Digital NOTAM System

Technical Overview

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Digital NOTAM Submission Working Group Meeting

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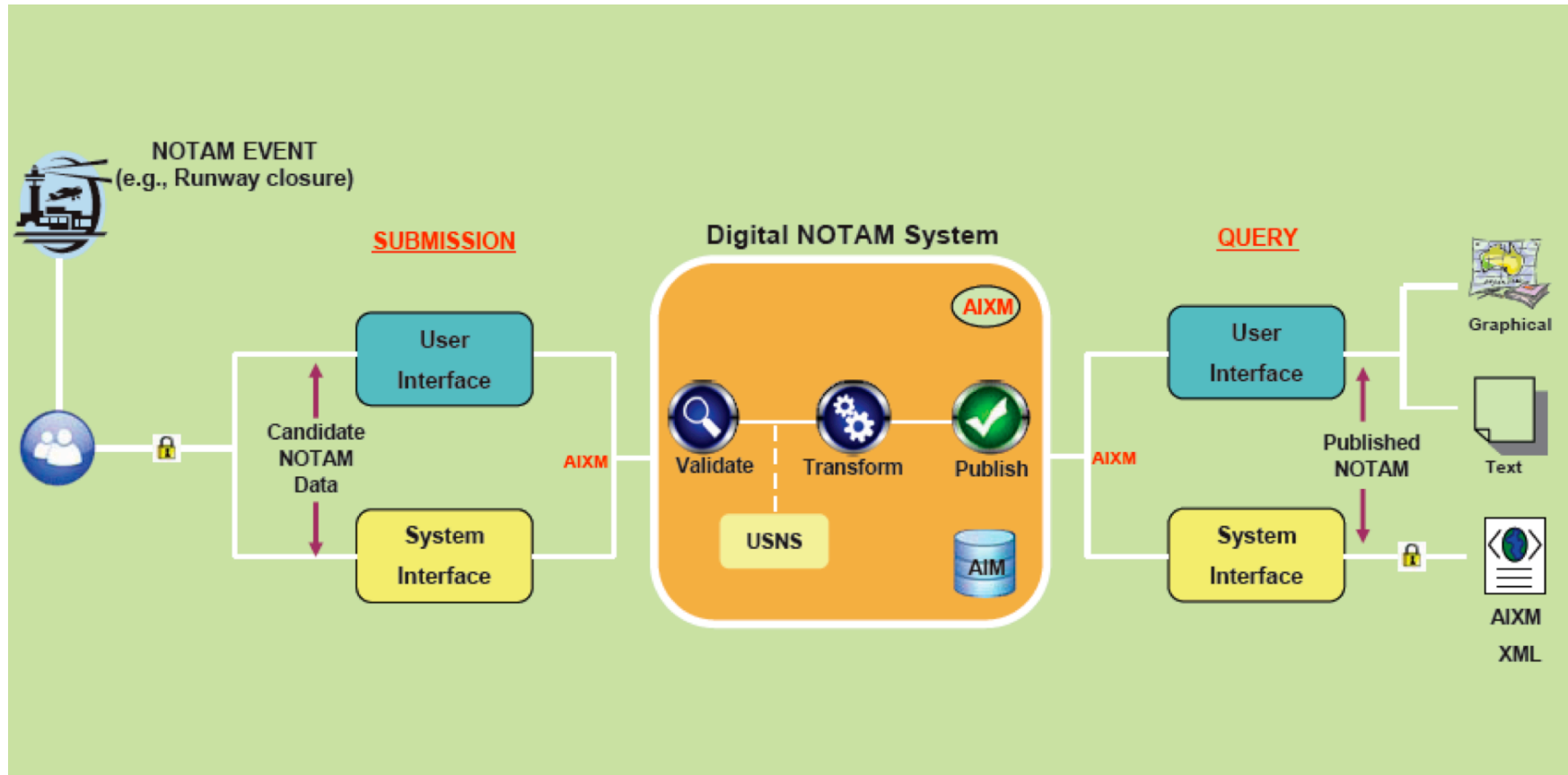
Federal Aviation Administration

