

WELCOME

Standardized Usage Statistics Harvesting
Initiative (SUSHI) Webinar

November 15, 2006, 12:00-1:00 EDT

SUSHI
for Developers

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SUSHI: For Developers

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NISO Webinar
November 15, 2006



Agenda

- Introduction to Web Services– 15 minutes
 - XSD – Data Contracts
 - WSDL – Service Contracts
 - SOAP
- SUSHI Protocol – 15 minutes
 - Service
 - Message
- SUSHI Server Toolkit – 5 minutes
- SUSHI Client Demo – 20 minutes
- Security – 5 minutes
- Q&A

XSD – Data Contract

- xs:schema
 - Namespaces
- xs:element
- xs:complexType
- xs:simpleType

xs:schema

<xs:schema

xmlns="http://www.niso.org/schemas/sushi/1_0"

xmlns:xs="http://www.w3.org/2001/XMLSchema"

targetNamespace="http://www.niso.org/schemas/sushi/1_0"

elementFormDefault="qualified" version="1.0">

xs:element

```
<xs:element name="ReportRequest"  
  type="ReportRequest" >
```

xs:complexType

```
<xs:complexType
  name="CustomerReference">
  <xs:annotation>
    <xs:documentation>A reference to a
customer for which data is
requested</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="ID"
type="xs:string">
```

xs:simpleType

```
<xs:simpleType name="ExceptionSeverity">  
  <xs:annotation>  
    <xs:documentation>Service exception levels: Info, Debug,  
Warning, Error</xs:documentation>  
  </xs:annotation>  
  <xs:restriction base="xs:string">  
    <xs:enumeration value="Info">  
      <xs:annotation>  
        <xs:documentation source="Info – type of  
severity that provides more information about the response. Can  
be included in a chain of other severity levels"/>  
      </xs:annotation>  
    </xs:enumeration>  
  </xs:restriction>  
</xs:simpleType>
```

WSDL – Service Contract

- Definitions
- Types
- Message
- PortType
- Binding
- Service

WSDL - Definitions

```
<definitions
  name="SushiService"
  targetNamespace="SushiService"
  xmlns:tns="SushiService"
  xmlns:import0="http://www.niso.org/schemas/sushi/1_0"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns="http://schemas.xmlsoap.org/wsdl/">
```

WSDL - Types

```
<types>
```

```
  <xsd:schema>
```

```
    <xsd:import
```

```
      schemaLocation=
```

```
      "http://www.niso.org/schemas/sushi/sushi1_0.xsd"
```

```
      namespace=
```

```
      "http://www.niso.org/schemas/sushi/1_0" />
```

```
    </xsd:schema>
```

```
</types>
```



WSDL - Message

```
<message name="GetReportIn">  
  <wsdl:documentation  
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" />  
  <part name="messagePart"  
    element="import0:ReportRequest" />  
</message>
```

```
<message name="GetReportOut">  
  <wsdl:documentation  
    xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" />  
  <part name="messagePart"  
    element="import0:ReportResponse" />  
</message>
```



WSDL - PortType

```
<portType name="SushiServiceInterface">
```

```
<operation name="GetReport">
```

```
<input message="tns:GetReportIn" />
```

```
<output message="tns:GetReportOut" />
```

```
</operation>
```

```
</portType>
```


WSDL - Binding

```
<binding name="SushiService"  
  type="tns:SushiServiceInterface">
```

```
<operation name="GetReport">
```

```
  <soap:operation  
    soapAction="SushiService:GetReportIn"  
    style="document" />
```

```
</binding>
```

WSDL - Service

```
<service name="SushiService" >  
  <port name="SushiServicePort"  
    binding="tns:SushiService" >  
    <soap:address location="" />  
  </port >  
</service >
```

SOAP

- Transport
- Message
- WS-* extensions

Transport and Message

```
<soap:Envelope
  xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" >
  <soap:Body>
    <ReportRequest ID="3D5C8B09-1720-4ff7-856A-
    2BDE09F95568"
    xmlns="http://www.niso.org/schemas/sushi/1_0" >
      ...
```

WS-* extensions

- ❑ Username Token Profile 1.0
- ❑ <http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-token-profile-1.0.pdf>

SUSHI Protocol

- Data Contract (XSD)
 - Request Element
 - Response Element
 - Payload
- Service Contract (WSDL)
 - Operations
 - Binding

Request Element

```
<ReportRequest xmlns="http://www.niso.org/schemas/sushi/1_0">
  <Requestor>
    <ID>3A520BFF-3EB8-4ed6-8A13-686C0932B6B0</ID>
    <Name>EBSCO</Name>
    <Email>pvucetin@tempuri.com</Email>
  </Requestor>
  <CustomerReference>
    <ID>1</ID>
    <Name>Web Development</Name>
  </CustomerReference>
  <ReportDefinition Release="2" Name="JR1">
    <Filters>
```

<http://www.niso.org/committees/SUSHI/reports.html>

Service			
Journal Report 1: Number of Successful Full-Text Article Requests by Month and Journal	JR1	2	http://www.niso.org/schemas/sushi/counter-jd02.xsd
Journal Report 2: Turnaways by Month and Journal	JR2	2	http://www.niso.org/schemas/sushi/counter-jd02.xsd

