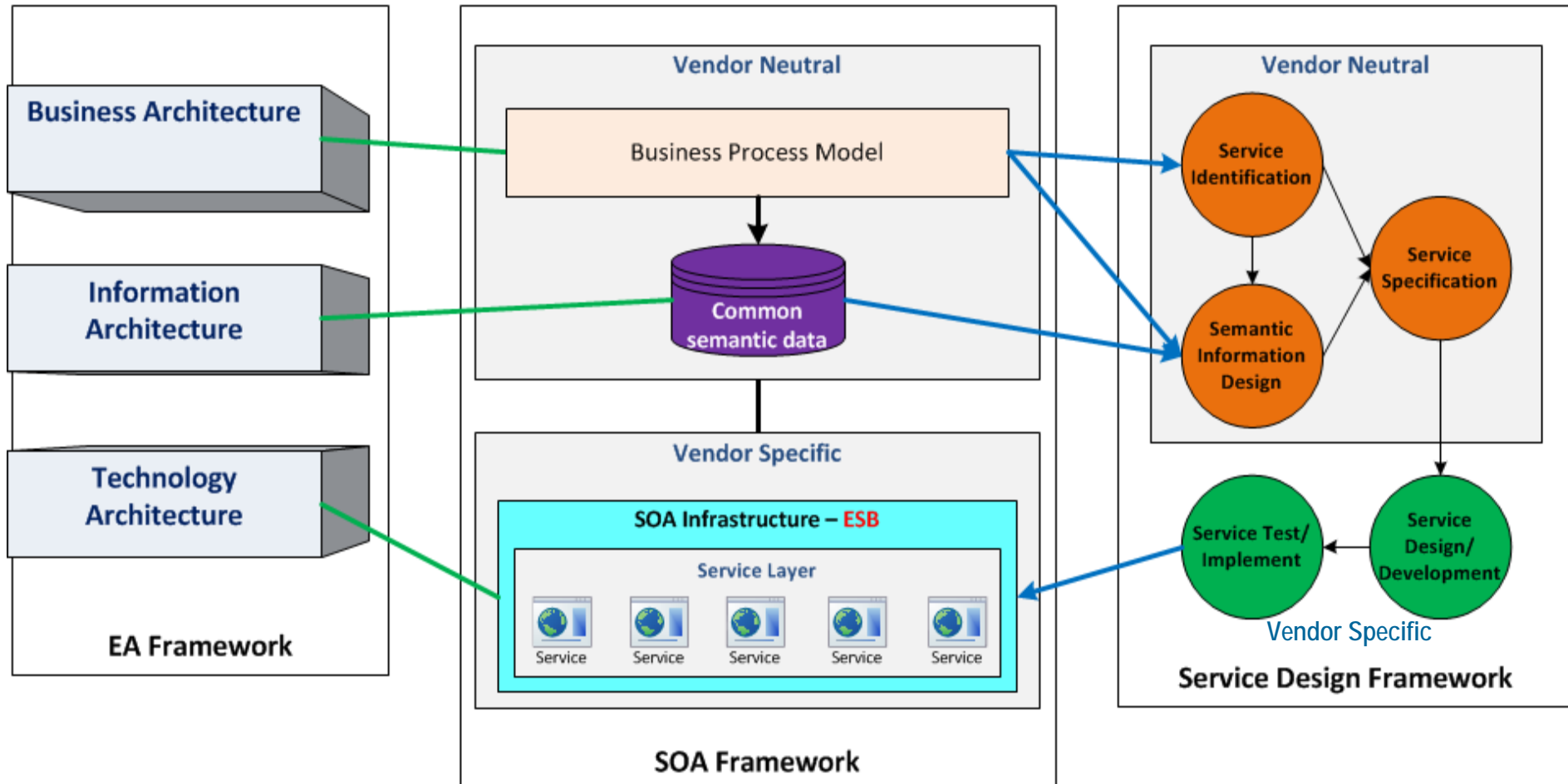




# APPENDIX

# The TO-BE Vision

## Align SOA with EA, BPM, Information, and Design



# Data Services Hub Benefits

- Supports the exchange of data and information with greater accuracy, timeliness, and consistency
- Offers greater flexibility in adapting to a diverse range of technologies and data formats that exist across states and Federal agencies.
- Provides an opportunity for states and federal agencies to collaborate with one another to define and build shared reusable managed services.
- Each component can be built once and shared across all stakeholders.
- Each state will have some autonomy based on the business rules they choose to implement.

- **JWS - Java Web Start allows users to start application software for the Java Platform directly from the Internet using a web browser.**
- **JAXB - Java Architecture for XML Binding allows Java developers to map Java classes to XML representations. XML data binding is a means of representing information in an XML document as an object in computer memory**
- **WSDL - The Web Services Description is an XML-based language that provides a model for describing Web services.**

# Glossary (Continued...)



- **HL7: standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services.**
- **X12: HIPAA transactions used to transmit financial and administrative information**
- **XML: set of rules for encoding documents in machine-readable form.**
- **NIEM: National Information Exchange Model**

# Contacts



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