



**Federal Aviation
Administration**

WMSCR SWIM

Presented to: Demonstration and Prototyping Information Exchange Briefing

By: WMSCR SWIM

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Description

The Weather Message Switching Center Replacement System (WMSCR) collects, processes, stores, and disseminates textual aviation weather products and NOTAM information between NAS systems, the airlines, and commercial users 24 hours every day. The accurate, reliable, and continuous delivery of these messages is the core of WMSCR's mission and essential for aviation safety.

As a SWIM Segment 1 SIP, WMSCR is extending current processing using approved SWIM technologies to deliver PIREP and Altimeter data.



Key Players

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Major Milestones/Goals

- **April 2009, Prototype installation at WJHTC Labs**
- **2009, updates to installation at WJHTC**
- **2010, alignment with WXXM, Security**
- **2012, deployment to production sites**



Accomplishments To Date

- **April 2009, initial installation of FUSE products, modified version of WMSCR, and sample client at WJHTC Labs**
 - Progress FUSE Product Install
 - FUSE Enterprise Service Bus
 - FUSE Mediation Router
 - FUSE Message Broker
 - SOA Interactions
 - SOAP/HTTP
 - JMS
 - Application Services
 - Submit PIREP
 - Publish PIREP
 - Sample JBOSS WMSCR Consumer Application
 - Integration of ITKO LISA

