



Department of
Conservation



WellSTAR

11/15/2016

WELLSTAR (RBDMS 3.0) ARCHITECTURE GENERAL
DESIGN OVERVIEW

Agenda

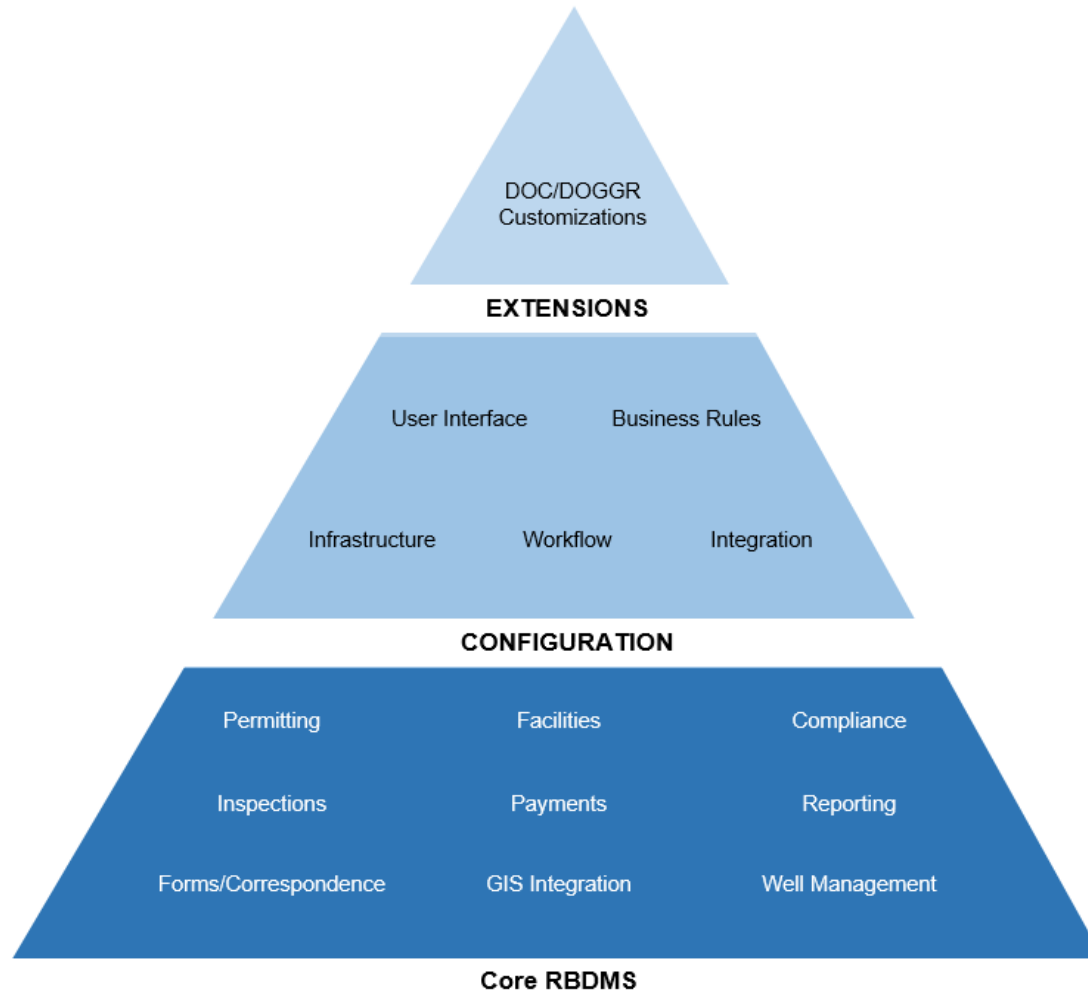
- WellSTAR (RBDMS 3.0) Solution Guiding Principals
- Architecture General Design Overview
- Architecture General Design Details

Guiding Principals

- STAY TRUE TO THE RBDMS FUNCTIONALITY AND UNDERLYING DATA MODEL
- MODERNIZE THE SYSTEM TO SUPPORT USER ACCESS FROM CROSS PLATFORM, WEB-BROWSER ENABLED DEVICES, AND SYSTEM ACCESS/INTEGRATION VIA WEB SERVICES
- SUPPORT OFFLINE/DISCONNECTED SYSTEM FUNCTIONALITY AND DATA SYNCHRONIZATION
- MAKE THE SYSTEM HIGHLY EXTENSIBLE THROUGH THE IMPLEMENTATION OF DYNAMIC/CONFIGURABLE USER INTERFACE COMPONENTS, BUSINESS RULES, AND BUSINESS PROCESSES
- IMPLEMENT FEATURES AND CAPABILITIES SPECIFIED BY DOC AND DOGGR WHILE AVOIDING UNNECESSARY COST DRIVERS AND TECHNOLOGY OBSOLESCENCE

