



Frequentis supporting OWS-7



FREQUENTIS

Communication & Information Solutions for a Safer World!

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Washington, May 2010



Overview



- **Short Company Presentation**
- Short Product Overview
- OWS-7 Participation



Frequentis Mission



Communication and Information Systems For a Safer World





Company Overview

Frequentis Group 2008



- **Founded in 1947**
- **\$ 200 Mio. Revenue 2009**
- **Corporate headquarters in Vienna, Austria**
- **Group of Companies around the world**
 - **Frequentis USA, Columbia, MD**
 - **Frequentis Defense, Columbia, MD**
 - **Frequentis California, CA**
- **Extensive R&D**
- **Participation in SESAR and NEXTGEN efforts**



First Air Traffic Control System in Austria,
Vienna / Schwechat, 1955



Breakthrough in the US: FAA Command
Centre / Herndon, Virginia, 2003



Company Headquarters on Wienerberg,
relocation in 2006



Our competencies



→ Technology Leadership

We set standards.

→ Project & Programme Management

We deliver in time and on budget.

→ Usability Engineering

We apply unique domain know how.

We make products & technology usable.

→ Total Quality & Safety Management

We always strive to find a solution that fits our Customer's needs best.



SESAR Joint Undertaking –
Shaping the future European sky



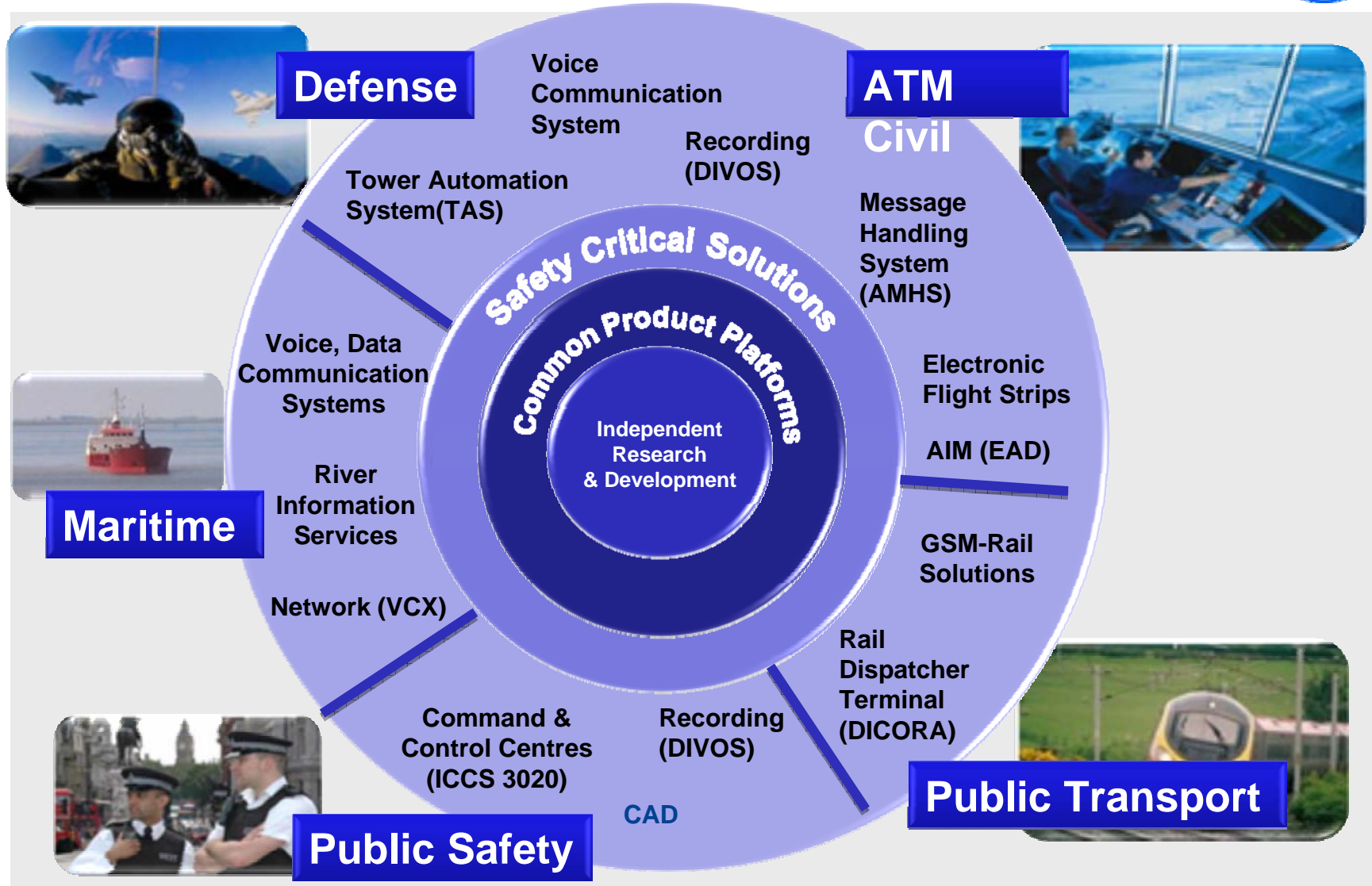
UCMP / Royal Airforce - MCA Award
for outstanding project management



ATCSCC in Herndon / Virginia – FAA
Acknowledgment Award for user interface design



