



## E-Speak

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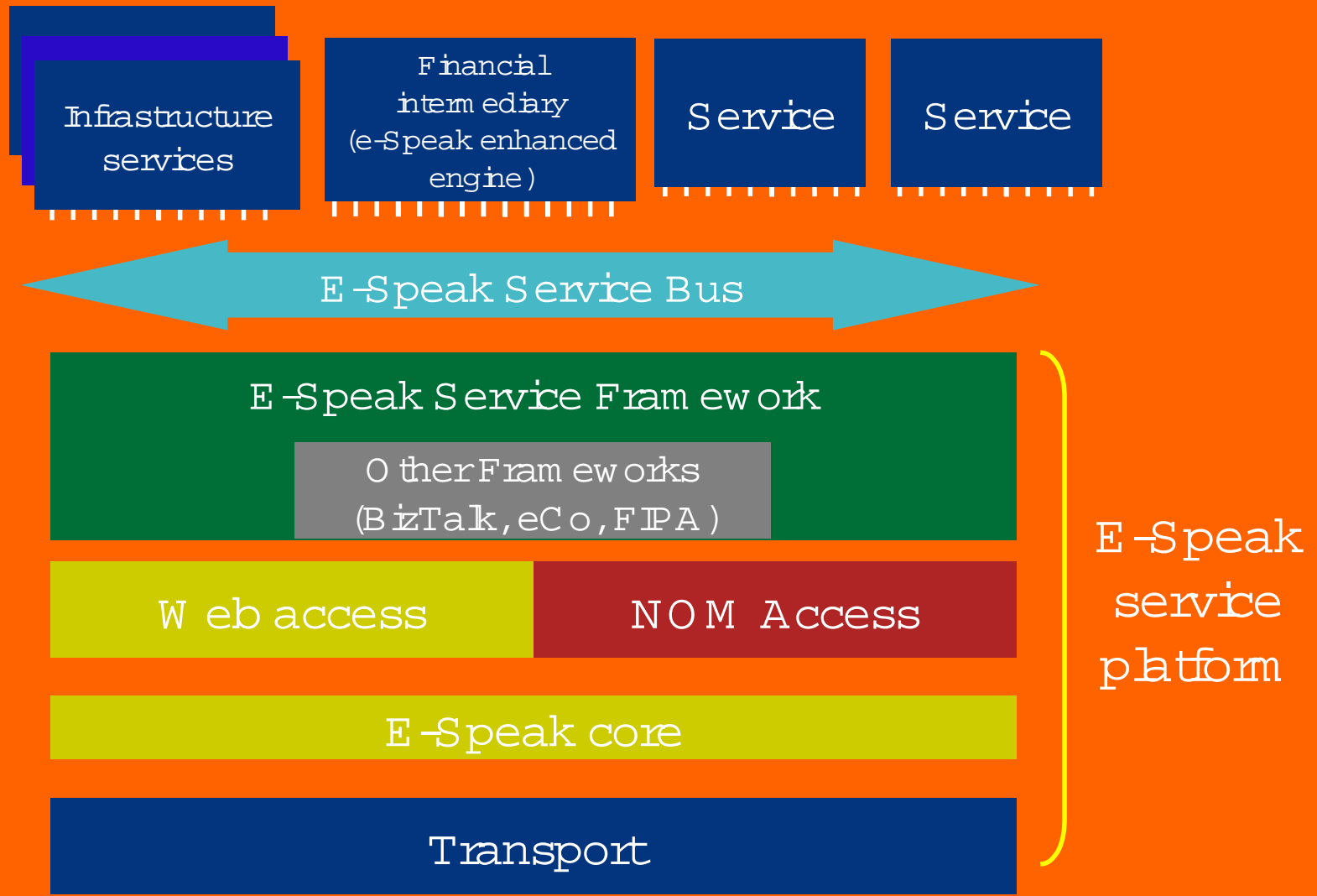
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# What is E-Speak

E-Speak enables the formation of ad-hoc dynamic business relationships on the Internet via intelligent service to service interaction protocols.