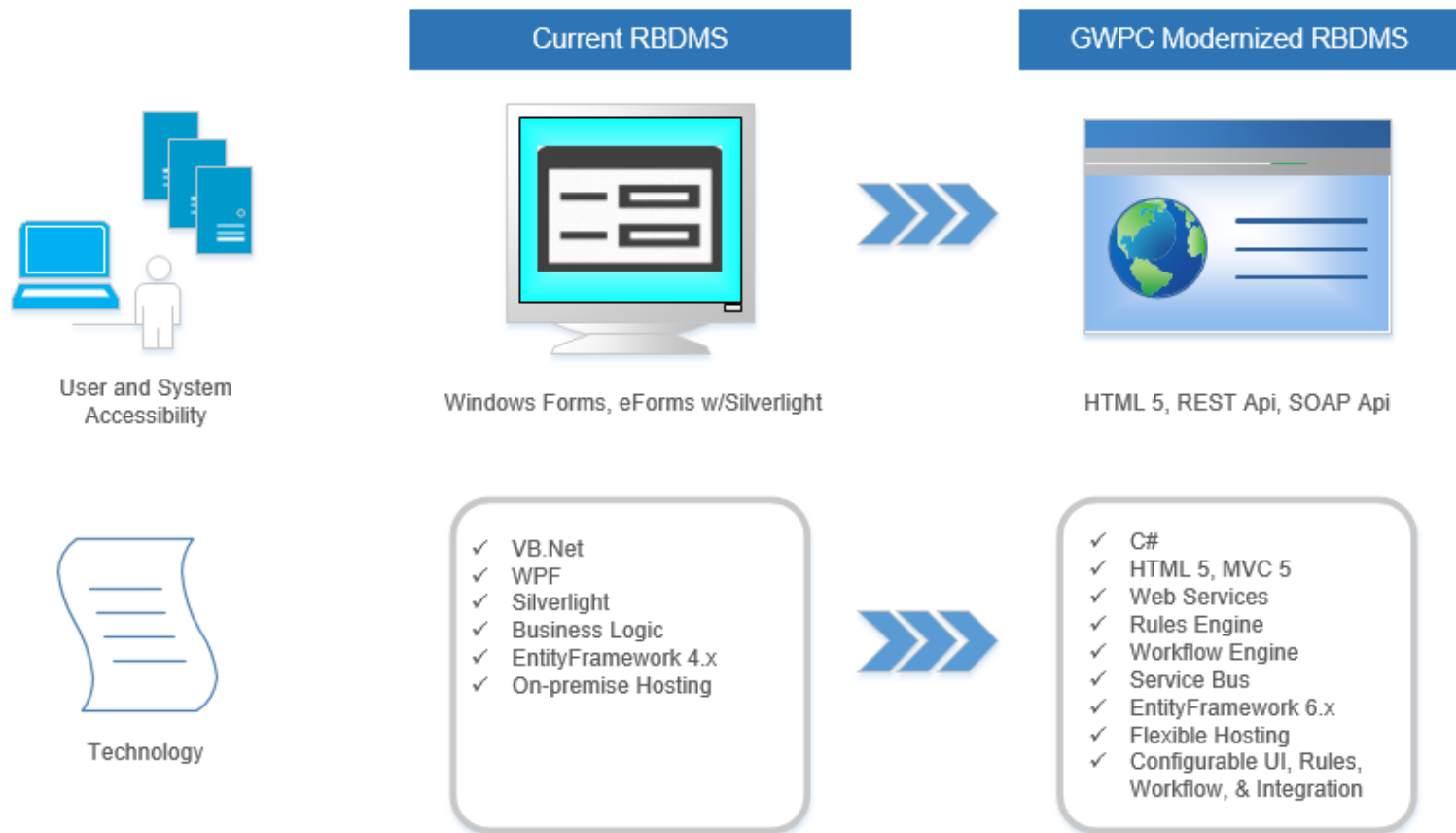
Guiding Principals

- STAY TRUE TO THE RBDMS FUNCTIONALITY AND UNDERLYING DATA MODE!



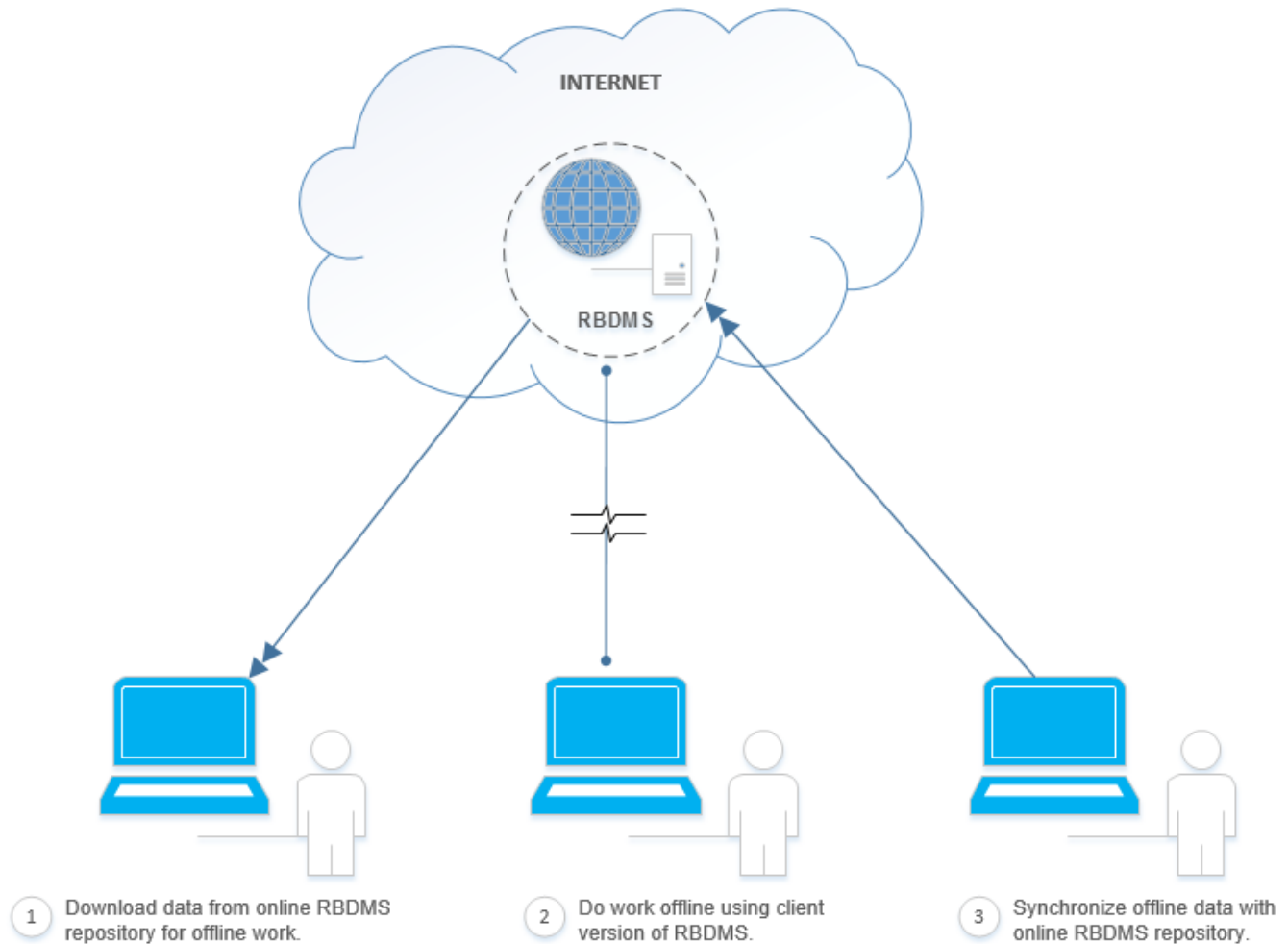
Guiding Principals

- MODERNIZE THE SYSTEM TO SUPPORT USER ACCESS FROM CROSS PLATFORM, WEB-BROWSER ENABLED DEVICES, AND SYSTEM ACCESS/INTEGRATION VIA WEB SERVICES