Frequentis Product Portfolio





COMMUNICATION AND INFORMATION SOLUTIONS FOR A SAFER WORLD





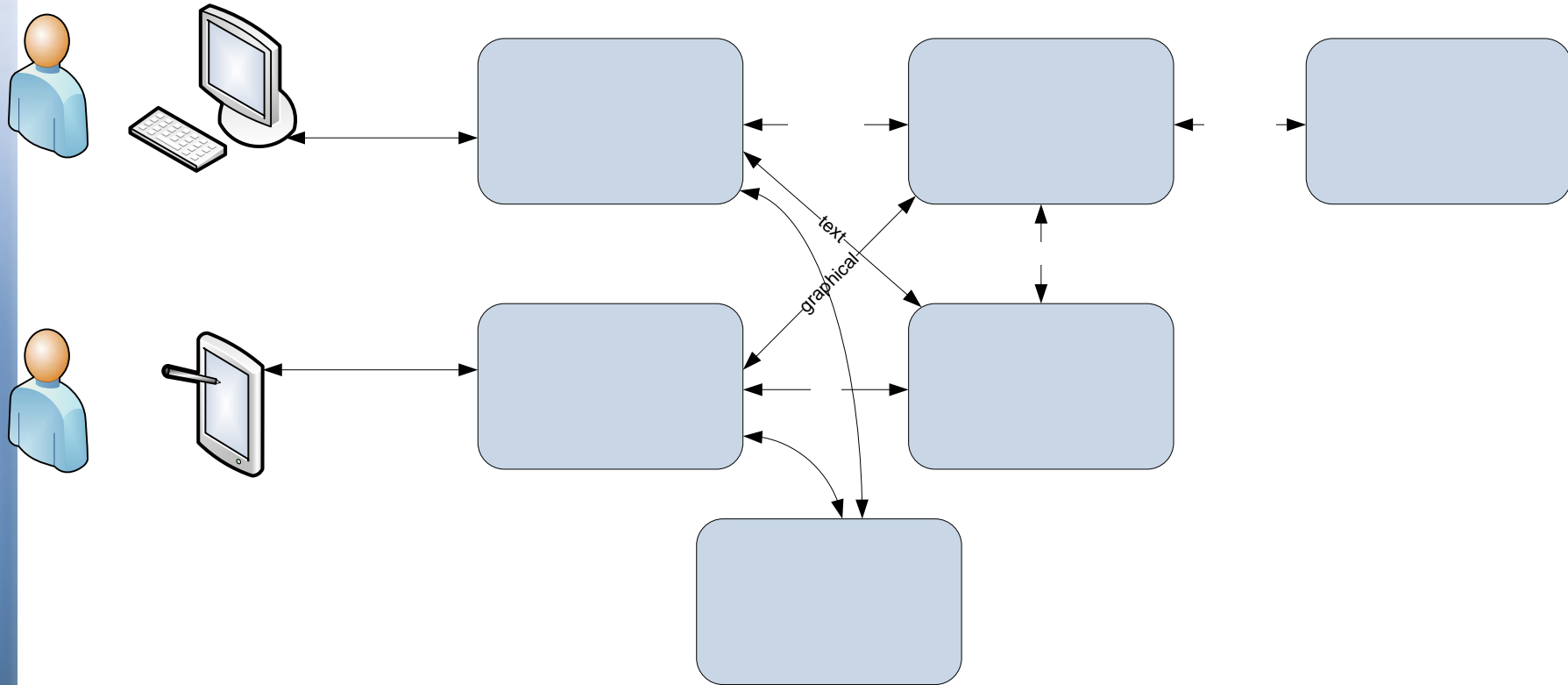
Participation in OWS-7



- Frequentis was selected for two related client applications:
- Dispatch Aviation Client
 - Client application making use of the OWS infrastructure
 - Used for performing flight planning and pre-flight briefing
 - Dispatchers have a need for a richer HMI and more functionality
 - e.g. scheduling
 - Will typically run on a full sized workstation or laptop
- Handheld / EFB Aviation Client
 - Client application making use of the OWS infrastructure
 - Used on-board for representing similar data as the Dispatch client
 - Tailored to small screens, e.g. handheld devices (iPad, iPhone, Blackberry etc.)
 - Tailored set of functionality for on-board use



Webservice Architecture





- Clients will retrieve both textual and graphical information
- Textual information: use WFS directly
- Graphical information: Utilize feature portrayal service
- Fusion textual and graphical data in common briefing
- Tailored HMI for dispatch: Standard size monitor on a workstation or PC
- Tailored HMI for EFB: Simplified, smaller monitor, different set of functions
- Both share same underlying webservice



Architecture (continued)



- Subscription to the Event service (which causes receiving NOTAMs)
- Subscription is issued by a “Flight Session” entity of the client solution
- Events received based on that subscription are displayed to Pilot and Dispatcher, connected to the same flight session.

The screenshot shows a flight planning application window. At the top, there are menu options: Assisting, AIM, WXMM, Eventing, Bulletin, and Options. Below the menu is a 'Flight Plan' section with a list of airports: OWS-7, KDFW, FOXXE, LOACH, GOMUP, GINGA, TTR, FINDO, PTH, ADN, FORTY, KLONN, ZOL, BOSOL, SKI, NARIT, ELTOK, LINGA, TEB, BABAP, APTUG, NISIX, OSTOT, OSMUR, and EETN. To the right of the list is a 'FPS Map' showing a map of North America with a red line indicating a flight path from the central US to the northeast. On the far right, there is an 'Events' section with 'Your Subscriptions:' listing 'DNOTAM' and 'All Events:' listing 'PAPA - FAIRBANKS INTL'. At the bottom of the map, there is a scale bar for 2000 km and 1000 mi, and a status bar with the text 'Done' and coordinates '124.10938, 83.76172'.

