

A close-up, low-angle view of an aircraft's wing and engine, showing the leading edge of the wing and the large engine nacelle. The background is a bright, hazy sky.

Central Monitoring Agencies & Problem Reporting

Datalink Performance Monitoring Seminar
March 2013

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What To Talk About...

- Why a Central Monitoring Agency?
- Central Monitoring Agency Tasks
- The PR Process
- Datalink and CRAs
- Problem Report Distribution
- Sample Problems
- Reporting Back
- The Website
- Questions

Central Monitoring Agencies – Why?

■ ICAO Annex 11, Paragraph 2.2.7.5

Any significant safety-related change to the ATC system, including the implementation of a reduced separation minimum or a new procedure, shall only be effected after a safety assessment has demonstrated that an acceptable level of safety will be met and users have been consulted. When appropriate, the responsible authority shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.

■ ICAO GOLD section 3.1.5.2

Because of the integrated nature of the system and the degree of interaction among its components, the ATSP should establish end-to-end system monitoring in accordance with the guidelines provided in Appendix D. The guidelines aim to ensure end-to-end system integrity through post-implementation monitoring, identifying, reporting and tracking of problems, and corrective action.

■ ICAO GOLD Appendix D

The ATSPs, operators, CSPs, airframe manufacturers, and equipment suppliers all need to participate in reporting and resolving problems associated among the ATSPs and with aircraft.