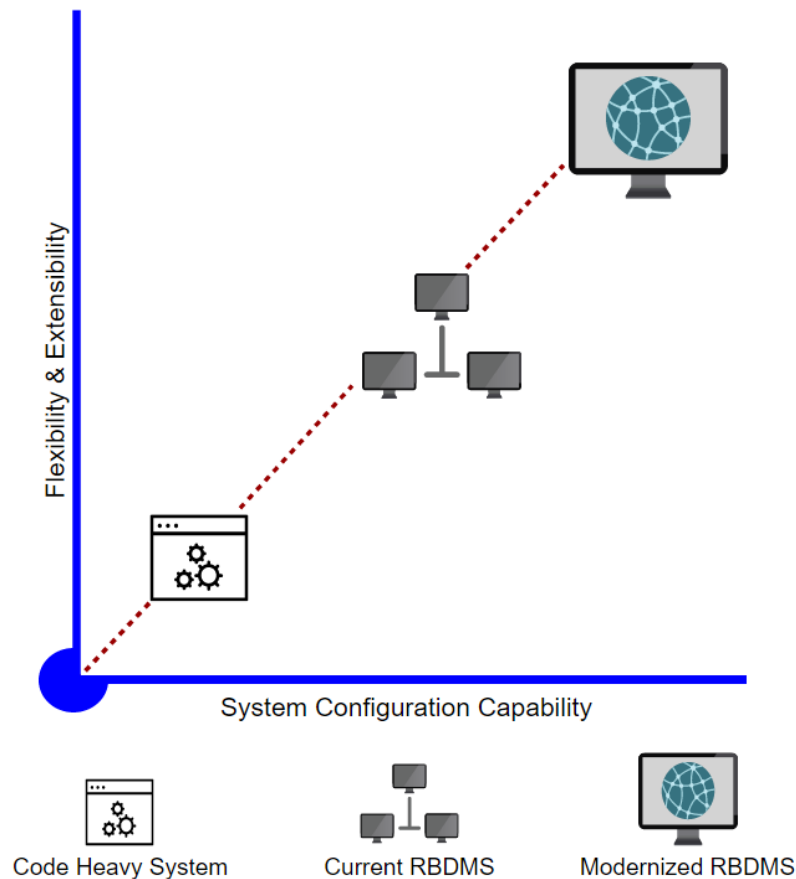
Guiding Principals

- SUPPORT OFFLINE/DISCONNECTED SYSTEM FUNCTIONALITY AND DATA SYNCHRONIZATION



Guiding Principals

- MAKE THE SYSTEM HIGHLY EXTENSIBLE THROUGH THE IMPLEMENTATION OF DYNAMIC/CONFIGURABLE USER INTERFACE COMPONENTS, BUSINESS RULES, AND BUSINESS PROCESSES



Guiding Principals

- IMPLEMENT FEATURES AND CAPABILITIES SPECIFIED BY DOC AND DOGGR WHILE AVOIDING UNNECESSARY COST DRIVERS AND TECHNOLOGY OBSOLESCENCE