Subscribe to Event Service



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#eventing

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (373) Popular

Assisting ▾ AIXM ▾ WXXXM ▾ Eventing ▾ Bulletin ▾ Options ▾

Flight Plan

OWS-7

- [KDFW](#)
- [FOXFE](#)
- [LOACH](#)
- [GOMUP](#)
- [GINGA](#)
- [TIR](#)
- [FINDO](#)
- [PTH](#)
- [ADN](#)
- [FORTY](#)
- [KLONN](#)
- [ZOL](#)
- [SOSOL](#)
- [SKI](#)
- [NARIT](#)
- [ELTOK](#)
- [LINSA](#)
- [TEE](#)

Subscribe for AIXM
Subscribe for WXXXM

Events

Your Subscriptions:

All Events:

35.76367, 21.27148



Subscribe to Event Service (continued)



- Users can subscribe to AIXM Events (Digital NOTAM)
- Subscription to WXXM is also supported – AIM – MET fusion
- Currently implemented: Only general subscription to any AIXM or WXXM Events
- Subscription for the flight route filter (narrow route PIB) in planning phase

Subscription Accepted



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#eventing

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (373) Popular

Assisting ▾ AIXM ▾ WXXXM ▾ Eventing ▾ Bulletin ▾ Options ▾

Flight Plan	FPS Map	Events
OWS-7 <ul style="list-style-type: none"><input type="radio"/> KDFW<input type="checkbox"/> FOXFE<input type="checkbox"/> LOACH<input type="checkbox"/> GOMUP<input type="checkbox"/> GINGA<input checked="" type="checkbox"/> TIR<input type="checkbox"/> FINDO<input type="checkbox"/> PTH<input checked="" type="checkbox"/> ADN<input type="checkbox"/> FORTY<input type="checkbox"/> KLONN<input checked="" type="checkbox"/> ZOL<input type="checkbox"/> SOSOL<input type="checkbox"/> SKI<input type="checkbox"/> NARIT<input type="checkbox"/> ELTOK<input type="checkbox"/> LINSA<input checked="" type="checkbox"/> TEE		Your Subscriptions: <ul style="list-style-type: none"><input checked="" type="checkbox"/> DNOTAM<input checked="" type="checkbox"/> WXXXM <hr/> All Events:

Subscription Accepted

ID: MuseResource-6
Time: 2010-05-05T10:43:07+02:00
Text: WXXXM

Ok

Notification Received



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/assist/1

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (381) Popular

Assisting ▾ AIMX ▾ WXXM ▾ Eventing ▾ Bulletin ▾ Options ▾

Flight Plan	FPS Map	Events	
OWS-7 KDFW FOXXE LOACH GOMUP GINGA <input checked="" type="checkbox"/> TIR FINDO <input checked="" type="checkbox"/> PTH <input checked="" type="checkbox"/> ADN FORTY KLONN <input checked="" type="checkbox"/> ZOL SOSOL <input checked="" type="checkbox"/> SKI NARIT ELTOK LINSA <input checked="" type="checkbox"/> TEB BABAP ADMUC	A map of the Great Lakes region in North America. A red line indicates a flight path starting from the southwest and heading northeast. An orange rectangle highlights a restricted area in the center of the map, covering parts of Lake Michigan and Lake Huron. Major cities like Chicago, Detroit, Toronto, and Philadelphia are labeled. A scale bar at the bottom left shows 200 km and 200 mi. Coordinates -78.02596, 36.01744 are shown at the bottom right.	Your Subscriptions: <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXM	All Events: <input checked="" type="checkbox"/> DONLON_EVENT <input checked="" type="checkbox"/> ITWS-BOS <input checked="" type="checkbox"/> EVENT

Received Notification

DONLON_EVENT
A1234/06 NOTAMR A1212/06
Q) EGTG/QMXXLC/IV/NBO/A/000/999/5129N00028W005
A) EGLL
B) 0609050500
C) 0704300500
E) AIRSPACE XX CLOSED

Ok



Notification Received (continued)



- System receives the notification and highlights the information immediately (“live data feed”)
- Map zooms into the place of event and displays it (yellow polygon)

The screenshot shows a map of the Great Lakes region with a yellow polygon highlighting an event area near Chicago. A red line indicates a flight path. A dialog box titled 'Received Notification' is open, displaying the following text:

```
Received Notification
DONLON_EVENT
A1234/06 NOTAMP A1212/06
O: EGTT/OMXLC/ /NBO/A/000/999/5129N00028W005
A) EGLL
B) 0609050500
C) 0704300500
E) AIRSPACE XX CLOSED
```

On the right side of the interface, there is a list of 'All Events:' including [DONLON_EVENT](#), [ITWS-BOS](#), and [EVENT](#). There are also some red 'X' marks for [DNOTAM](#) and [WXXM](#).

