

SMISOS

A NEW VISION FOR SEMANTIC WEB-SECURED
SERVICES (SW-SS)

By

Amin ELSALEH



WHAT IS SEMANTIC WEB SECURED SERVICES ?

Key to semantic discovery of web services :

- **Having semantics** in the description itself (i.e. formally selfdescribed and machine processable).
- **Using semantic** matching algorithms to find the required services.
- **Assure interoperability** and applicative cooperation among heterogeneous entities.

HOW SECURITY IS HANDLED BY SMISOS ?

Two Keys for SW-Secured Architecture :

- **intelligent” document** (i-doc) processing involved in workflow.

i-doc is:

1. Multi-Composed
2. Multi-format
3. Multi-Version
4. Multi-Dependence
5. Multi-Datatype
6. Multi-Platform

- **SPDF** (Specification for Process Description Format)

SPDF IS THE PILOT FOR SW-Secured ARCHITECTURE

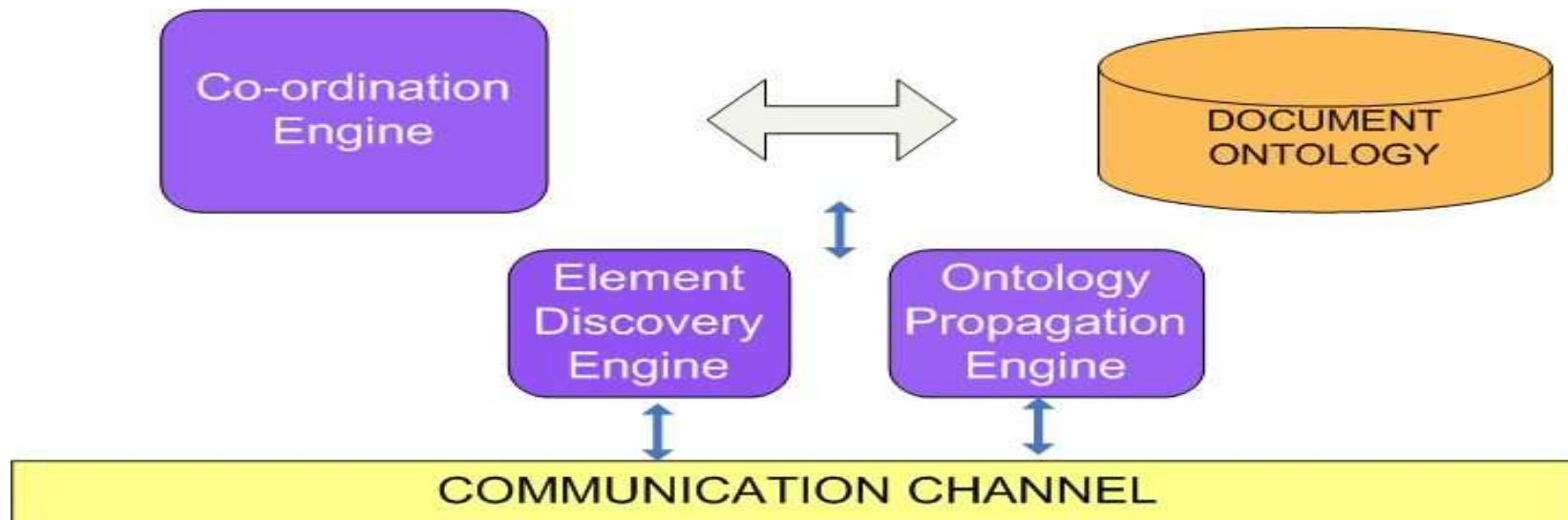


Figure 1: Ontology Propagation and Element discovery

SPDF IS THE FUTURE FOR SW-SECURED SERVICES

It is worth noting two forms of use (see Fig.1):

1. When an SPDF definition requires one or more process elements, these will be found by the **Element discovery engine** using the document ontology and
2. when new knowledge is extracted from a legacy component (or other multi-format document), it will be distributed across the network by a propagation engine using the **communication channel** and stored in local document ontology libraries.

HOW DID WE DO IT ?

1. We built upon **Project GlassFish** :
 - Sun Application Server
 - Sun & apache Java database
 - Java full capabilities (JSP & servlets)
2. SMISOS is integrated as new components with glassfish to **pilot automated processes through SPDF** (Specification for Process Description Format).

WHAT'S THE VALUE PROPOSITION ?

- Standards based (**WSDL, BPEL, XML, EDI**).
- SMISOS control mechanism **conformity** with **CFR21**.
- SPDF extend **WSDL** and **BPEL** association to execute semantic web services based on real world **P2P business collaboration** where entities can act as **provider or requestor** of resources or services.
- SPDF will configure **scenario** for automated human-machine processes into **various applications** (**Insurance, Banking, market place, e-government, e-learning, mobile, robotics**).

HOW SECURITY IS HANDLED AT THE SERVER APPLICATION LEVEL?

DEMO: www.ediaudit.com:8080/smis/

SPDF administrator part of the “intelligent” document (i-doc) specifies :

1. how to make a trace of random messages in different scenario types and how to integrate the appropriate scenario type?
2. what to do after receiving a message of a certain type including smart data injection to enable: Intrusion prevention, network access control, fraud detection.

WHAT ARE SMISOS IMPACT ON A NEW VISION FOR SW-SECURED SERVICES?

1. the development of service oriented architectures that foresees the use of ontologies and semantic annotations for services and documents.
2. the realization of distributed information systems able to assure interoperability and applicative cooperation among heterogeneous entities with different administrative control.

Merci pour votre attention

Amin ELSALEH

mob : +33 (0)6 81 96 97 31

tel/fax:+33 (0)1 47 83 73 93

mail : aminelsaleh@ediaudit.fr

www.ediaudit.fr

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