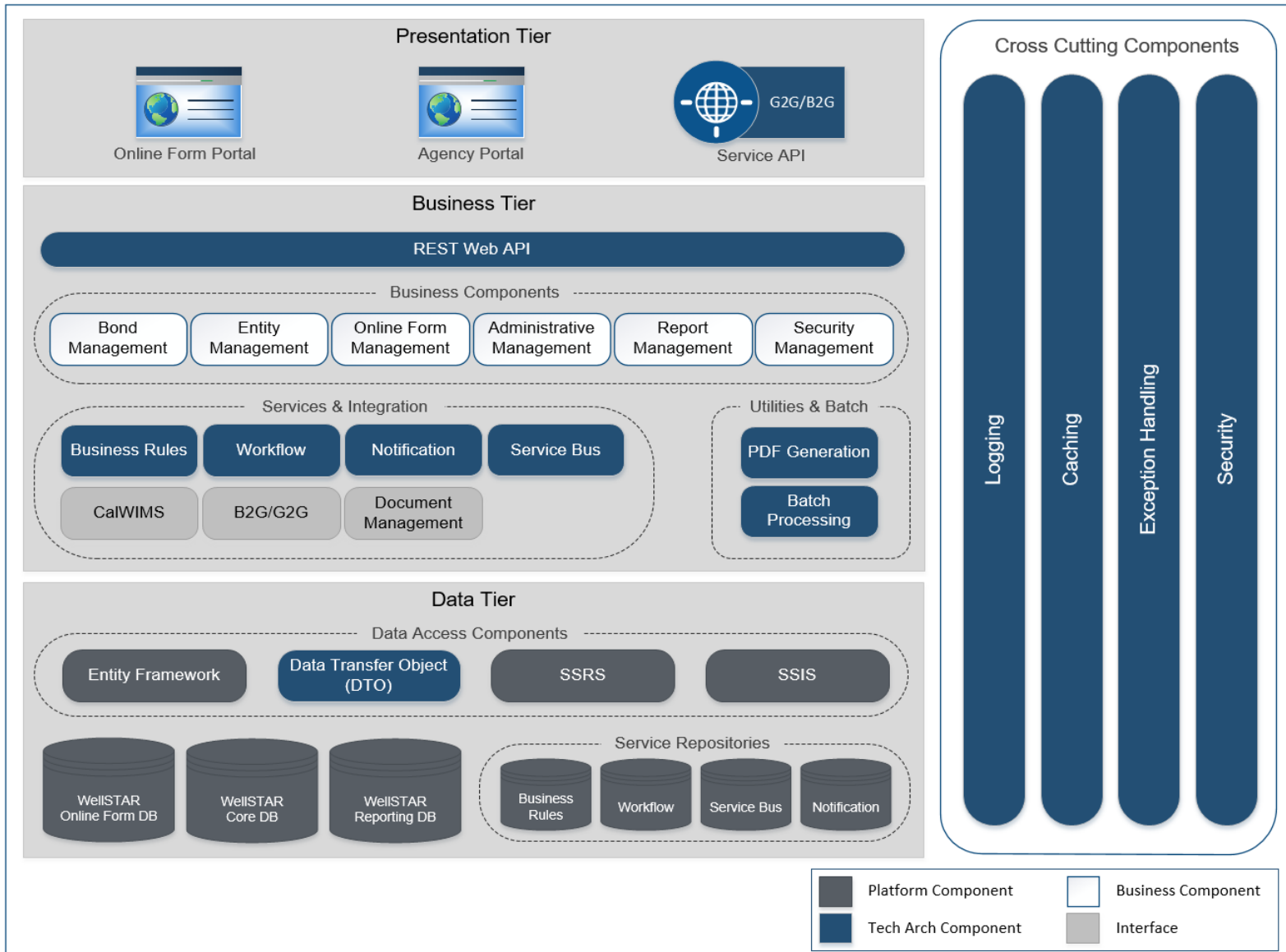


General Design Overview

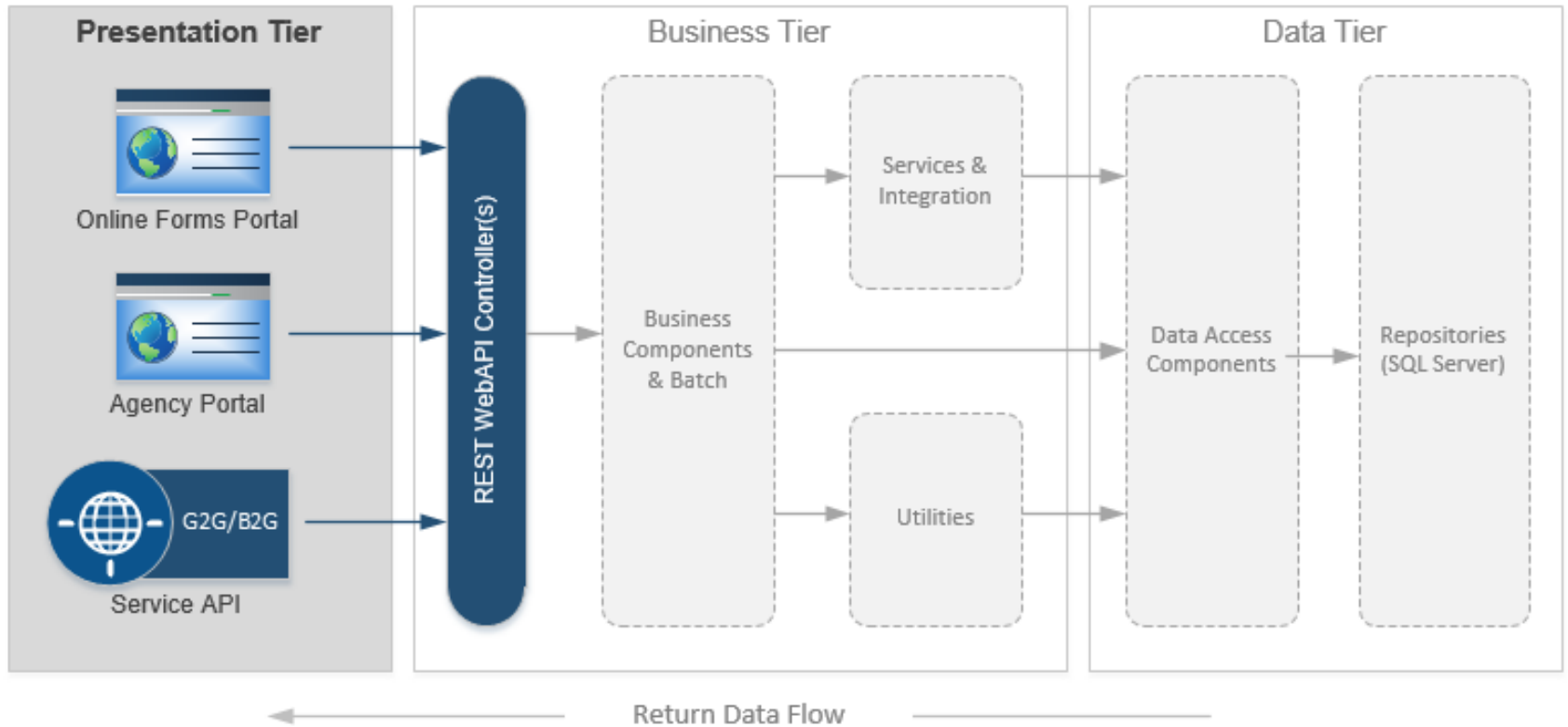
Key Considerations

- Proven n-Tier Design Pattern
- Service Oriented Architecture
- Flexibility and Configurability
- Security, Reliability, and Performance

