



Raytheon DSCDS Intro

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Terminology

- **Web Service:** A service that is accessed via either a SOAP/HTTP or a SOAP/JMS interface
- **PES: Policy Enforcement Service.** A web service that performs a policy action (dirty word scan, virus scan, sanitization, transformation, etc)
- **SOA:** A collection of services that can be independently invoked to accomplish a task
- **Enclave:** A security boundary that requires strict border control. i.e., SIPRNet, NIPRNet



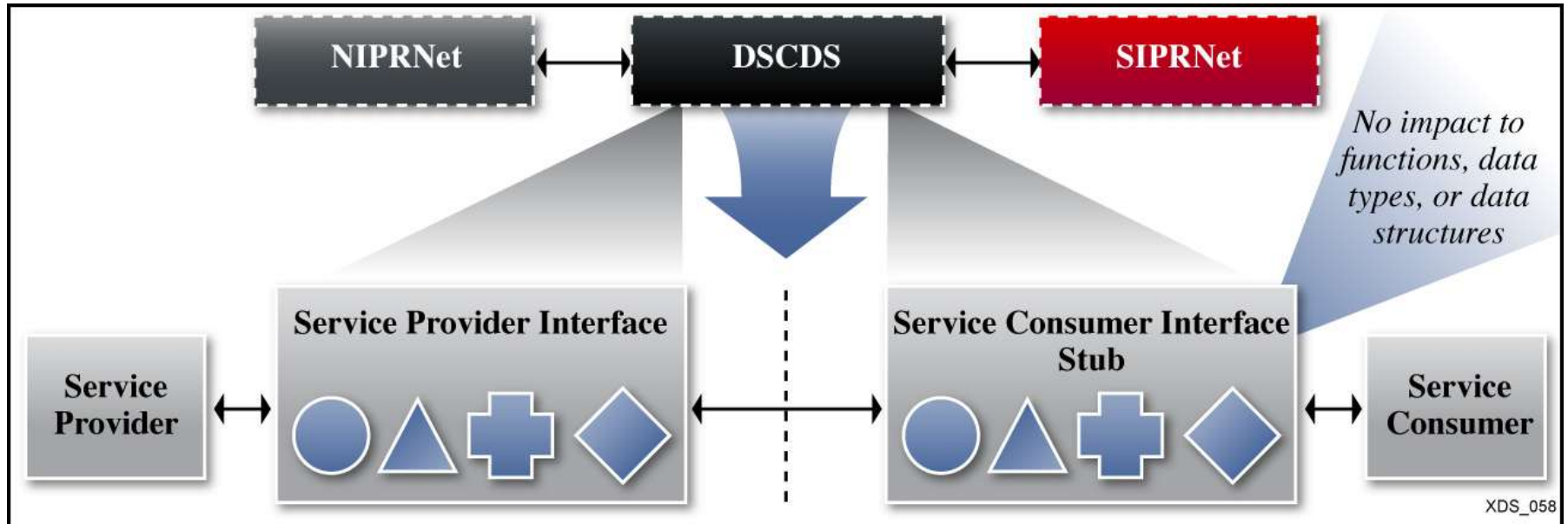
What is DSCDS?

- Raytheon team is currently in Preliminary Design phase
- DSCDS is the Distributed Service Oriented Architecture-Compatible Cross Domain Service
- What does Distributed mean?
 - Ability to place the trusted data inspection/modification routines somewhere other than a guard
 - Ability to run lots of DSCDS's
- What does SOA-Compatible mean?
 - Ability to less painfully integrate with existing SOAs, and make use of current SOA developments



DSCDS – 1,000,000 foot view

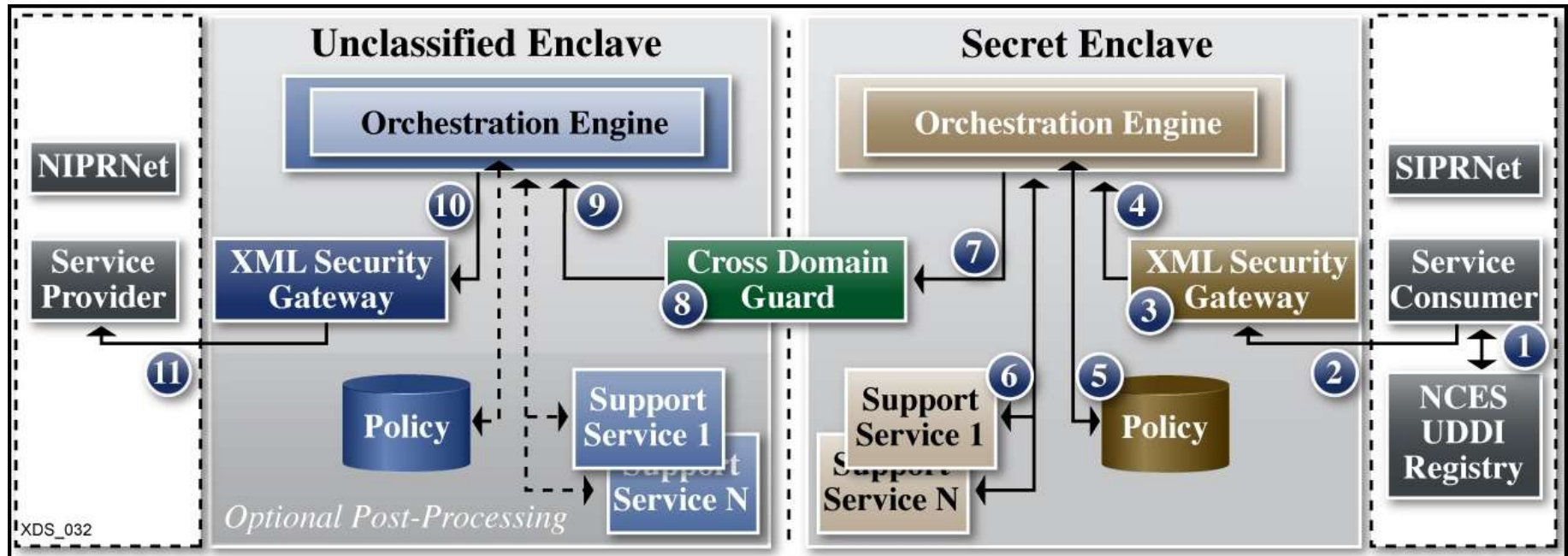
- DSCDS looks like the real data provider/consumer to external entities