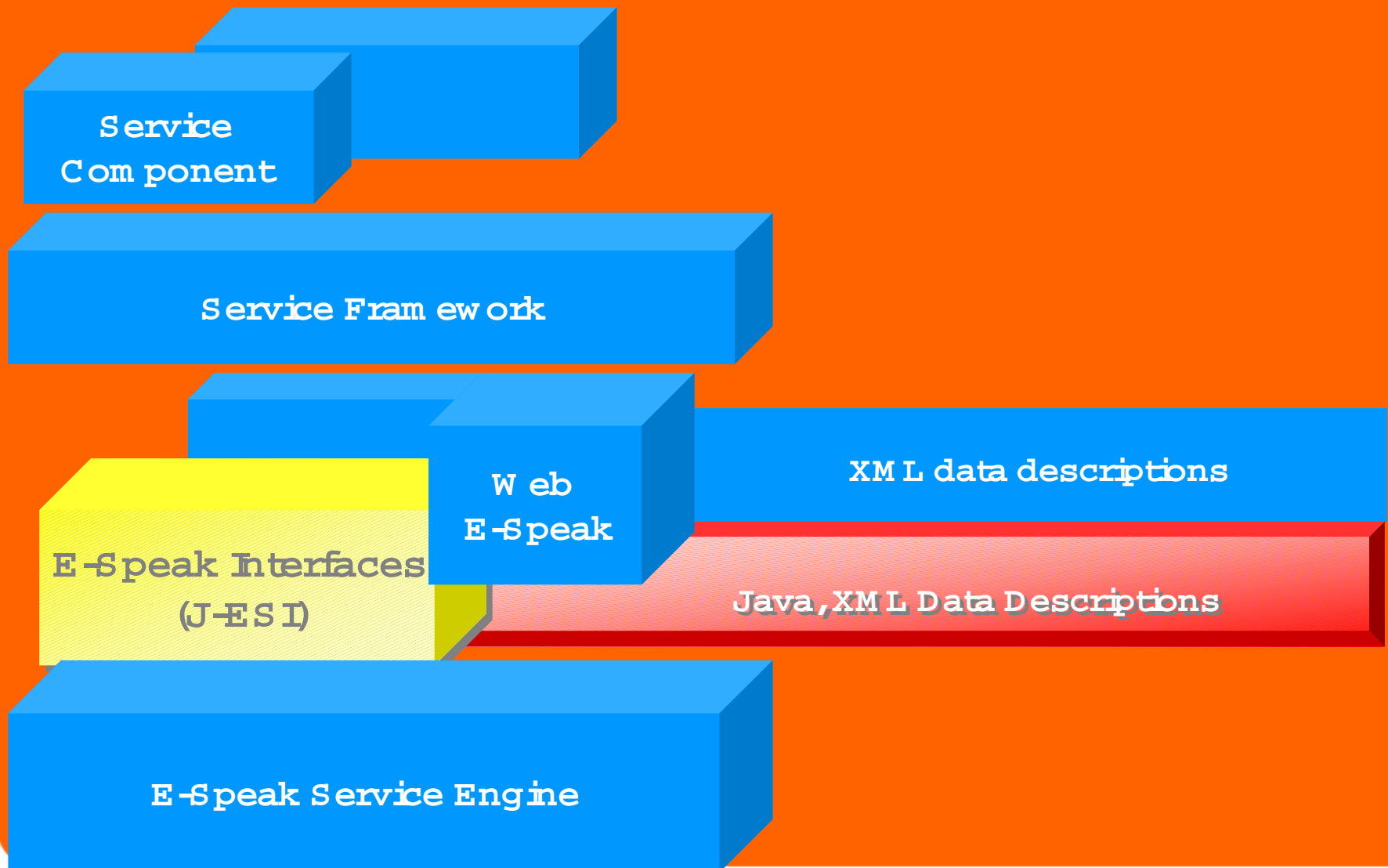
# E-Speak technology stack



# E-Speak Features and Functionality

- Web Service Directory – e-Speak's advertising service provides the directory lookup facility to dynamically discover vocabularies and services.
- E-Speak Vocabulary – provides a robust mechanism to describe services (and other vocabularies) for dynamic service discovery.
- Security – a session layer security protocol based on certificates prevents the unauthorized access to the data or processes of any buyer or supplier in the marketplace.
- Secure Firewall Traversal – E-Speak supports two types of firewall traversal mechanisms, web-proxy and socks-server.
- Fault-Tolerance – provides resilient NOM service connections to the marketplace.
- Meta-Data Persistence – provides persistence of service vocabulary and vice descriptions to retain service registration in the event of service or core failure.

