



Publish Subscribe for XDS-b

Vassil Peytchev

Epic Systems Corporation



Overview

- Purpose
- Structure
- Actors
- Transactions
- Filters
- Next steps

Purpose of the white paper

- Event-driven data exchange
- Coordination of event notifications
- Cross-enterprise use cases
- Why a white paper?

- **Cross-enterprise focus**
- **“Trial specification”**
- **Implementable detail**

White Paper Structure

- Present general concepts
- Link concepts to XDS-b
- Present overall transaction flow
- Detailed transaction descriptions

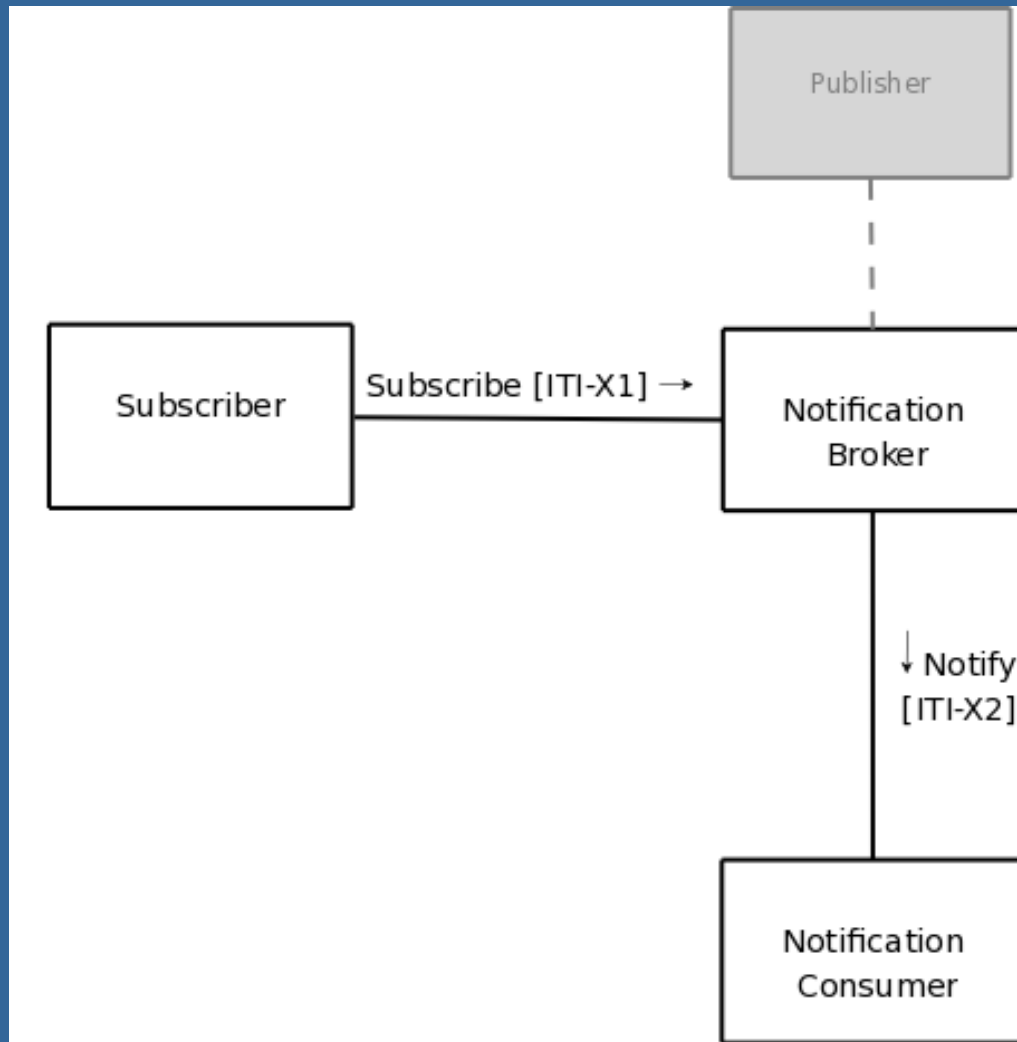
Choosing a standard

- **WS-Eventing**
- **WS-Notification**
- **ebXML Registry Services**

Publish/subscribe actors

- **Subscriber**
- **Notification Broker**
- **Notification Consumer**
- **Publisher**
- **Possible actor groupings**