DSCDS Architecture Overview

- Combination of Service Integration Bus/Orchestration Engine and a traditional guard provides flexibility and security

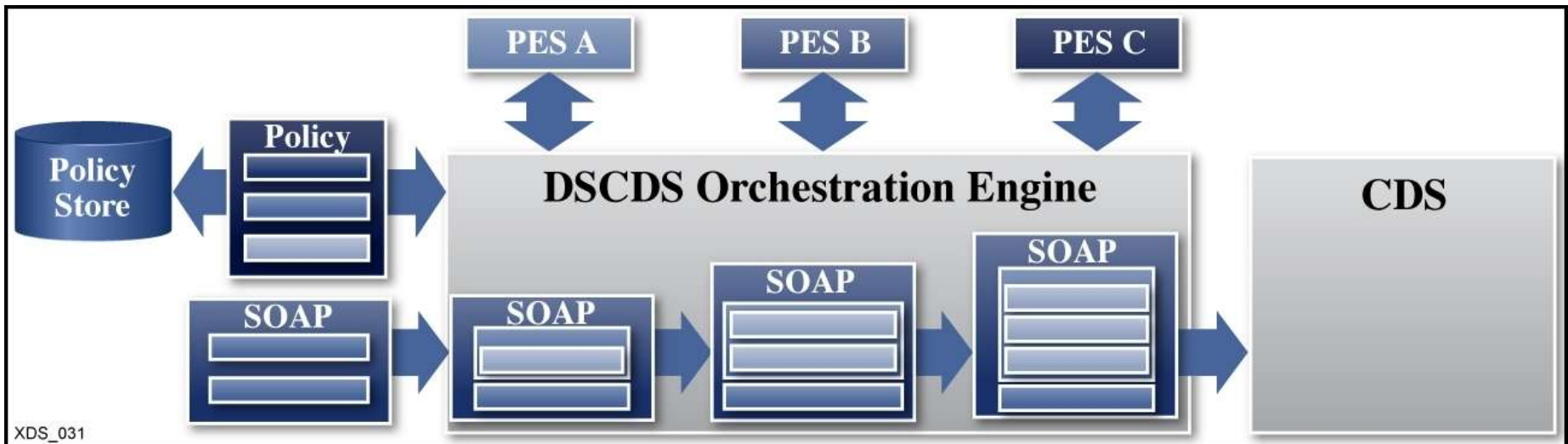


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Policies and Services

- Orchestrator baseline provides capability to enact a sequence of validation services
- Guard/CDS ensures all validations have occurred, as well as perform additional validations if required





Hard Problems

- SOA Products
 - COTS products are changing rapidly
 - Acquisitions and mergers are changing the vendor space
 - Custom solutions are available and can be built
- Standards
 - Many of the standards are still changing
 - Proprietary extensions are still frequently utilized
 - Support for various standards varies greatly amongst COTS and custom products



Hard Problems (cont)

- Performance
 - While current program is a Proof Of Concept, operational deployment will need to scale from many tiny messages to occasional huge files
 - SOAs generally low performance, especially when using SOAP/HTTP
 - Custom transports and encodings can be used to address some performance issues
 - SOA products typically have significant problems supporting files and messages larger than a few KB



Hard Problems (cont2)

- Service Attestation
 - How does DSCDS ensure that a PES is operating correctly?
 - Also within CNCI scope
- C&A
 - New challenges when using SOA concepts and distributed services to perform previously isolated functions
 - Need to address as many concerns as possible



Hard Problems (more!)

- Security Policy Management
 - How to coherently capture and express security policy across several systems and software packages
 - Look at existing policy languages: DFCF, WS-Policy, XACML
 - Probably need combination and/or extension of existing languages
- Remote and Enterprise Management
 - How to remotely collect status and manage systems
 - Including management of services and policies
 - Extend to an enterprise approach



Questions?

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