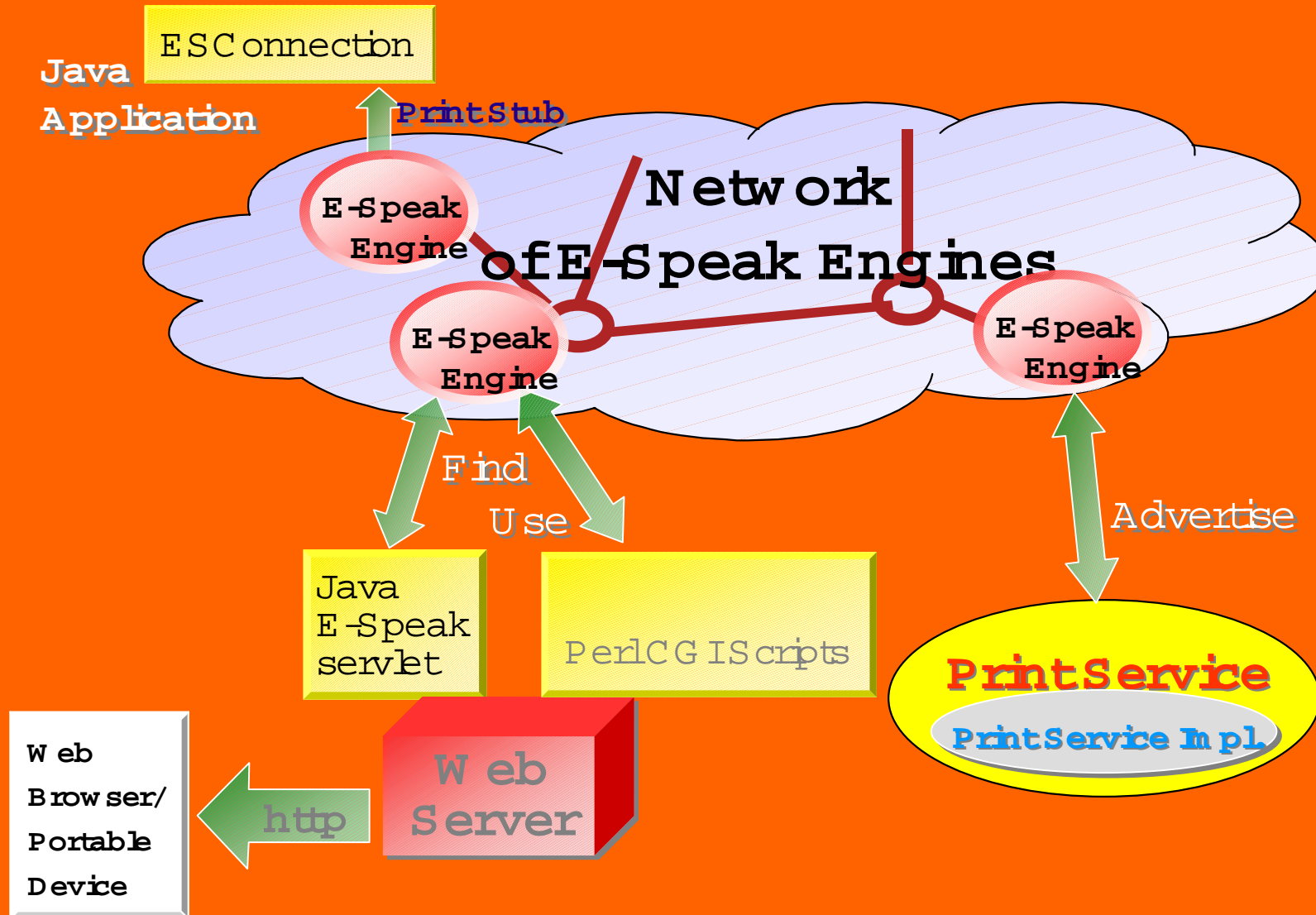
# E-Speak Service Interfaces



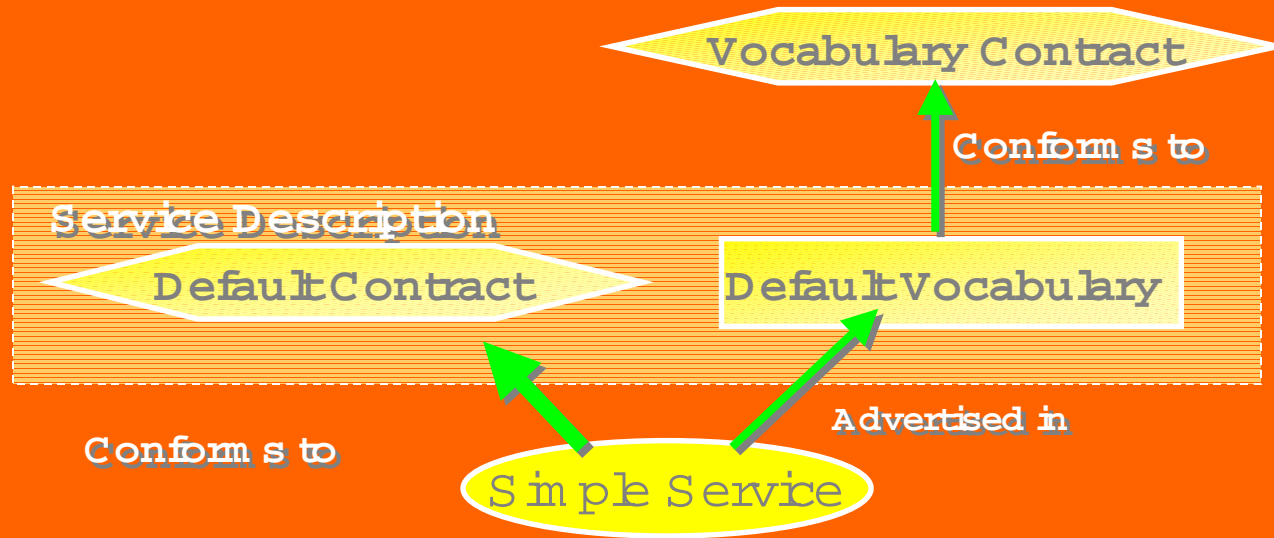
# E-speak Service Interface Features

- Network Object Model (JES I)
- XML Document Exchange (through Web Access Service)
- CGI Access
- Asynchronous Messaging