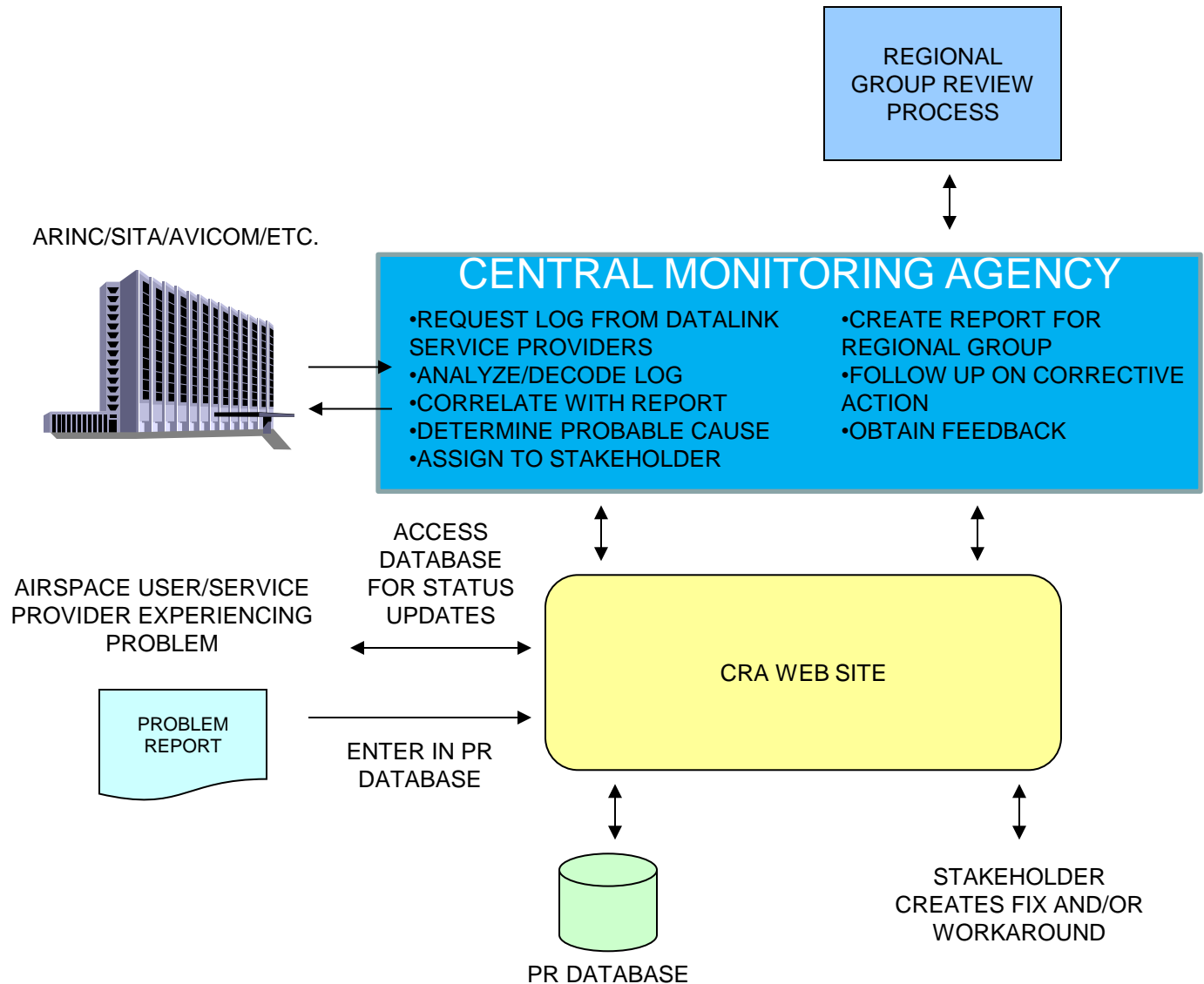
Central Monitoring Agency Tasks

- Performance Monitoring
 - Statistics for delivery performance
 - RCP compliance
 - System availability statistics
 - Identification of “bad performers
 - Corrective action
- Problem Reporting
 - Investigation/analysis of problems experienced by stakeholders
 - Corrective action/work-arounds
 - Follow-up with responsible parties
- Reporting back to stakeholders
 - Feedback to stakeholder experiencing problem
 - Regional groups (e.g. NAT/CNSG, ISPACG, etc.)
 - Closure of Problem Reports