Additional Notifications



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#eventing

Assisting ▾ AIXM ▾ WXXXM ▾ Eventing ▾ Bulletin ▾ Options ▾

Flight Plan	FPS Map	Events
OWS-7 <input type="radio"/> KDFW <input type="checkbox"/> FOXFE <input type="checkbox"/> LOACH <input type="checkbox"/> GOMUP <input type="checkbox"/> GINGA <input checked="" type="checkbox"/> TIR <input type="checkbox"/> FINDO <input type="checkbox"/> PTH <input checked="" type="checkbox"/> ADN <input type="checkbox"/> FORTY <input type="checkbox"/> KLONN <input checked="" type="checkbox"/> ZOL <input type="checkbox"/> SOSOL <input type="checkbox"/> SKI <input type="checkbox"/> NARIT <input type="checkbox"/> ELTOK <input type="checkbox"/> LINSA <input checked="" type="checkbox"/> TEE		Your Subscriptions: <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXXM
		All Events: <input type="checkbox"/> DONLON_EVENT <input type="checkbox"/> ITWS-BOS

Received Notification

ITWS-BOS
Boston ITWS radar coverage area

Ok

-94.56887, 39.18399



Additional Notifications (continued)



- Events are listed on the right hand side
- They can be visualized by selecting them on the list

The screenshot displays a software interface with a map on the left and a sidebar on the right. The sidebar contains two sections: 'Your Subscriptions:' with a plus icon and a list of 'DNOTAM' and 'WXXM' (both with red X icons); and 'All Events:' with a list of 'DONLON_EVENT' and 'ITWS-BOS' (both with location pin icons). A yellow arrow points from the 'All Events:' section to the map. A yellow box highlights the 'All Events:' section. At the bottom, a 'Received Notification' dialog box is open, displaying the text 'ITWS-BOS' and 'Boston ITWS radar coverage area' with an 'Ok' button.

Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxm

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (375) Popular

Assisting ▾ AIXM ▾ WXXM Eventing ▾ Bulletin ▾ Options ▾

Flight Plan FPS Map PDF TXT Events

OWS-7

- [KDFW](#)
- [FOXXE](#)
- [LOACH](#)
- [GOMUP](#)
- [GINGA](#)
- [TIR](#)
- [FINDO](#)
- [PTH](#)
- [ADN](#)
- [FORTY](#)
- [KLONN](#)
- [ZOL](#)
- [SOSOL](#)
- [SKI](#)
- [NARIT](#)
- [ELTOK](#)
- [LINSA](#)
- [TEB](#)

PDF

http://localhost:8080/ows.client.dispatch/static/data/ows7A_bull.pdf

1 / 33 75%

Find

ADDEP: KDFW
 ADDEST: EETN
 Alternates: EETU
 Route: 420000N|0900000W,490000N|0800000W,530000N|070000E,540000N|0600000W,FOXXE,LOACH,570000N|0500000W,590000N|0300000W,580000N|0200000W,580000N|015000E,GINGA|UN572,FINDO|UP600,ZOL|UM125,SKI,TOR|UP600,APTUG|UM851,OSMUR

Met Options: CITYMAJOR, Automatic, Important

NOTAM - INFORMATION

1003050834-PERM EETN NEE
 RDH OF GP 08, AIP AMDT 2/10 PART AD: EETN 2.19 GP 08 READ RDH INSTEAD OF RDH 59FT.
 REF AIP PAGE AD 2.4-9 SECTION AD 2-19

8,26 x 11,69 in



FPS – Envitia Weather layers



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxm

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (375) Popular

Assisting ▾ AIXM ▾ WXXXM ▾ Eventing ▾ Bulletin ▾ Options ▾

Flight Plan	FPS Map	Events
<p>OWS-7</p> <ul style="list-style-type: none"> <input type="radio"/> KDFW <input type="radio"/> FOXXE <input type="radio"/> LOACH <input type="radio"/> GOMUP <input type="radio"/> GINGA <input checked="" type="radio"/> TIR <input type="radio"/> FINDO <input type="radio"/> PTH <input checked="" type="radio"/> ADN <input type="radio"/> FORTY <input type="radio"/> KLONN <input checked="" type="radio"/> ZOL <input type="radio"/> SOSOL <input type="radio"/> SKI <input type="radio"/> NARIT <input type="radio"/> ELTOK <input type="radio"/> LINSA <input checked="" type="radio"/> TEE 	<div style="border: 1px solid black; background-color: #333366; color: white; padding: 5px;"> <p>Overlays</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> NOTAM layer <input checked="" type="checkbox"/> Flight Route Symbols <input type="checkbox"/> Flight Route Description <input checked="" type="checkbox"/> Flight Route <input type="checkbox"/> Nexrad <input type="checkbox"/> Envitia MET: VIL <input checked="" type="checkbox"/> Envitia MET: Echo Tops <input type="checkbox"/> Envitia: Airport Heliport <input type="checkbox"/> Envitia: Navaid <input type="checkbox"/> Luciad: Airport / Heliport <input type="checkbox"/> Envitia: Geo Border <input type="checkbox"/> Envitia: Airport Overview <p>Base Layer</p> <ul style="list-style-type: none"> <input type="radio"/> Metacarta: Background <input checked="" type="radio"/> Envitia: Background </div>	<p>Events</p> <p>Your Subscriptions:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXXM <hr/> <p>All Events:</p> <ul style="list-style-type: none"> <input type="radio"/> DONLON_EVENT <input type="radio"/> ITWS-BOS



- FPS – Displaying map layer of FPS Envitia MET: Echo Tops
- Map component uses JavaScript to display WMS data (Web Map Server).
- FPS can be also queried as WMS.
- When zooming, panning ... every time a new HTTP request is sent to FPS.