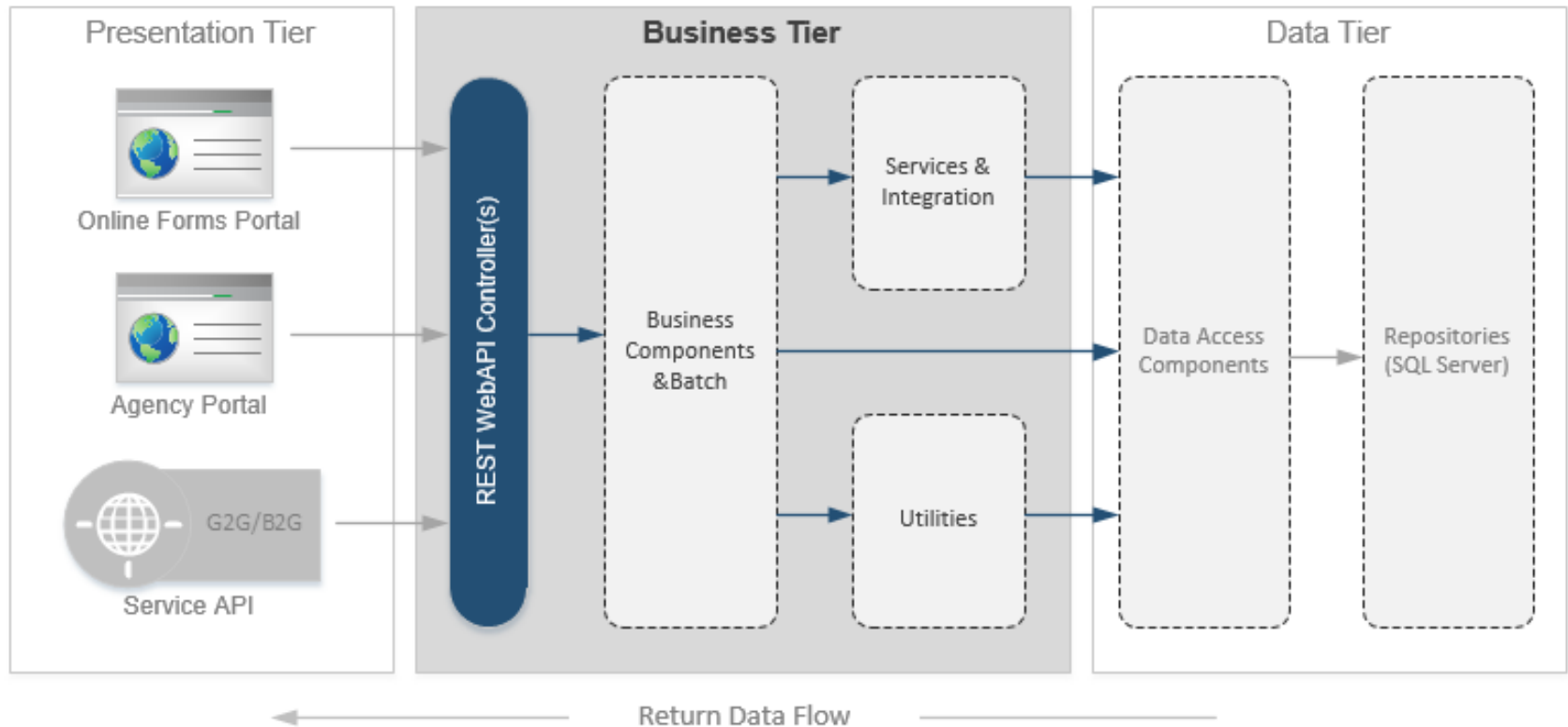
Proven n-Tier Design Pattern



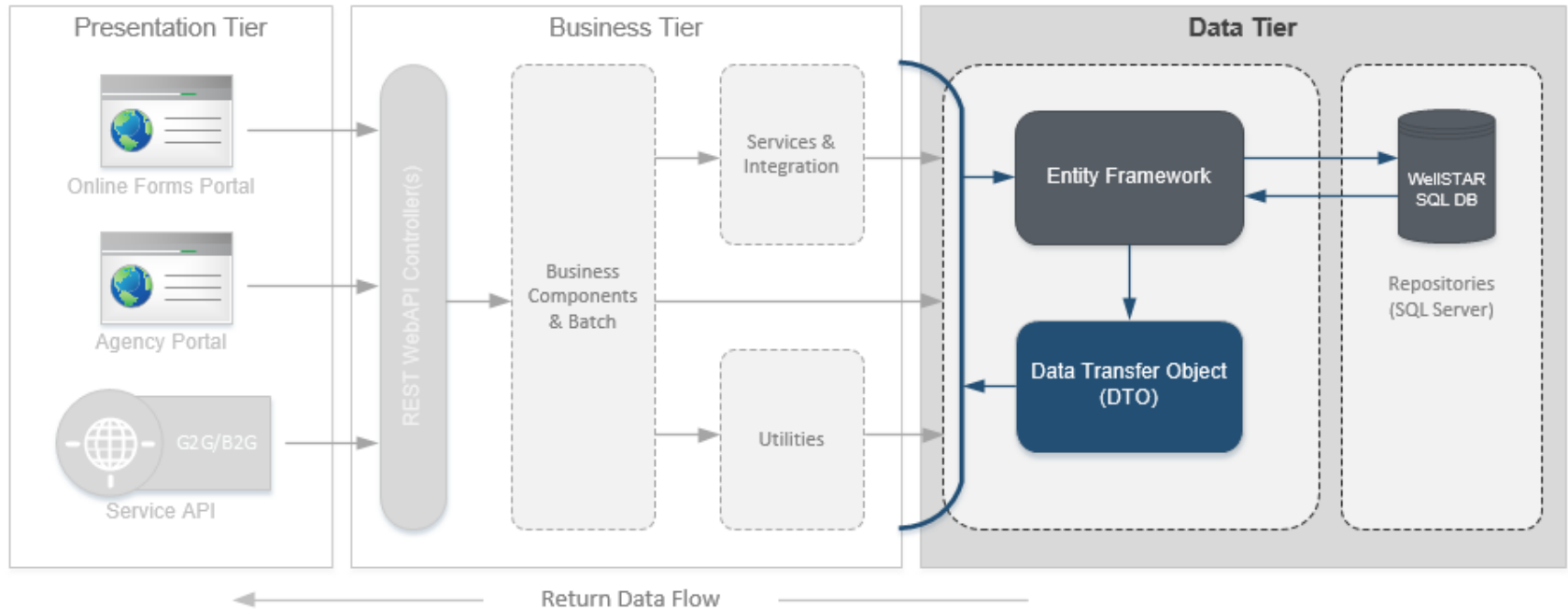
Proven n-Tier Design Pattern - Presentation Tier