Actors and Transactions



- **Subscribe**
 - Request notifications for a particular type of event
 - Event is described as a filter based on *topics*
- **Notify**
 - Send a notification about a specific event

Subscribe

- **Sent on behalf of a Notification Consumer**
- **Used to**
 - **Initiate a subscription**
 - **Modify a subscription**
 - **Terminate a subscription**
- **Contents described later**

Notify

- **Send to Notification Consumer**
- **Contains**
 - Document Unique ID
 - Optionally Home Community ID
- **A document consumer needs to query the registry, and retrieve the document**

Subscription Request Contents

- **Topics and filter expressions**
- **Stored query expressions**
 - Patient-centric queries only
 - All parameters must match
 - At least one of the values of a multi-valued parameter must match

Example

- **Stored Query**

```
<rim:AdhocQuery id="urn:uuid:14d4debf-8f97-4251-9a74-a90016b0af0d"
  xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0">
  <rim:Slot name="$XDSDocumentEntryPatientId">
    <rim:ValueList>
      <rim:Value>'st3498702^^^&1.3.6.1.4.1.21367.2005.3.7&ISO'</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <rim:Slot name="$XDSDocumentEntryEventCodeList">
    <rim:ValueList>
      <rim:Value>('44950' '44955' '44960' '44970' '44979')</rim:Value>
    </rim:ValueList>
  </rim:Slot>
</rim:AdhocQuery>
```

Example (continued)

- Registry submission

```
<rim:RegistryObjectList>
```

```
  <rim:ExtrinsicObject id="Document01" mimeType="text/xml" objectType="urn:uuid:7edca82f-054d-47f2-a032-9b2a5b5186c1">
```

```
  ...
```

```
    <rim:Classification classificationScheme="urn:uuid:2c6b8cb7-8b2a-4051-b291-b1ae6a575ef4"
      classifiedObject="Document01" nodeRepresentation="44950">
```

```
      <rim:Name>
```

```
        <rim:LocalizedString value="Appendectomy"/>
```

```
      </rim:Name>
```

```
      <rim:Slot name="codingScheme">
```

```
        <rim:ValueList>
```

```
          <rim:Value>CPT codes</rim:Value>
```

```
        </rim:ValueList>
```

```
      </rim:Slot>
```

```
    </rim:Classification>
```

```
  ...
```

```
    <rim:ExternalIdentifier id="ei01" registryObject="Document01" identificationScheme="urn:uuid:58a6f841-87b3-4a3e-92fd-a8ffeff98427" value="st3498702^^^&amp;1.3.6.1.4.1.21367.2005.3.7&amp;ISO">
```

```
      <rim:Name>
```

```
        <rim:LocalizedString value="XDSDocumentEntry.patientId"/>
```

```
      </rim:Name>
```

```
    </rim:ExternalIdentifier>
```

```
  ...
```

```
  <rim:ExtrinsicObject>
```

```
</rim:RegistryObjectList>
```

Example (Continued)

- **Subscribe request**

```
<wsnt:Subscribe>
  <!-- The Consumer on whose behalf the subscription is requested - the address where the notification is to be sent -->
  <wsnt:ConsumerReference>
    <a:Address>https://NotificationConsumerServer/xdsBnotification</a:Address>
  </wsnt:ConsumerReference>
  <wsnt:Filter>
    <wsnt:TopicExpression Dialect="urn:ihe:iti:xds-b:pubsub:2008">
      <rim:AdhocQuery id="urn:uuid:14d4debf-8f97-4251-9a74-a90016b0af0d">
        <rim:Slot name="$XDSDocumentEntryPatientId">
          <rim:ValueList>
            <rim:Value>'st3498702^^^&1.3.6.1.4.1.21367.2005.3.7&ISO'</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="$XDSDocumentEntryEventCodeList">
          <rim:ValueList>
            <rim:Value>('44950' '44955' '44960' '44970' '44979')</rim:Value>
          </rim:ValueList>
        </rim:Slot>
      </rim:AdhocQuery>
    </wsnt:TopicExpression>
  </wsnt:Filter>
  <wsnt:InitialTerminationTime>2008-07-31T00:00:00.00000Z</wsnt:InitialTerminationTime>
</wsnt:Subscribe>
```

Next steps

- **Implementable white paper**
 - Connectathon participation
 - Feedback
 - Refinement
- **Path to a profile**
 - ITI integration profile
 - Multiple content profiles for filters



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