# E-Service Interaction



# What is an E-Speak Service?



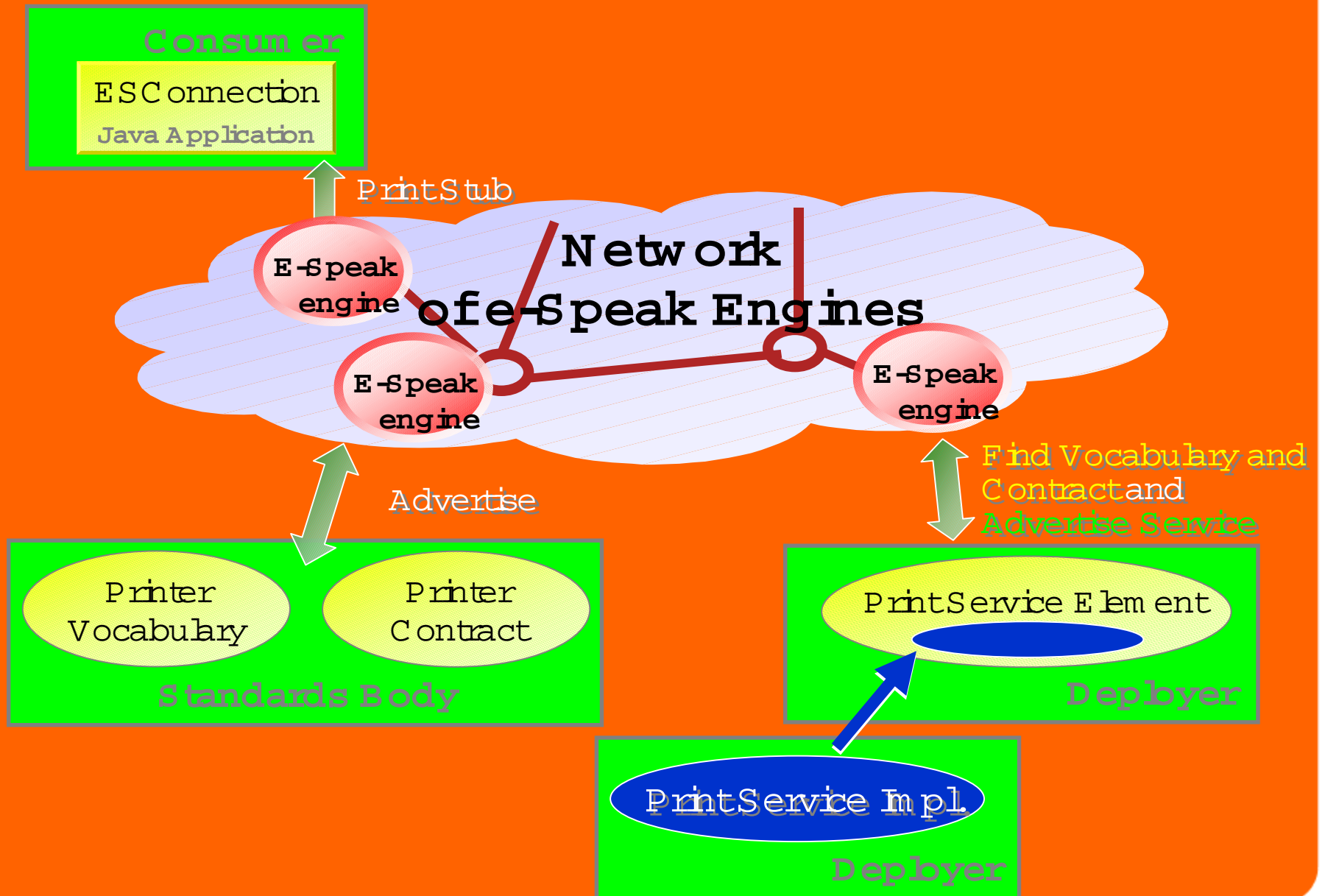
**ESService**: Remote Access to a Service

**ESVocabulary**: Attributes Describing the Service

**ESContract**: Interfaces That the Service Supports



# Basic Service



# Finding the PrintService

```
main ()
{
    ESConnection c = new ESConnection(argv[0]);

    String intfName = PrintServiceIntf.class.getName();
    ESServiceFinder sf =
        new ESServiceFinder(c, intfName);
    PrintServiceIntf printSvc = (PrintServiceIntf)
        sf.find(new ESQuery("Name == printService"));

    //more code to come
}
```

## Using the PrintService

```
main ()
{
    ESConnection c = new ESConnection(argv[0]);

    String intfName = PrintServiceIntf.class.getName();
    ESServiceFinder sf =
        new ESServiceFinder(c, intfName);
    PrintServiceIntf printSvc = (PrintServiceIntf)
        sf.find(new ESQuery("Name == 'printService'"));

    String echo = printSvc.print("Hello World");

    System.out.println(echo);
}
```

# Creating the PrintService

```
main ()
{
    ESConnection c = new ESConnection(argv[0]);
    ESServiceDescription sd = new ESServiceDescription();
    sd.addAttribute("Name", "printService");
    ESServiceElement printer = new ESServiceElement(c, sd);
    printer.setImplementation(new printServiceImpl());
    printer.register();
    //Later we'll advertise for broader visibility of the e-service
    printer.start();
}
```

```
public interface printServiceIntf //e-Speak IDL
{ public String print(String in); }
```

```
Class printServiceImpl implements printServiceIntf
{ String print(String in) { ... ; return in; } }
```