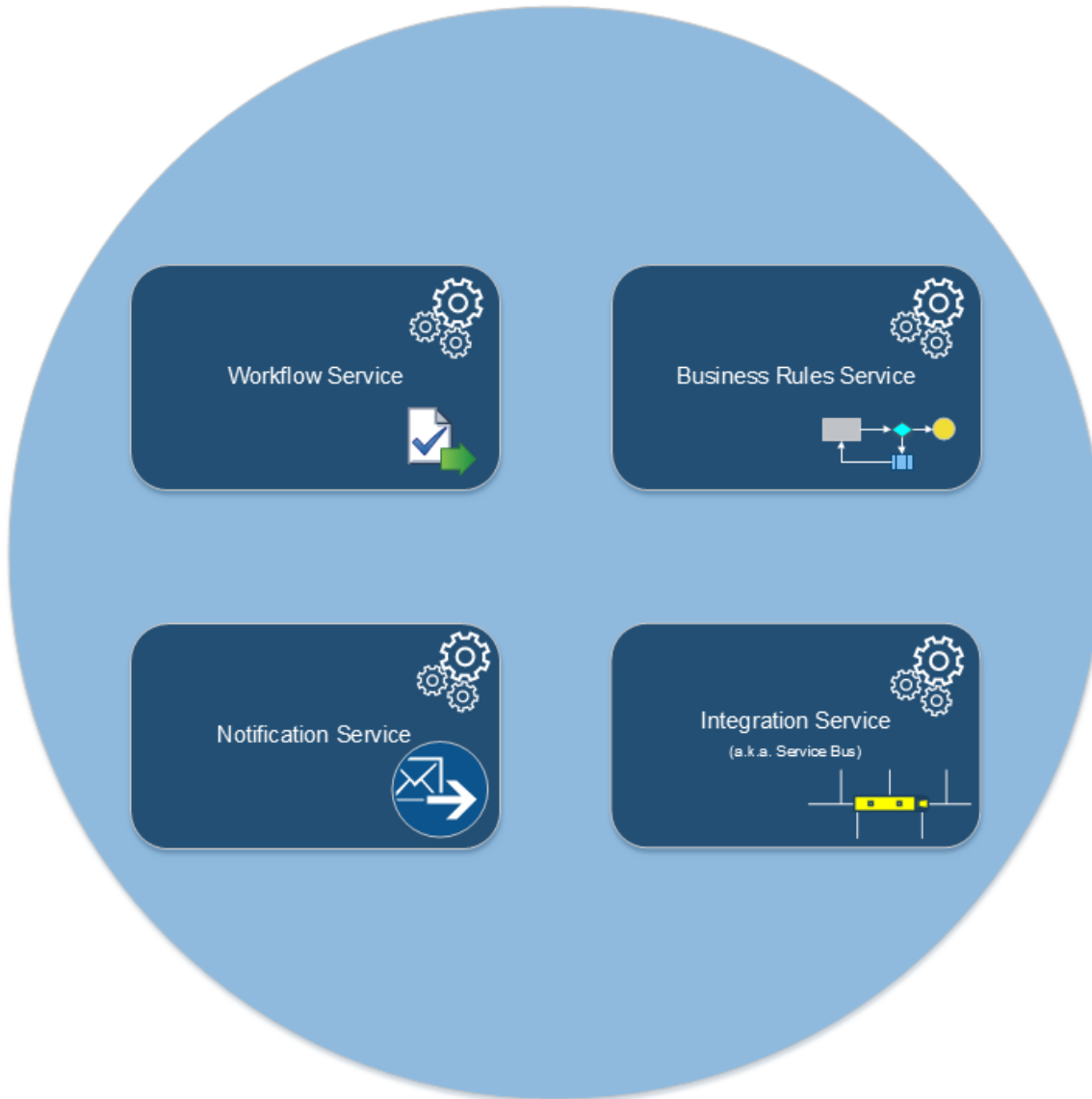
Proven n-Tier Design Pattern - Business Tier



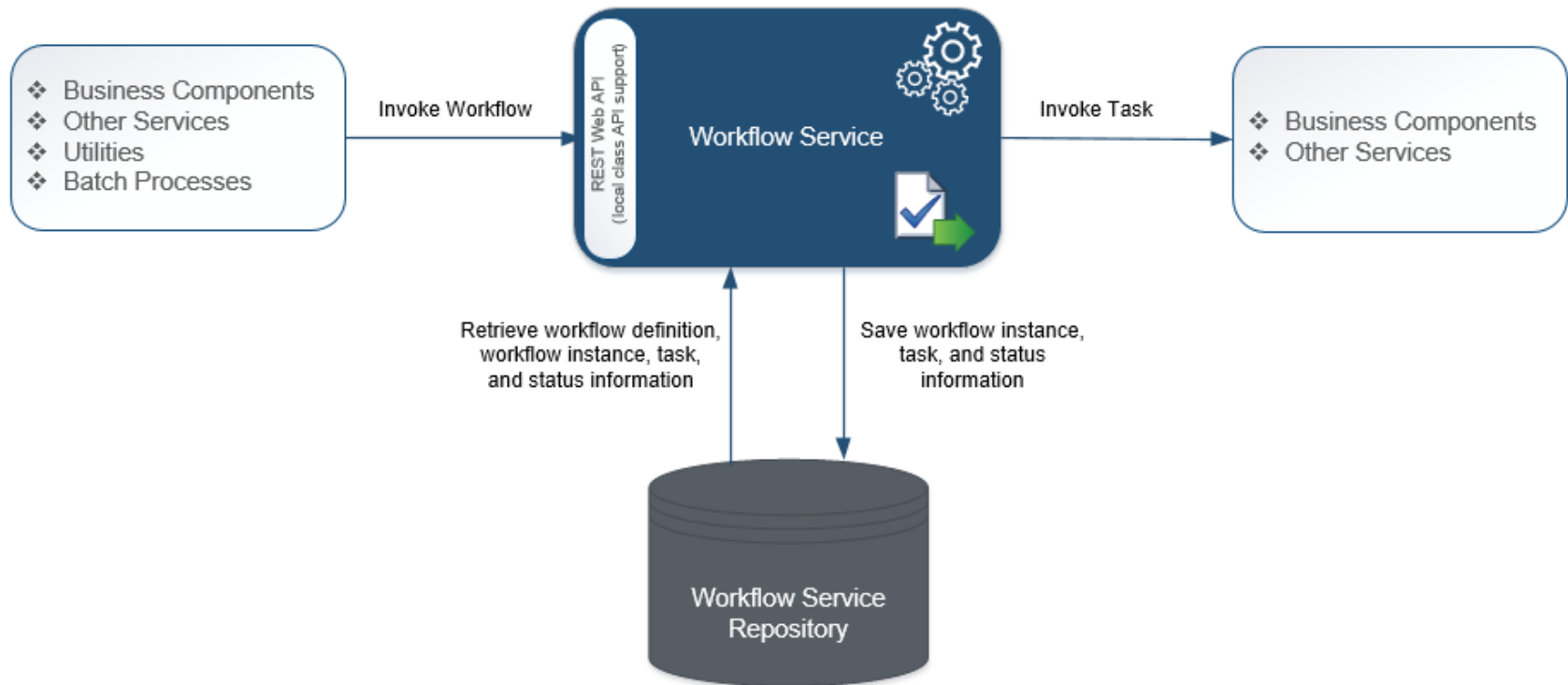
Proven n-Tier Design Pattern - Data Tier