Today's Demo

- **Digital NOTAM Entry – User Interface**
  - Digital
  - Free Form

- **NOTAM Search**

- **Digital NOTAM Entry – System Interface**
  - Tower (Structure) Light Outage

Concept of Operations

System Interface Requirements

- **SOAP 1.2**
- **AIXM 5 using Digital NOTAM application schema**
- **WS-Security Policy (per SWIM guidelines)**
- **Use of Scenario Templates**
  - AIXM message for a given event
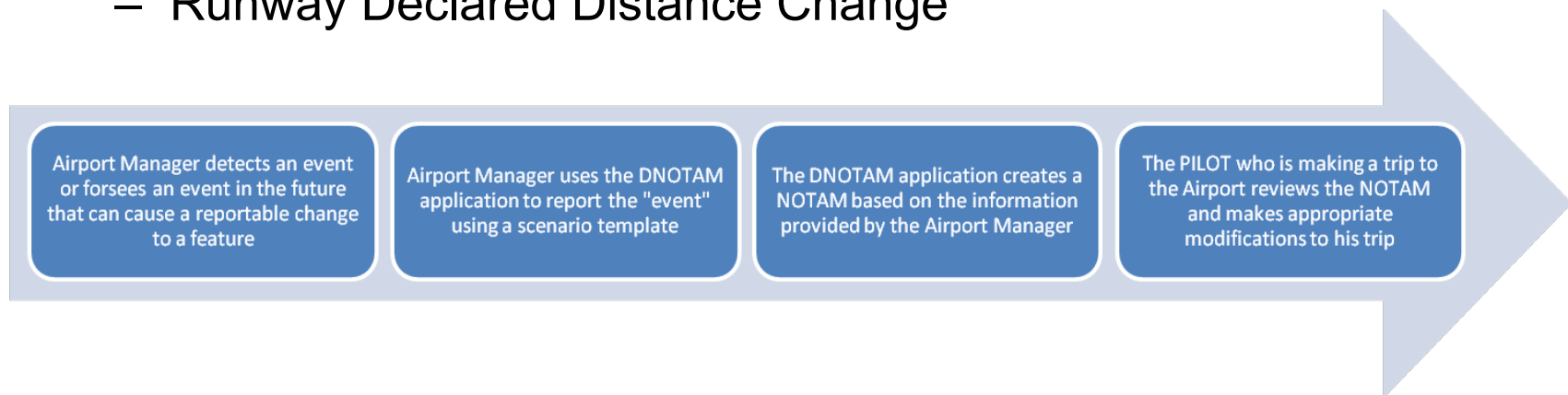 - Templates published

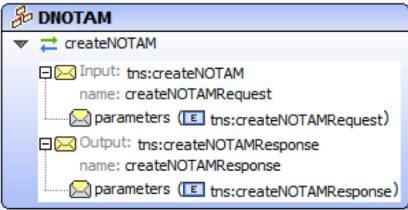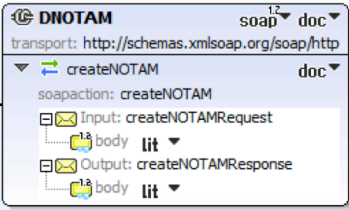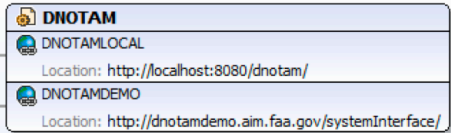**From Plain Text to Digital**

SCENARIO TEMPLATE

What is a Scenario Template?