FPS – Envitia Weather layers



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxxm

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (375) Popular

Assisting | AIXM | WXXM | Eventing | Bulletin | Options

Flight Plan	FPS Map	Events
<p>OWS-7</p> <ul style="list-style-type: none"> <input type="radio"/> KDFW <input type="radio"/> FOXXE <input type="radio"/> LOACH <input type="radio"/> GOMUP <input type="radio"/> GINGA <input checked="" type="radio"/> TIR <input type="radio"/> FINDO <input type="radio"/> PTH <input checked="" type="radio"/> ADN <input type="radio"/> FORTY <input type="radio"/> KLONN <input checked="" type="radio"/> ZOL <input type="radio"/> SOSOL <input type="radio"/> SKI <input type="radio"/> NARIT <input type="radio"/> ELTOK <input type="radio"/> LINSA <input checked="" type="radio"/> TEB 	<div style="background-color: #333; color: white; padding: 5px;"> <p>Overlays</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> NOTAM layer <input checked="" type="checkbox"/> Flight Route Symbols <input type="checkbox"/> Flight Route Description <input checked="" type="checkbox"/> Flight Route <input type="checkbox"/> Nexrad <input checked="" type="checkbox"/> Envitia MET: VIL <input checked="" type="checkbox"/> Envitia MET: Echo Tops <input type="checkbox"/> Envitia: Airport Heliport <input type="checkbox"/> Envitia: Navaid <input type="checkbox"/> Luciad: Airport / Heliport <input type="checkbox"/> Envitia: Geo Border <input checked="" type="checkbox"/> Envitia: Airport Overview <p>Base Layer</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Metacarta: Background <input checked="" type="radio"/> Envitia: Background </div>	<p>Your Subscriptions:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXM <hr/> <p>All Events:</p> <ul style="list-style-type: none"> <input type="radio"/> DONLON_EVENT <input type="radio"/> ITWS-BOS



FPS – Envitia AIXM layers



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxxm

OWS DAC - local Apple Yahoo! Google Maps YouTube Wikipedia News (375) Popular

Assisting AIXM WXXM Eventing Bulletin Options

Flight Plan	FPS Map	Events
<p>OWS-7</p> <ul style="list-style-type: none"> <input type="radio"/> KDFW <input type="checkbox"/> FOXXE <input type="checkbox"/> LOACH <input type="checkbox"/> GOMUP <input type="checkbox"/> GINGA <input checked="" type="checkbox"/> TIR <input type="checkbox"/> FINDO <input type="checkbox"/> PTH <input checked="" type="checkbox"/> ADN <input type="checkbox"/> FORTY <input type="checkbox"/> KLONN <input checked="" type="checkbox"/> ZOL <input type="checkbox"/> SOSOL <input type="checkbox"/> SKI <input type="checkbox"/> NARIT <input type="checkbox"/> ELTOK <input type="checkbox"/> LINSA <input checked="" type="checkbox"/> TEB 	<p>•Lake Ontario</p> <div style="border: 1px solid black; padding: 5px;"> <p>Overlays</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> NOTAM layer <input checked="" type="checkbox"/> Flight Route Symbols <input type="checkbox"/> Flight Route Description <input checked="" type="checkbox"/> Flight Route <input type="checkbox"/> Nexrad <input type="checkbox"/> Envitia MET: VIL <input type="checkbox"/> Envitia MET: Echo Tops <input type="checkbox"/> Envitia: Airport Heliport <input type="checkbox"/> Envitia: Navaid <input type="checkbox"/> Luciad: Airport / Heliport <input checked="" type="checkbox"/> Envitia: Geo Border <input type="checkbox"/> Envitia: Airport Overview <p>Base Layer</p> <ul style="list-style-type: none"> <input type="radio"/> Metacarta: Background <input checked="" type="radio"/> Envitia: Background </div> <p style="text-align: right;">-76.51010, 42.20248</p>	<p>Events</p> <p>Your Subscriptions:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXM <hr/> <p>All Events:</p> <ul style="list-style-type: none"> <input type="checkbox"/> DONLON_EVENT <input type="checkbox"/> ITWS-BOS



FPS – Envitia AIXM layers



Frequency © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxm

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Assisting AIXM WXXM Eventing Bulletin Options

Flight Plan	FPS Map	Events
<p>OWS-7</p> <ul style="list-style-type: none"> <input type="radio"/> KDFW <input type="triangle-up"/> FOXFE <input type="triangle-up"/> LOACH <input type="triangle-up"/> GOMUP <input type="triangle-up"/> GINGA <input checked="" type="radio"/> TIR <input type="triangle-up"/> FINDO <input type="radio"/> PTH <input checked="" type="radio"/> ADN <input type="triangle-up"/> FORTY <input type="triangle-up"/> KLONN <input checked="" type="radio"/> ZOL <input type="triangle-up"/> SOSOL <input type="radio"/> SKI <input type="triangle-up"/> NARIT <input type="triangle-up"/> ELTOK <input type="triangle-up"/> LINSA <input checked="" type="radio"/> TEE 	<p>Overlays</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> NOTAM layer <input checked="" type="checkbox"/> Flight Route Symbols <input type="checkbox"/> Flight Route Description <input checked="" type="checkbox"/> Flight Route <input type="checkbox"/> Nexrad <input type="checkbox"/> Envitia MET: VII <input type="checkbox"/> Envitia MET: Echo Tops <input checked="" type="checkbox"/> Envitia: Airport Heliport <input checked="" type="checkbox"/> Envitia: Navaid <input type="checkbox"/> Luciad: Airport / Heliport <input type="checkbox"/> Envitia: Geo Border <input type="checkbox"/> Envitia: Airport Overview <p>Base Layer</p> <ul style="list-style-type: none"> <input type="radio"/> Metacarta: Background <input checked="" type="radio"/> Envitia: Background 	<p>Your Subscriptions:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> DNOTAM <input checked="" type="checkbox"/> WXXM <hr/> <p>All Events:</p> <ul style="list-style-type: none"> <input type="radio"/> DONLON_EVENT <input type="radio"/> ITWS-BOS