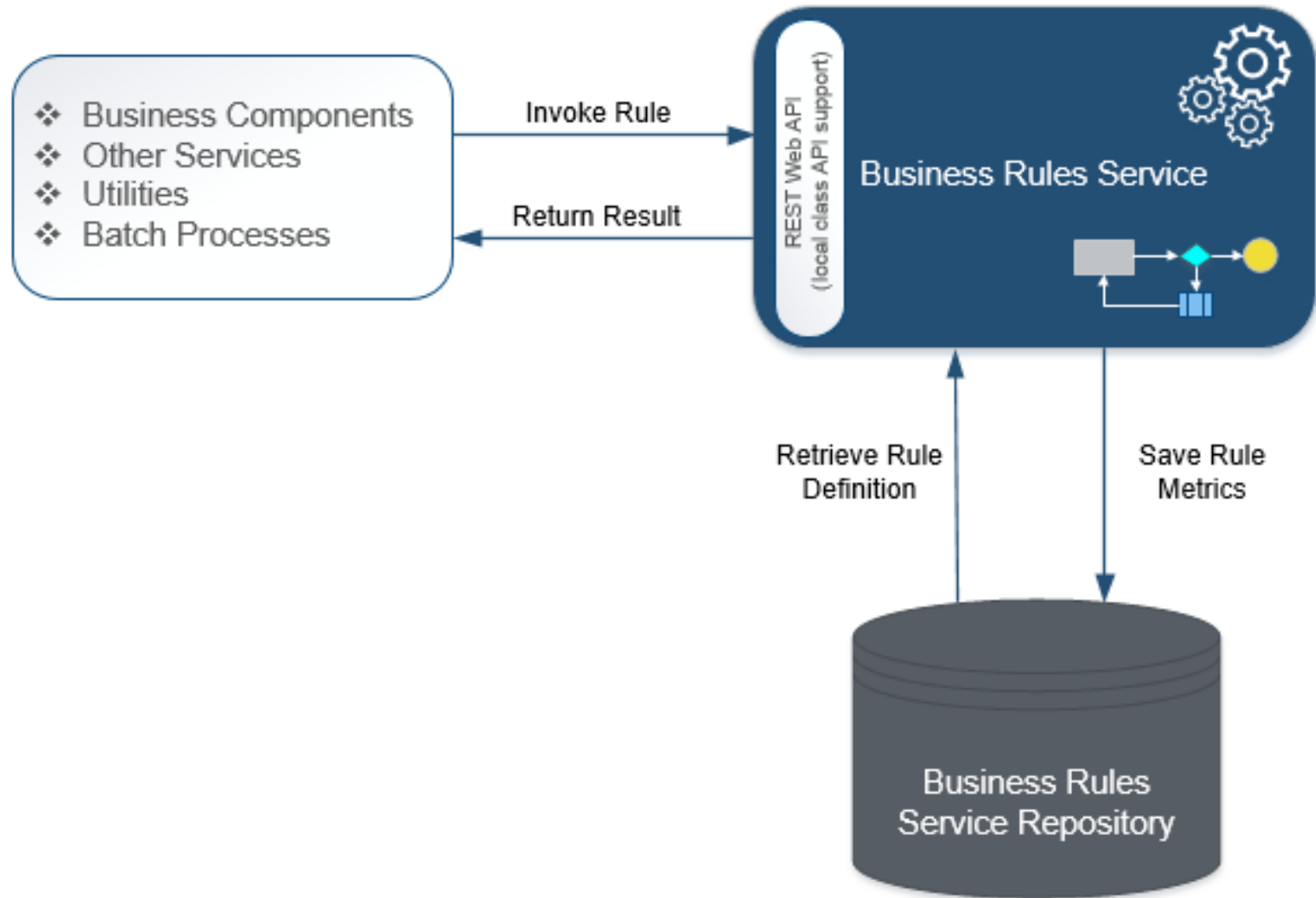
Service Oriented Architecture (SOA)