- **Pre-defined set of properties used to report an event**

- **Examples**
  - Tower Light Outage/Unserviceable
  - Runway Status Change
  - Runway Declared Distance Change

| Airport Manager detects an event or forsees an event in the future that can cause a reportable change to a feature | Airport Manager uses the DNOTAM application to report the "event" using a scenario template | The DNOTAM application creates a NOTAM based on the information provided by the Airport Manager | The PILOT who is making a trip to the Airport reviews the NOTAM and makes appropriate modifications to his trip |

Draft WSDL


```
<wsdl:message name="createNOTAM">
  <wsdl:part name="parameters" element="tns:createNOTAMRequest"/>
</wsdl:message>
<wsdl:message name="createNOTAMResponse">
  <wsdl:part name="parameters" element="tns:createNOTAMResponse"/>
</wsdl:message>
<wsdl:portType name="DNOTAM">
  <wsdl:operation name="createNOTAM">
    <wsdl:input name="createNOTAMRequest" message="tns:createNOTAM"/>
    <wsdl:output name="createNOTAMResponse" message="tns:createNOTAMResponse"/>
  </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="DNOTAM" type="tns:DNOTAM">
  <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="createNOTAM">
    <soap12:operation soapAction="createNOTAM" soapActionRequired="true" style="document"/>
    <wsdl:input name="createNOTAMRequest">
      <soap12:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="createNOTAMResponse">
      <soap12:body use="literal"/>
    </wsdl:output>
  </wsdl:operation>
</wsdl:binding>
<wsdl:service name="DNOTAM">
  <wsdl:port name="DNOTAMLOCAL" binding="tns:DNOTAM">
    <soap12:address location="http://localhost:8080/dnotam/"/>
  </wsdl:port>
  <wsdl:port name="DNOTAMDEMO" binding="tns:DNOTAM">
    <soap12:address location="http://dnotamdemo.aim.faa.gov/systemInterface/"/>
  </wsdl:port>
</wsdl:service>
```

Sample SOAP Message
Tower Light Outage

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"   xmlns:aix="http://dnotam.aim.faa.
    <soapenv:Header/>   <soapenv:Body>
        <aix:createNOTAMRequest>
            <aix:AIXMPayload><![CDATA[<?xml version="1.0" encoding="UTF-8"?>   <event:Event gml:id="ID_1"
    xsi:schemaLocation="http://www.aixm.aero/schema/5.0/event/0.1 Event_Features.xsd"
    xmlns:aixm="http://www.aixm.aero/schema/5.0"
    xmlns:event="http://www.aixm.aero/schema/5.0/event/0.1"
    xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:xlink="http://www.w3.org/1999/xlink"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
            <event:hasMember>
            <aixm:VerticalStructureLighting gml:id="T001">
                <aixm:timeSlice>
                <aixm:VerticalStructureLightingTimeSlice gml:id="T002">
                    <gml:TimePeriod gml:id="RETP001">
                        <gml:beginPosition>2008-08-15T12:00:00</gml:beginPosition>
                        <gml:endPosition>2008-08-25T18:00:00</gml:endPosition>
                    </gml:TimePeriod>
                    <aixm:interpretation>TEMPDELTA</aixm:interpretation>
                    <aixm:status>UNSERVICEABLE</aixm:status>
                    <aixm:litStructure xlink:href="http://dnotam.aim.faa.gov/getAIXM?featurekey=1996-AGL-232-OE">
                    </aixm:litStructure>
                </aixm:VerticalStructureLightingTimeSlice>
                </aixm:timeSlice>
            </aixm:VerticalStructureLighting>
            </event:hasMember>
            <event:scenarioID>1005</event:scenarioID>
            <event:startDate>15/08/2008</event:startDate>
            <event:startTime>12:00</event:startTime>
            <event:endDate>25/08/2008</event:endDate>
            <event:endTime>18:00</event:endTime>
            <event:endDate></event:endDate></event:Event>]]></aix:AIXMPayload>
        </aix:createNOTAMRequest>
    </soapenv:Body></soapenv:Envelope>
```

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Sample SOAP Message
Tower Light Outage

- **Sample NOTAM to report Tower Light Outage**

- **AIXM is part of payload (*AIXMpayload tag*) of the SOAP message**

- **Digital NOTAM will have a registry (baseline) of all the Obstacles from OE/AAA**

- **Submission request includes**
  - ScenarioId
  - Feature identifier (ASN number?)
  - Status change (Unserviceable)
  - Timeslice

Implementation of WS client