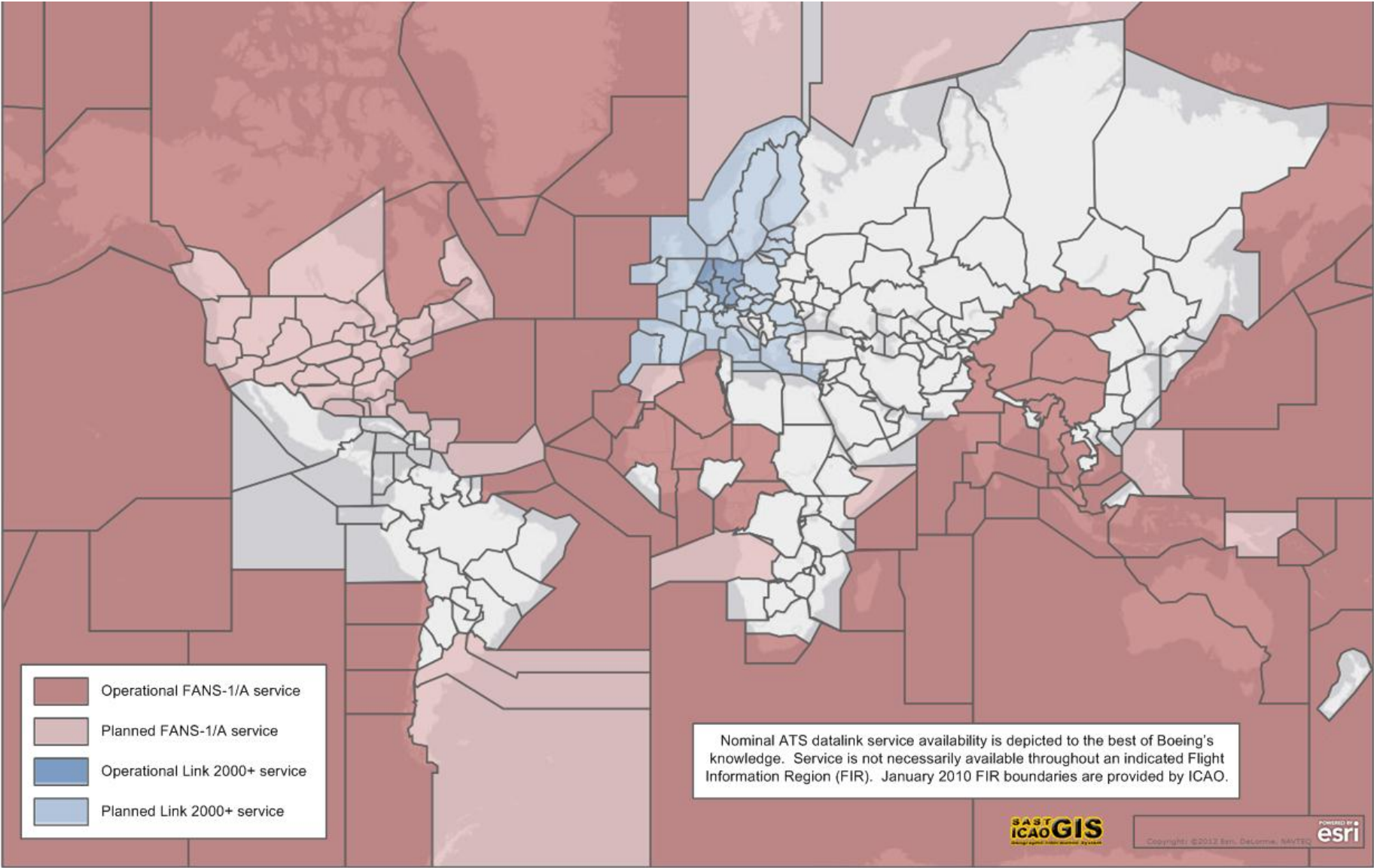
Covered in separate presentation

Problem Reporting Process

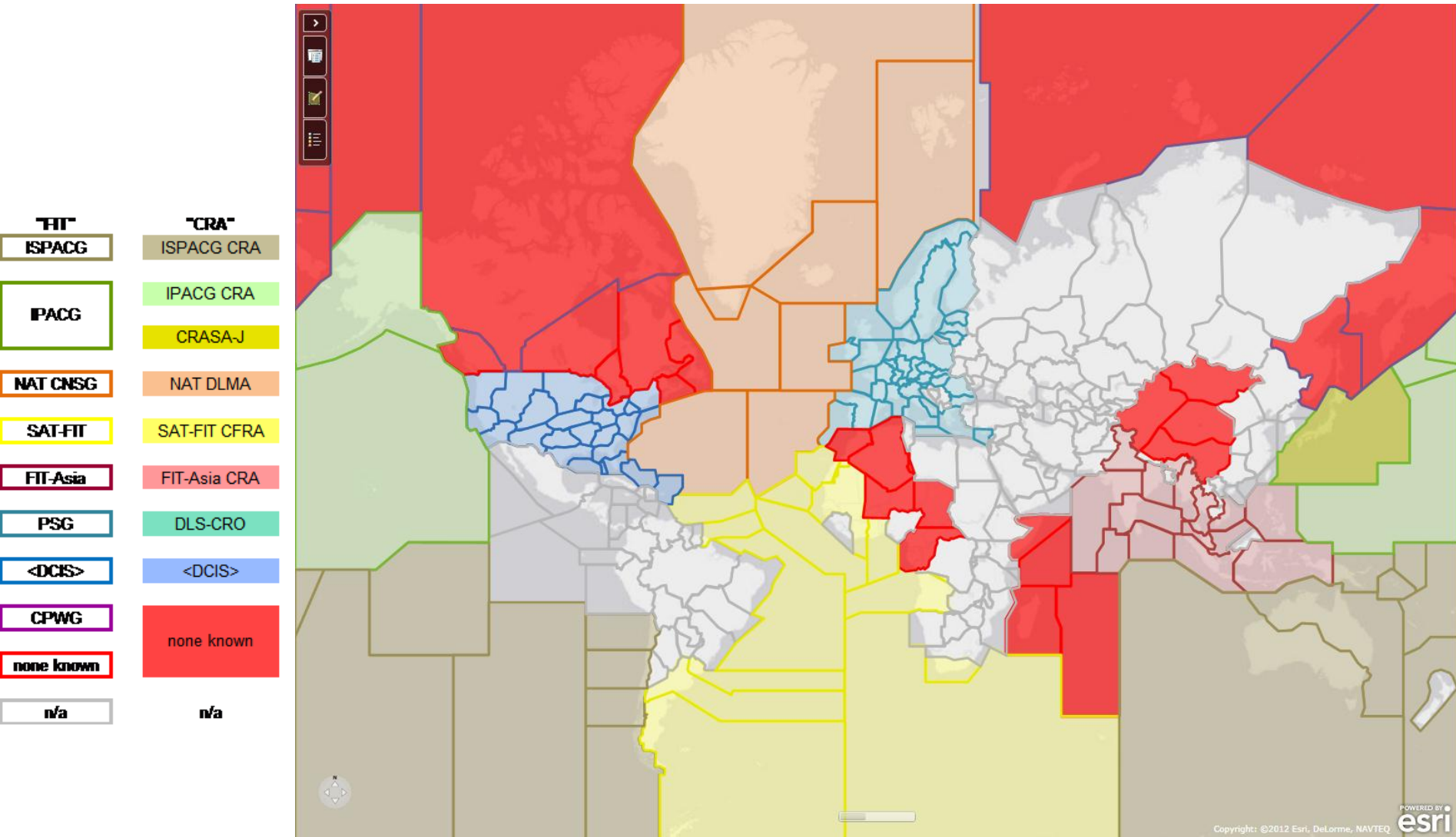
- Users report issues via website
- CRA analyses and assigns to stakeholder
- Feedback to originator and to regional group responsible
- Corrective action is a key part to obtain closure