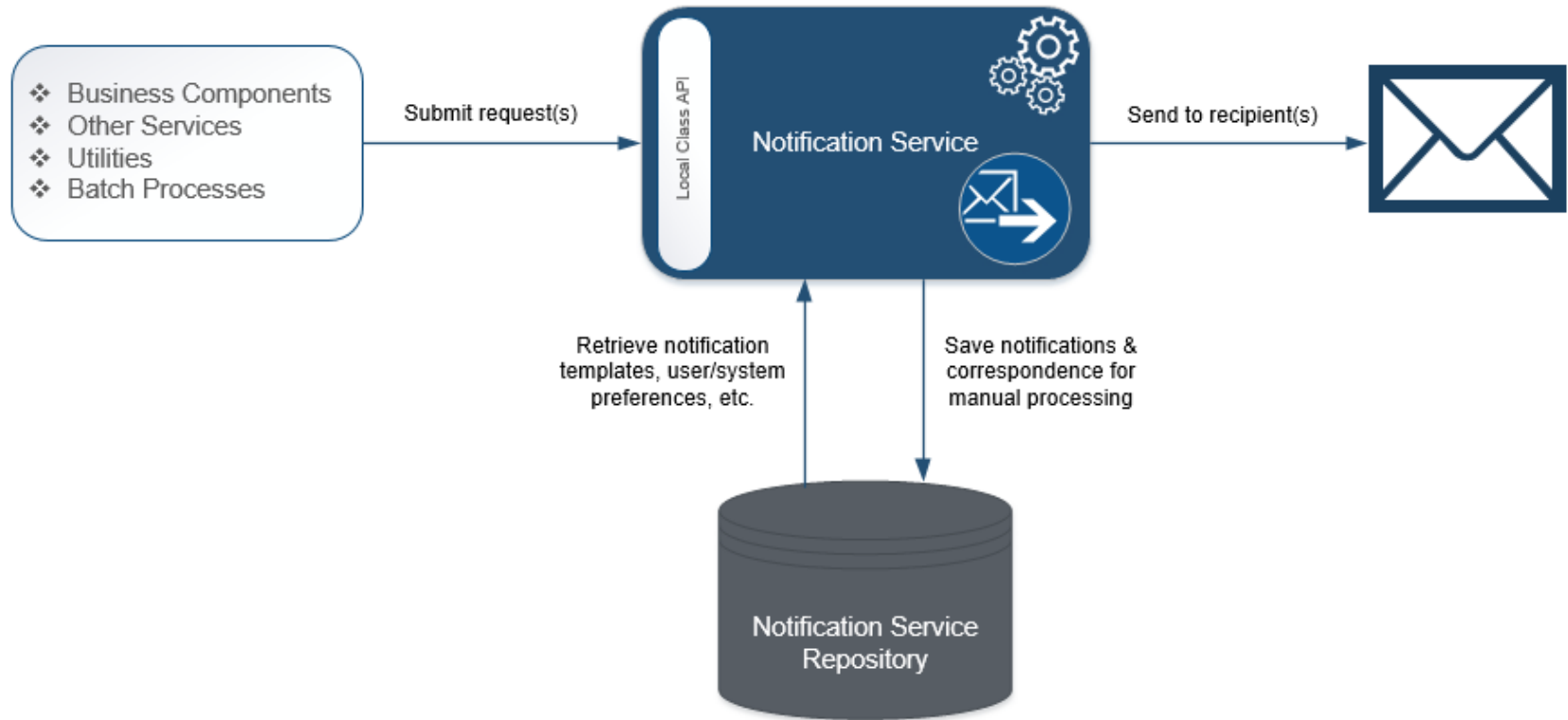
SOA – Workflow Service



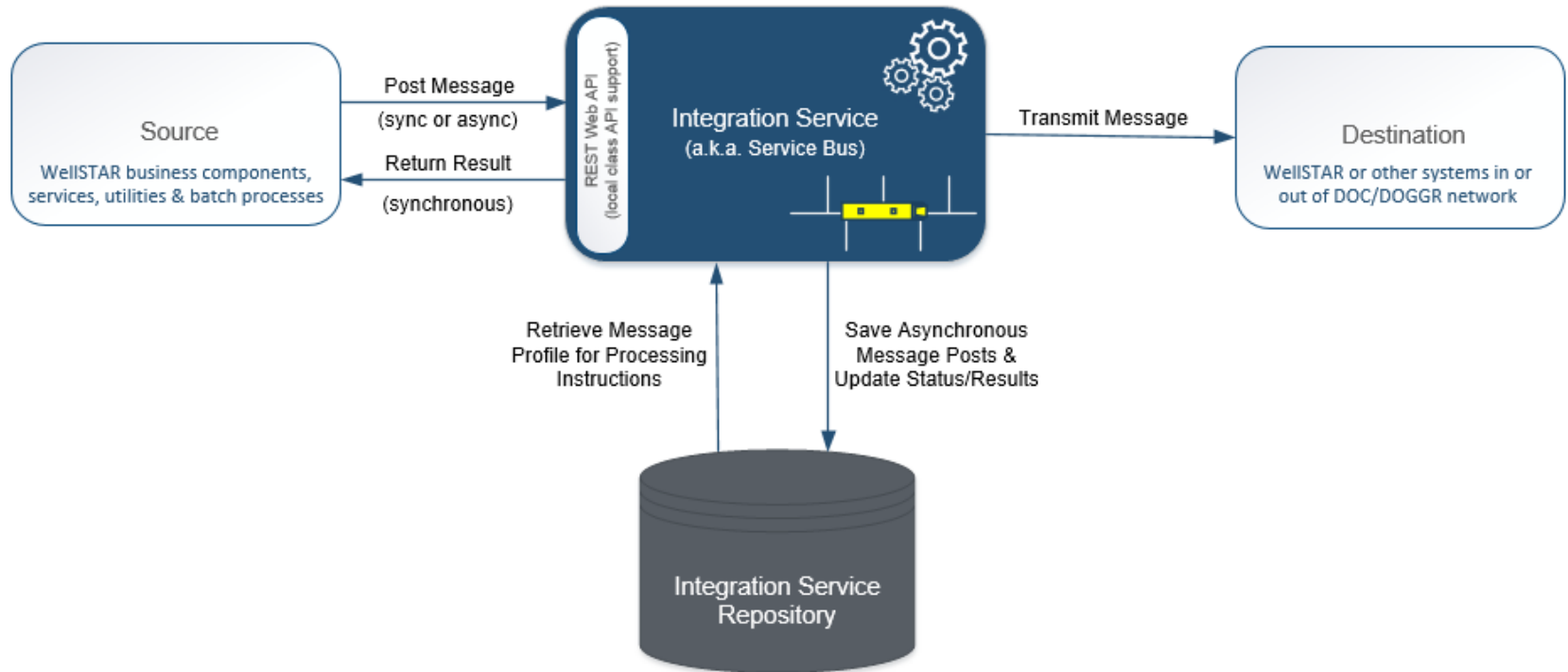
SOA – Business Rules Service



SOA – Notification Service



SOA – Integration Service (a.k.a. Service Bus)



Flexibility & Configurability

Presentation	Business	Data
Web Page Labels, Text, Pre-Defined Content	Rules	Repository Type
Web Page Logo, Fonts, Colors, & other Style Properties	Workflow	Configuration Settings
Form Validation & Display Formatting	PDF Form Rendering	
Form Sections & Display Order	Configuration Settings	
Configuration Settings		

Security, Reliability, and Performance

Security	Reliability	Performance
Active Directory Authentication	Microsoft Framework & Technology Stack	Application Caching
Claims Based Authorization	Modular, Loosely Coupled Application Tier & SOA Design	Database Caching
Hardware Security – Firewalls & Routers	RBDMS Core Framework Abstraction	SQL Query Optimization
Platform Security – Active Directory Groups, Policies, Service Accounts, & Audit Profiles	Automated Unit Tests	Dedicated Reporting Database
Logging & Monitoring	Exception Handling	Microsoft Framework & Technology Stack
	Logging & Monitoring	Logging & Monitoring