# Service Description in XML

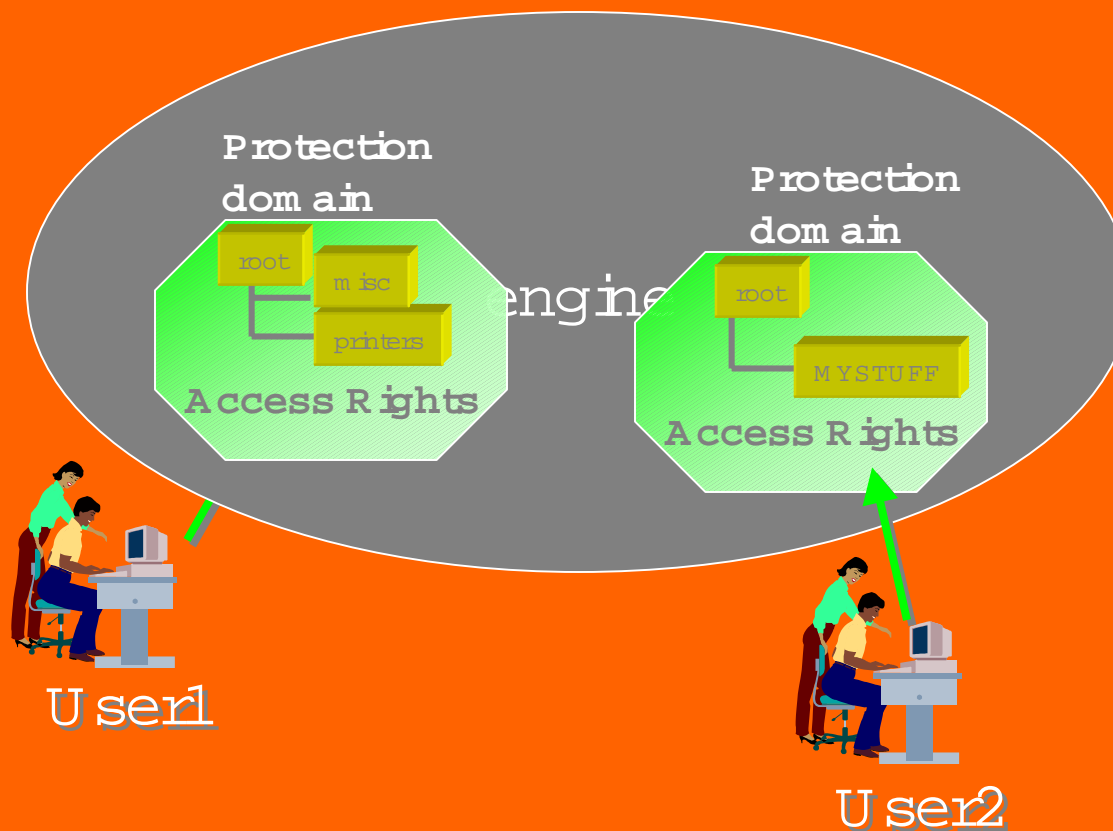
```
main ()
{
    ESConnection c = new ESConnection(argv[0]);
    ESServiceDescription sd =
        new ESServiceDescription(new ESXMLFile("pDesc.xml"),c);

    ESServiceElementPrinter = new ESServiceElement(c, sd);
    printer.setInputElement(new printServiceInput());
    printer.register();
    printer.start();
}
```

pDesc.xml

```
<?xml version="1.0"?>
<ESpeak version="E-Speak 2.1beta" operation="RegisterService"
xmlns="http://localhost/e/Esxml/Schemas/espeak.xsd">
  <resource>
    <resourceDescription xmlns="" name="myPrinter">
      <attrSet xmlns="">
        <attr xmlns="" name="Name" >
          <value xmlns="">printService</value>
        </attr><
        ...
      <!-- End: attributes -->
    </attrSet>
  </resourceDescription> </resource> </ESpeak>
```