-77.42745, 42.23544

Different Background: Metacarta



Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxm

Assisting | AXM | WXXM | Eventing | Bulletin | Options

Flight Plan	FPS Map	Events
OWS-7 <ul style="list-style-type: none">KDFWFOXXELOACHGOMUPGINGA<input checked="" type="checkbox"/> TIRFINDO<input checked="" type="checkbox"/> PTH<input checked="" type="checkbox"/> ADNFORTYKLONN<input checked="" type="checkbox"/> ZOLSOSOL<input checked="" type="checkbox"/> SKINARITELTOKLINSA<input checked="" type="checkbox"/> TEB	<p>Overlays</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> NOTAM layer<input checked="" type="checkbox"/> Flight Route Symbols<input type="checkbox"/> Flight Route Description<input checked="" type="checkbox"/> Flight Route<input type="checkbox"/> Nexrad<input type="checkbox"/> Envitia MET: VIL<input type="checkbox"/> Envitia MET: Echo Tops<input checked="" type="checkbox"/> Envitia: Airport Heliport<input checked="" type="checkbox"/> Envitia: Navaid<input type="checkbox"/> Luciad: Airport / Heliport<input type="checkbox"/> Envitia: Geo Border<input type="checkbox"/> Envitia: Airport Overview <p>Base Layer</p> <ul style="list-style-type: none"><input checked="" type="radio"/> Metacarta: Background<input type="radio"/> Envitia: Background	Your Subscriptions: <ul style="list-style-type: none"><input checked="" type="checkbox"/> DNOTAM<input checked="" type="checkbox"/> WXXM <hr/> All Events: <ul style="list-style-type: none">DONLON_EVENTITWS-BOS



Different data sources



→ Background (and Overlay) layers can be configured to connect to any WMS, such as Metacarta (publicly available WMS)

The screenshot shows the 'Frequentis © OWS Dispatch Aviation client' interface. The browser address bar displays 'http://localhost:8080/ows.client.dispatch/#wxxm'. The interface is divided into three main sections:

- Flight Plan:** Lists various airports including KDFW, FOXXE, LOACH, GOMUP, GINGA, TIR, FINDO, PTH, ADN, FORTY, KLONN, ZOL, SOSOL, SKI, NARIT, ELTOK, LINS, and TEB.
- FPS Map:** A map showing flight routes and various overlays. A legend titled 'Overlays' includes:
 - NOTAM layer
 - Flight Route Symbols
 - Flight Route Description
 - Flight Route
 - Nexrad
 - Envitia MET: VIL
 - Envitia MET: Echo Tops
 - Envitia: Airport Heliport
 - Envitia: Navaid
 - Luciad: Airport / Heliport
 - Envitia: Geo Border
 - Envitia: Airport OverviewThe 'Base Layer' section shows:
 - Metacarta: Background
 - Envitia: Background
- Events:** Under 'Your Subscriptions', it lists DNOTAM and WXXM. Under 'All Events', it lists DONLON_EVENT and ITWS-BOS.

Frequentis © OWS Dispatch Aviation client

http://localhost:8080/ows.client.dispatch/#wxm

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Assisting AIXM WXXXM Eventing Bulletin Options

Flight Plan

OWS-7

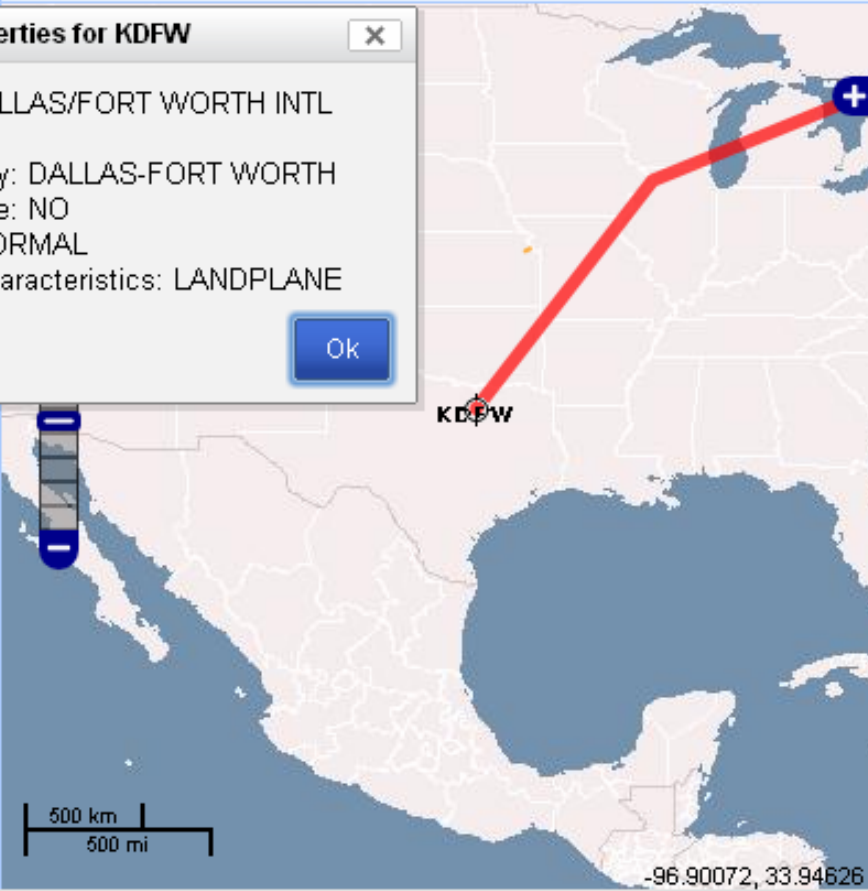
- [KDFW](#)
- [FOXXE](#)
- [LOACH](#)
- [GOMUP](#)
- [GINGA](#)
- [TIR](#)
- [FINDO](#)
- [PTH](#)
- [ADN](#)
- [FORTY](#)
- [KLONN](#)
- [ZOL](#)
- [SOSOL](#)
- [SKI](#)
- [NARIT](#)
- [ELTOK](#)
- [LINSA](#)
- [TEE](#)