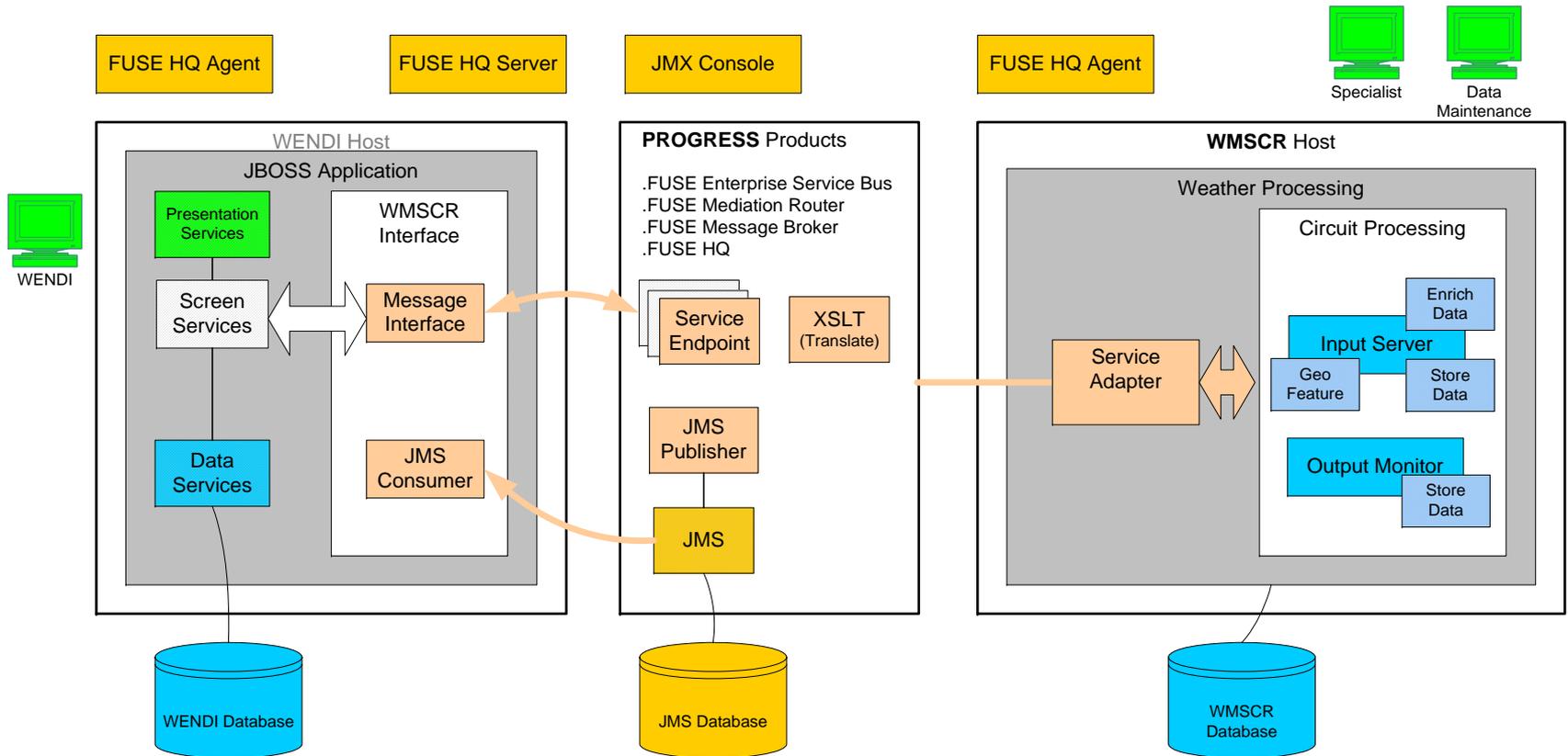


Future Plans

- **2009**
 - XSLT supporting OGC/GML
 - Extending WMSCR request/response support to include additional criteria such as radius, boundaries (state)
 - Altimeter data
 - Interoperability with WMSCR legacy application (WMO to OGC)
- **2010**
 - Alignment with WXXM cooperatively with NCAR
 - FUSE product upgrades
 - Business continuity
 - Security



WJHTC WMSCR Lab



Sample WMSCR Support Screens



Live Weather Report Detail

Report Information

Station ID: KNCI
Report ID: UA
Date/Time Group: 06/01/2009 12:46:00.000000
Modifier:

General Information

Circuit Name: ERAM_ZTL
Received: 06/01/2009 12:49:04.062000
Database Expiration: 06/01/2009 13:49:04.062000
Tracking Number: 159427

Live Weather Report Information

Legacy Report Text

Report Field Detail

PLATFORMID: KNCI
TIME: 20090601124600
LOCATION: KNCI000000
FLIGHTLEVEL: 230
AIRCRAFTTYPE: 707
WINDS: W060
OBSERVATIONREMARKS: Test Message

Live Weather Report Information

Legacy Report Text

Report Field Detail

KNCI UA /OV KNCI000000 /TH 1246 /FL230 /TP 707 /MV W060 /RM Test

Live Weather Report Information

Legacy Report Text

Report Field Detail

Report XML

```
<?xml version="1.0" ?>
- <ReportData>
- <ReportField>
  <Name>PLATFORMID</Name>
  <Type>String</Type>
  <Value>KNCI</Value>
</ReportField>
- <ReportField>
  <Name>TIME</Name>
  <Type>String</Type>
  <Value>20090601124600</Value>
</ReportField>
- <ReportField>
  <Name>LOCATION</Name>
  <Type>String</Type>
  <Value>KNCI000000</Value>
</ReportField>
- <ReportField>
  <Name>FLIGHTLEVEL</Name>
  <Type>String</Type>
  <Value>230</Value>
</ReportField>
- <ReportField>
```

Message

Legacy Message Text

Message XML

```
- <ns2:SubmitPirepRequest xmlns:ns2="urn:faa:nas:wmscr:1:0"
  xmlns:env="http://schemas.xmlsoap.org/soap/envelope/" xmlns:ns1="urn:metoc:jmbl:jmbl">
- <ns1:METOCdata ns1:METOCtype="JMO_OBS">
+ <ns1:METOCdata ns1:dataElementName="SYSTEMID">
- <ns1:METOCdata ns1:METOCtype="Report">
  - <ns1:METOCdata ns1:dataElementName="PLATFORMID">
    - <ns1:Value>
      <ns1:StringValue>KNCI</ns1:StringValue>
    </ns1:Value>
  </ns1:METOCdata>
  - <ns1:METOCdata ns1:dataElementName="TIME">
    - <ns1:Value>
      <ns1:StringValue>20090601124600</ns1:StringValue>
    </ns1:Value>
  </ns1:METOCdata>
  - <ns1:METOCdata ns1:dataElementName="URGENTCODE">
    - <ns1:Value>
      <ns1:DoubleValue>0.0</ns1:DoubleValue>
    </ns1:Value>
  </ns1:METOCdata>
  - <ns1:METOCdata ns1:dataElementName="LOCATION">
    - <ns1:Value>
      <ns1:StringValue>KNCI000000</ns1:StringValue>
```



Sample Consumer (entry)

Submit Weather Report - PIREP [main menu](#)

 **wendu** weather extract and data input

 The Submit Weather Report - PIREP screen sends a PIREP report to the WMSCR system.