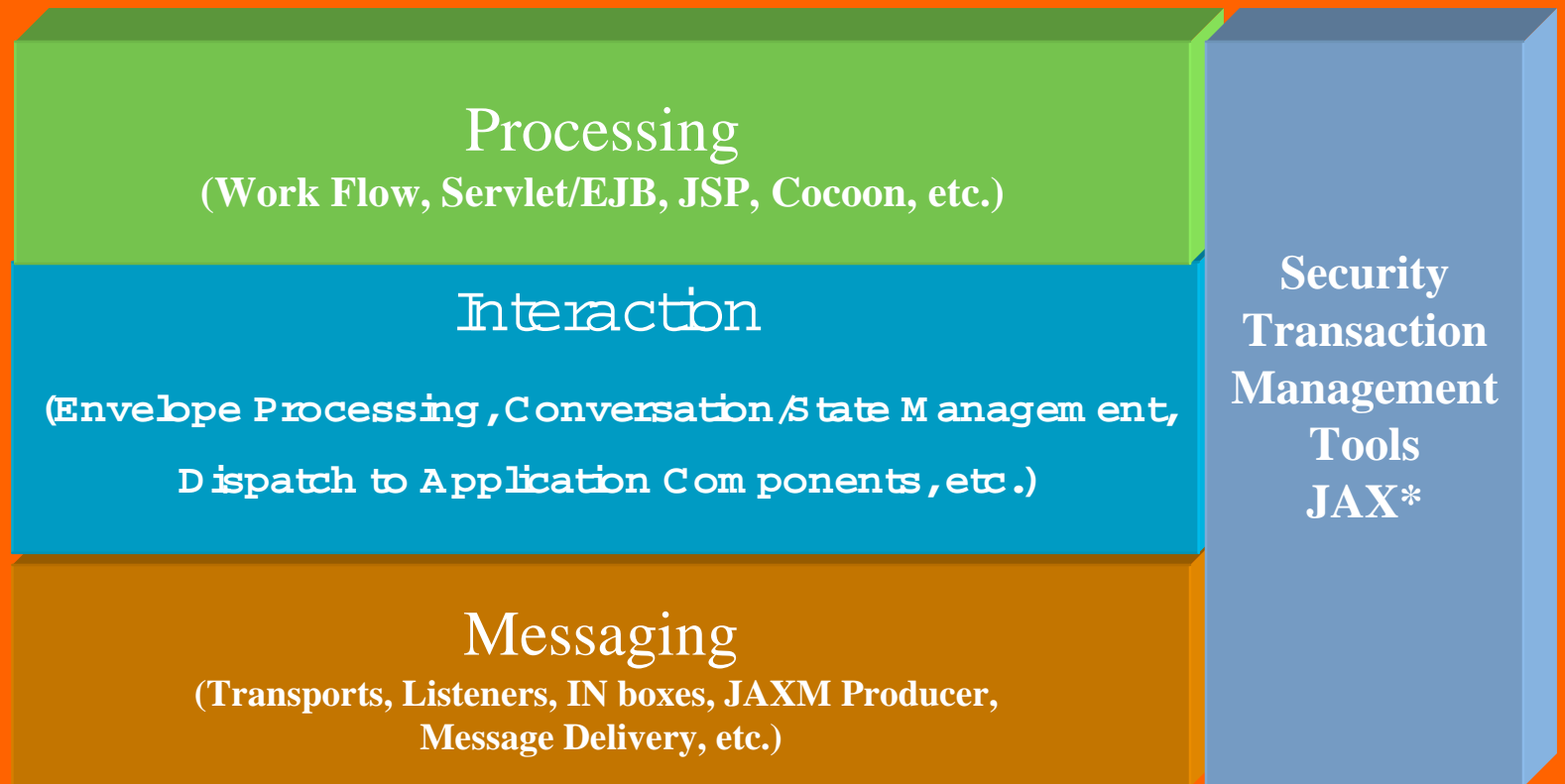
# Protection Domains



HP's next  
generation E-Speak  
Web Services  
platform

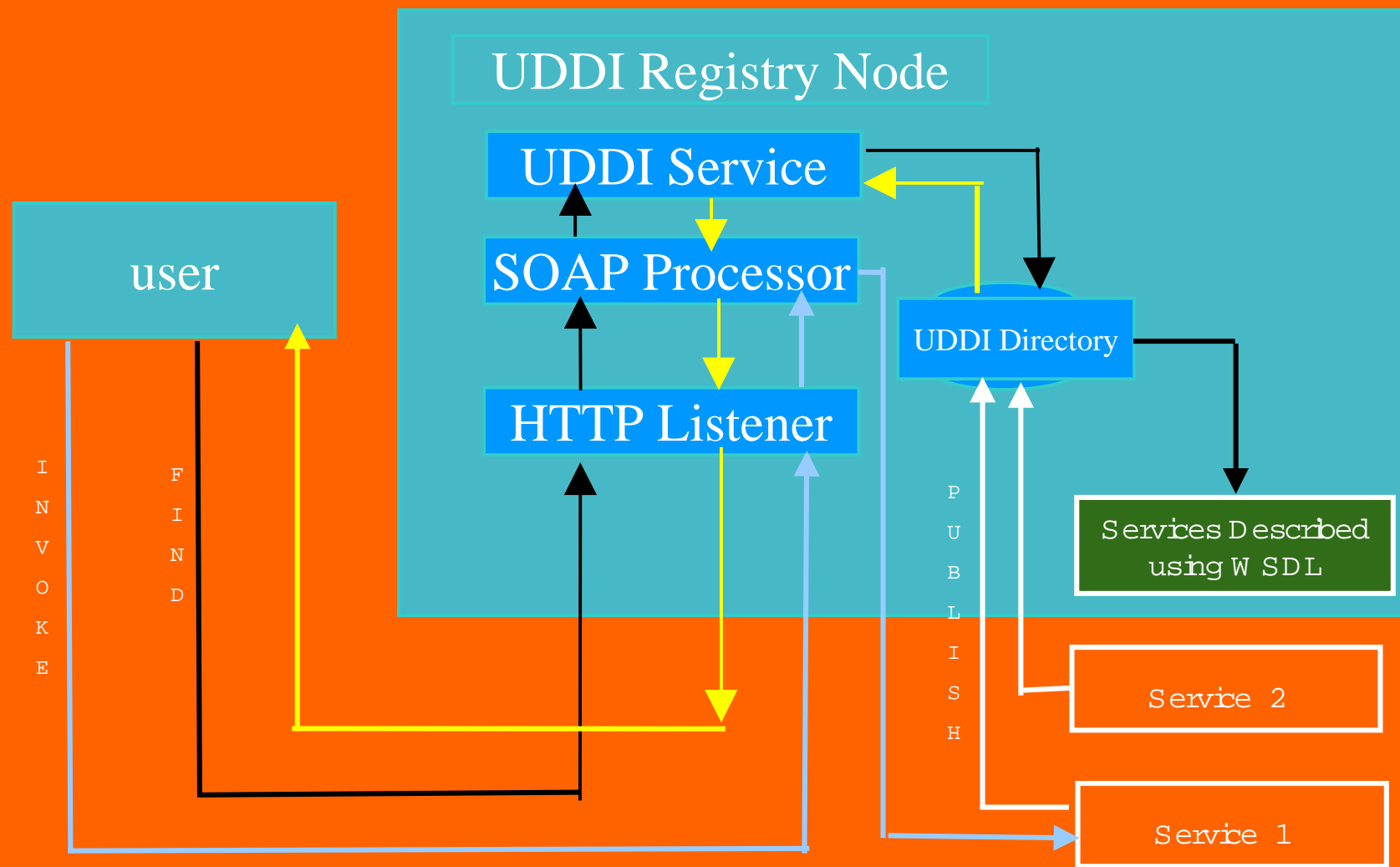
- Plays an integral part of the HP NetAction suite.
- Tighter integration with HP Bluestone software and Process Manager software.
- Layered on top of J2EE compliant application server with support for WSDL, SOAP & UDDI.

# XML Stack





# UDDI, SOAP and WSDL



# Web Services Types

- Simple Web Services - Uses synchronous SOAP-RPC to perform basic functionality. ( Example : Credit Verification given a set of credentials)
- Complex Web Services – Uses asynchronous SOAP to perform long lived business conversations ( Example : Document exchange based B2BI)

# Bookmarks

- E-Speak Open Source Site :  
<http://www.e-speak.net/>
- E-Speak HP site :  
<http://www.e-speak.hp.com>
- HP Bluestone site :  
<http://www.bluestone.com>



Questions?