Response Element Echo Back Request

```
<ReportResponse Created="2006-09-07T19:57:06.5365719Z"
  xmlns="http://www.niso.org/schemas/sushi/1_0">
  <Requestor>
    <ID>3A520BFF-3EB8-4ed6-8A13-686C0932B6B0</ID>
    <Name>EBSCO</Name>
    <Email>pvucetin@tempuri.com</Email>
  </Requestor>
  <CustomerReference>
    <ID>1</ID>
    <Name>Web Development</Name>
  </CustomerReference>
  <ReportDefinition Release="2" Name="JR1">
    <Filters>
      <UsageDateRange>
        <Begin>2003-07-01</Begin>
        <End>2003-08-01</End>
      </UsageDateRange>
    </Filters>
  </ReportDefinition>
```



Response Payload Counter Report

```
<xs:complexType name="ReportResponse">
  <xs:sequence>
    <xs:element name="Exception" type="Exception" nillable="true" minOccurs="0"/>
    <xs:element name="Requestor" type="Requestor"/>
    <xs:element name="CustomerReference" type="CustomerReference"/>
    <xs:element name="ReportDefinition" type="ReportDefinition"/>
    <xs:element name="Report" nillable="true">
      <xs:complexType>
        <xs:sequence>
          <xs:any namespace="##other" processContents="lax"/>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

<Report

```
xmlns:q1="http://www.niso.org/schemas/sushi/counter-jd02"
xsi:type="q1:Reports">
```

Response Payload Counter Report

```
<Report xmlns:q1="http://www.niso.org/schemas/sushi/counter-jd02"
  xsi:type="q1:Reports">
  <q1:journal_report cop_report="JR1" cop_version="2" id="JR1:2">
    <q1:header>
      <q1:title>Report 1 (J1)</q1:title>
      <xs:schema
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        xmlns="http://www.niso.org/schemas/sushi/counter-jd02"
        targetNamespace="http://www.niso.org/schemas/sushi/counter-jd02"
        elementFormDefault="qualified" version="1">
        <xs:complexType name="Reports">
          <xs:choice>
            <xs:element name="journal_report" type="JournalReport"/>
            <xs:element name="database_report" type="DatabaseReport"/>
          </xs:choice>
        </xs:complexType>
      </q1:customer>
    </q1:header>
  </q1:journal_data>
```

Counter Report Journal Data

<q1:journal_data>

<q1:journal name="AACN Clinical Issues: Advanced Practice in Acute and Critical Care"
online_issn="" print_issn="1079-0713" publisher="Lippincott Williams & Wilkins"
platform="EBSCOhost EJS">

<q1:requests start="2003-07-01" end="2003-07-31" type="ft_pdf">1</q1:requests>

<q1:requests start="2003-07-01" end="2003-07-31" type="ft_html">0</q1:requests>

<q1:requests start="2003-07-01" end="2003-07-31" type="ft_total">1</q1:requests>

<q1:requests start="2003-08-01" end="2003-08-31" type="ft_pdf">1</q1:requests>

<q1:requests start="2003-08-01" end="2003-08-31" type="ft_html">0</q1:requests>

<q1:requests start="2003-08-01" end="2003-08-31" type="ft_total">1</q1:requests>

</q1:journal>



Service Exceptions

- ❑ SOAP Faults
- ❑ SUSHI Exception Element

Service Exceptions

```
<ReportResponse Created="2006-08-25T19:00:31.7997419Z">
  <Exception Created="2006-08-25T19:00:31.8622419Z">
    <Number>3000</Number>
    <Severity>Error</Severity>
    <Message>Report Report 1 (J1):1 Not Supported</Message>
    <HelpUrl />
  </Exception>
  <Exception Created="2006-08-25T19:00:31.8622419Z">
    <Number>0</Number>
    <Severity>Debug</Severity>
    <Message>Only Report 1 (J1):0, Report 2 (J2):0 is supported</Message>
  </Exception>
```

Echo back request

http://www.niso.org/standards/resources/Z39-93_DSFTU.pdf

SECTION 6.2.3



Service Exceptions

Table 17: Standard SUSHI Exceptions

Exception	Severity Level	Exception Number	Invocation Conditions
<i>Info</i> or <i>Debug</i>	Info Debug	0	Any. These messages will never be standardized and service providers can design them as they see fit.
<i>Warnings</i>	Warning	1-999	Any. Currently no standard warning messages have been designed. This range is reserved for future use.
<i>Service Not Available</i>	Fatal	1000	Service is executing a request but due to internal errors cannot complete the request. Service must return ReportResponse and no payload.

SUSHI Server Toolkits

- EBSCO
- SWETS

SUSHI Client Demo

- .NET Demo others are available online
- Creating Project
- Adding references
- Creating sample request
- Displaying results

Security

□ Transport

- Secure communication (SSL)

□ Service Access

- WS-Security, WS-UserNameToken

□ Data

- Requestor ID

Resources

- ❑ NISO SUSHI Home
http://www.niso.org/committees/SUSHI/SUSHI_comm.html
- ❑ Report Names
<http://www.niso.org/committees/SUSHI/reports.html>
- ❑ WS-UserNameToken profile
<http://www.oasis-open.org/committees/download.php/16782/wss-v1.1-spec-os-UsernameTokenProfile.pdf>
- ❑ Programming WSE for .NET
<http://msdn2.microsoft.com/en-us/library/ms977339.aspx>
- ❑ .NET VS add-in –
<http://www.thinktecture.com/Resources/Software/WSContractFirst/default.html>
- ❑ Apache WS – Axis2
<http://ws.apache.org/axis2/>

SUSHI 1.0 Test Services

□ EBSCO

<http://sushi.ws.ebsco.com/10/service.asmx>

□ SWETS

□ Project EUCLID

<http://projecteuclid.org/sushi/10/service.cgi>

Q&A

Thank you