Submit PIREP Submit Clear

Reporting Information		PIREP Information	
Station ID:	<input type="text" value="KAUS"/>	Aircraft type:	/TP <input type="text" value="747"/>
Report ID:	<input type="text" value="UA"/>	Sky cover:	/SK <input type="text"/>
Location Information		Flight visibility:	/WX <input type="text"/>
Location:	/OV <input type="text" value="From airport"/>	Ambient temperature:	/TA <input type="text"/> (celsius)
Location ID:	<input type="text" value="KAUS"/>	Wind velocity:	/MV <input type="text" value="M02"/> (direction and knots)
Bearing:	<input type="text" value="228"/> (degrees)	Turbulence:	/TB <input type="text"/>
Distance:	<input type="text" value="30"/> (miles)	Icing:	/IC <input type="text"/>
Elevation:	/FL <input type="text" value="444"/> (hundreds of feet)	Remarks Information	
Reporting on:	/TM <input type="text" value="05 / 29 / 2009"/> <input type="text" value="14 : 18"/> <input type="text" value="13"/> (mm/dd/yyyy hh:mm)	Remarks:	/RM <input type="text" value="Test Message"/>

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Sample Consumer (mashup)

Interactive Map main menu

 **wendy** weather extract and data input

Search completed successfully.

Station Map Filters Search Clear

Message Service Filter Information

Topic: PIREP Altimeter Bulletin
Submit weather: PIREP Altimeter Bulletin
Request / Response: Yes No

Station Filter Information

Station list: Albuquerque ARTCC
Atlanta ARTCC
Boston ARTCC
Chicago ARTCC

Altitude Range Filter Information

Altitude Range: 0-18000
18001-19000
19001-20000
20001-21000

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Interactive Map

Interactive Map

Select Area Map Satellite Hybrid **Terrain**



Point List

- KMCI (KANSAS CITY)
- KOMA (OMAHA)
- KORD (CHICAGO)

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KMCI (KANSAS CITY)

State: MO
Country: 840
Latitude: 39.48083
Longitude: -94.71389

Reports:
/TM 2009-06-01 12:37:00.0 /OV KMCI000011 /FL 55500

Legend

- Station
- Location

Map data ©2009 Tele Atlas - [Terms of Use](#)

Sample Consumer (event log)

Event History Summary main menu

 **wendu** weather extract and data input

 Search action completed successfully.

Search Criteria Search Clear

Search Path Information

Search path:

Event Filter Information

Source:

Message service:

Search Results Freeze Previous Next

Event History Information

Occurred on	Source	Message service	Event text
2009-06-01 12:48:18.906	Output	Report Acknowledgement	Acknowledged report, tracking number 159429
2009-06-01 12:48:11.921	Input	Subscription - PIREP	/TM 06/01/2009 12:46:00 /OV KMCI000000 /FL230 /TP 707 /WV W060 /RM Test Message
2009-06-01 12:48:08.0	Output	Submit - PIREP	/TM 06/01/2009 12:46:00 /OV KMCI000000 /FL230 /TP 707 /WV W060 /RM Test Message
2009-06-01 12:40:52.059	Output	Report Acknowledgement	Acknowledged report, tracking number 159425
2009-06-01 12:40:45.184	Input	Subscription - PIREP	/TM 06/01/2009 12:37:00 /OV KORD000014 /FL333 /TP A300 /WV W070 /RM Test Message, jam, #4
2009-06-01 12:40:42.34	Output	Submit - PIREP	/TM 06/01/2009 12:37:00 /OV KORD000014 /FL333 /TP A300 /TA 15 /WV W070 /RM Test Message, jam, #4
2009-06-01 12:40:20.997	Output	Report Acknowledgement	Acknowledged report, tracking number 159421
2009-06-01 12:40:13.981	Input	Subscription - PIREP	/TM 06/01/2009 12:37:00 /OV KMCI000011 /FL555 /TP 737 /WV W070 /RM Test Message, jam, #3
2009-06-01 12:40:10.09	Output	Submit - PIREP	/TM 06/01/2009 12:37:00 /OV KMCI000011 /FL555 /TP 737 /TA 15 /WV W070 /RM Test Message, jam, #3
2009-06-01 12:39:20.356	Output	Report Acknowledgement	Acknowledged report, tracking number 159417
2009-06-01 12:39:13.137	Input	Subscription - PIREP	/TM 06/01/2009 12:37:00 /OV KOMA000010 /FL444 /TP MD10 /WV W080 /RM Test Message, jam, #2
2009-06-01 12:39:10.247	Output	Submit - PIREP	/TM 06/01/2009 12:37:00 /OV KOMA000010 /FL444 /TP MD10 /TA 14 /WV W080 /RM Test Message, jam, #2

NextGen NAS SV-4 Framework