FPS Map

AIXM Properties for KDFW

Name: DALLAS/FORT WORTH INTL
Type: AH
Served City: DALLAS-FORT WORTH
Private Use: NO
Status: NORMAL
Aircraft Characteristics: LANDPLANE

Ok



KDFW

500 km
500 mi

-96.90072, 33.94626

Events

Your Subscriptions:

- DNOTAM
- WXXXM

All Events:

- [DONLON_EVENT](#)
- [ITWS-BOS](#)



Data drill-down



- Click on KDFW aerodrome on the left and display AIXM properties of this AD obtained by querying WFS (Snowflake server).
- Different WFS servers provide different ranges of data. Use Options menu to switch between sources
- Future OWS infrastructure: 'Routing WFS' – Selective data hosting based on decision in application, where to send the query.

Flight Plan | **FPS Map** | **Events**

WS-7

- KDFW**
- FOYF
- LOACH
- GOMUP
- GINGA
- TIR
- FINDO
- PTH
- ...

AIXM Properties for KDFW

Name: DALLAS/FORT WORTH INTL
Type: AH
Served City: DALLAS-FORT WORTH
Private Use: NO
Status: NORMAL
Aircraft Characteristics: LANDPLANE

Events

Your Subscriptions:

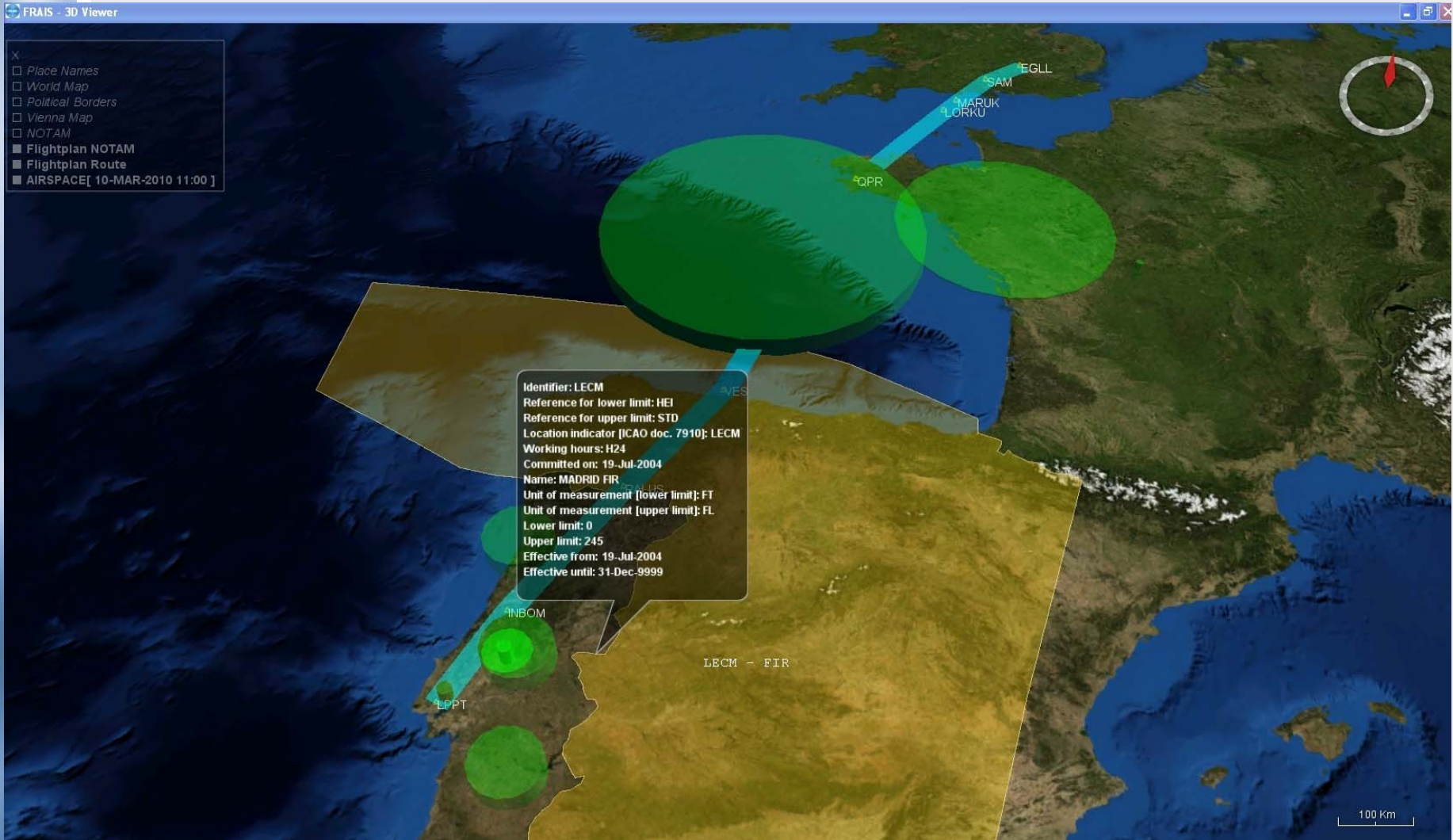
- DNOTAM
- WXXM

All Events:

- DONLON_EVENT
- ITWS-BOS

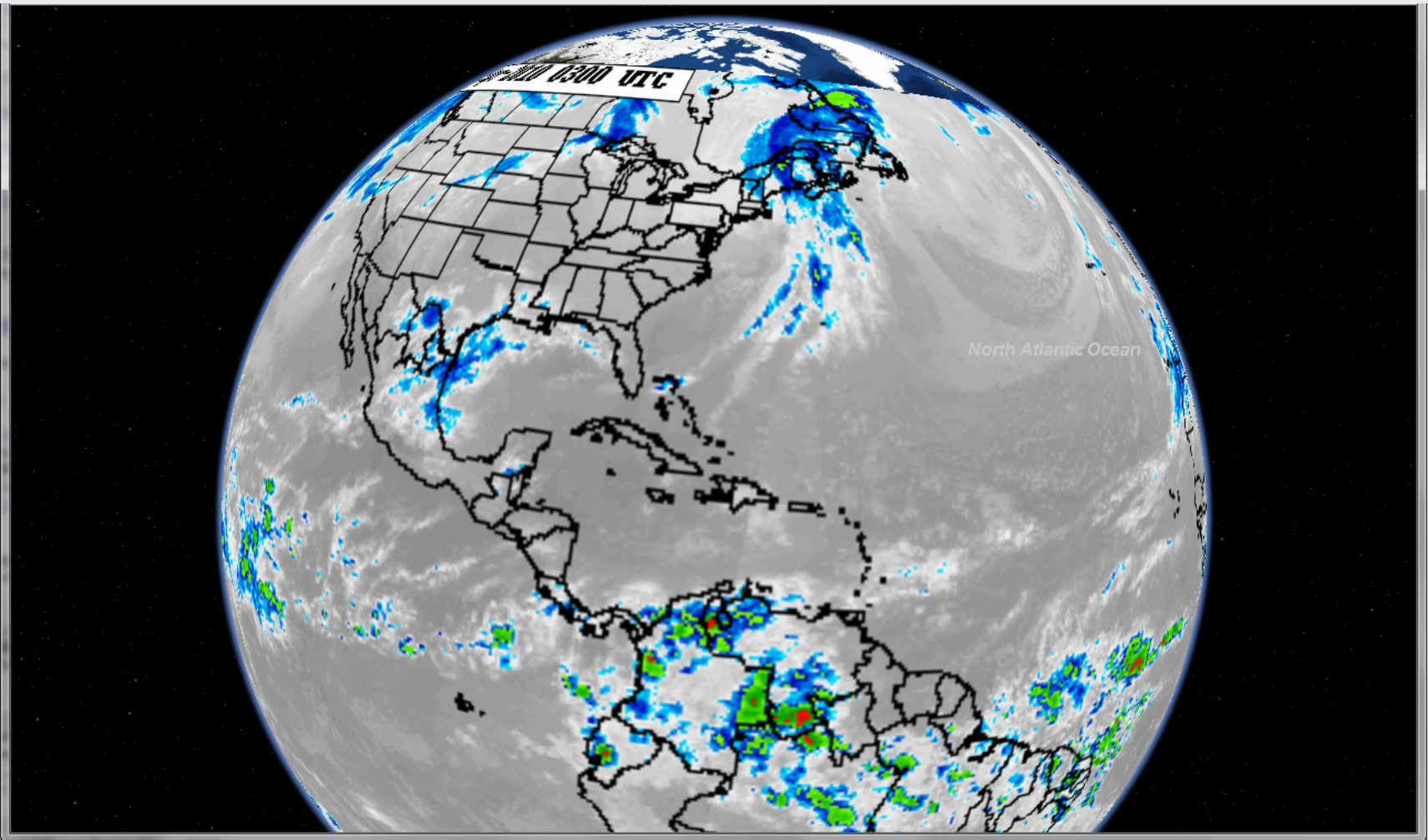


Alternative visualisation (Frequentis)





Met Data WMS





Lessons Learned



- Intensive backend work to provide application
- Availability and performance of back-end servers essential
- Client performance depends on back-end servers
- Distribution of tasks results in many points of failure,
- However: As long as one of each type is running, the system is operational



Thank You!



COMMUNICATION
AND INFORMATION
SOLUTIONS FOR
A SAFER WORLD