Worldwide ATC Datalink Availability

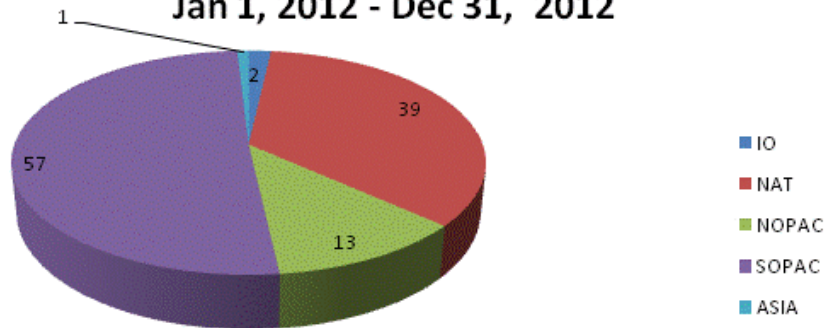


Central Monitoring Agencies

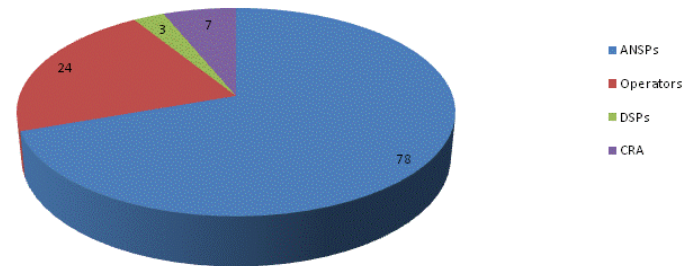


Problem Report Breakdown

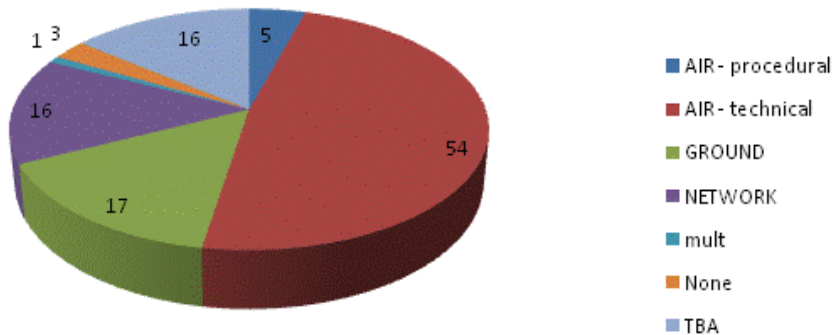
**All Problem Reports by Region
Jan 1, 2012 - Dec 31, 2012**



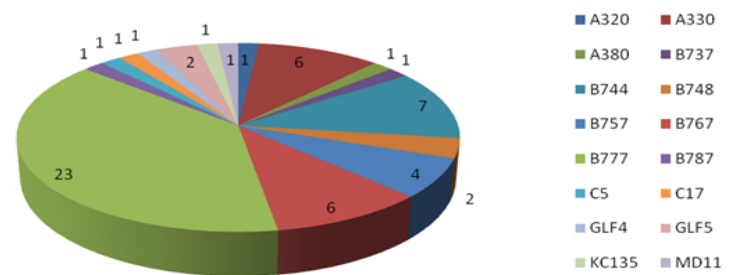
**All Problem Reports by Reporting Agency Type
Jan 1, 2012 - Dec 31, 2012**



**All Problem Reports by Problem Area
Jan 1, 2012 - Dec 31, 2012**



**All "AIR" Problem Reports by Model
Jan 1, 2012 - Dec 31, 2012**



ATC/Ground Issues

- Examples of Problem Reports that were problems with ATC or airline systems
 - One center did not transfer CPDLC connections for airplanes that would later reenter their airspace
 - Airplane had CPDLC connection with center that should not be controlling it
 - One center had their adaptation set up in a way that did not recognize airplanes entering over certain fixes as entering their airspace
 - ATSU did not establish CPDLC
 - One center was using an uplink format that was a mixture of the formats that should be used for 747 and 777 (so worked with neither)
 - One center was not set up to reflect that an airline with a mixed fleet would need Oceanic Clearances in both ARINC 623 and ARINC 620 formats
 - Affected airplanes were unable to get Oceanic Clearance by datalink, and had to revert to voice
 - One Oceanic system in use in multiple ATSUs would construct route uplink that replaced direct legs with an airway with an invalid name
 - Route uplinks rejected by the avionics
- Also numerous problems relating to flight plan filing (content, addressing, timing,...)

Network Issues

- Examples of Problem Reports that were problems with network operation
 - Service providers accepting downlinks from non-contracted customers and then discarding them
 - Considered a safety issue (one-way CPDLC and no ADS) and raised with Safety Oversight Group
 - One service provider has resolved this issue
 - Service provider using different SATCOM tracking for ATC and AOC, so ATC uplinks cannot be sent, while AOC ones can
 - Results in one-way (downlink only) CPDLC
 - Still under discussion
 - Service provider having airplane set up to interconnect AOC, but not ATC
 - Airplane thinks it has link, but messages are not delivered

Airplane Issues

- Examples of Problem Reports that were airplane problems
 - 777 loading of wrong route uplink
 - Loaded and displayed routes were different
 - Airbus monitoring of conditional clearances
 - Resulted in climb for superseded clearance
 - FIT inputs useful in demonstrating need for change
 - Some Boeing airplanes not including optional lat/longs for duplicates, or airway intersection waypoints in route requests
 - Makes it difficult for ANSP to coordinate route changes with downstream centers
 - Again, FIT inputs useful in demonstrating need for change
 - Also one report complaining about certain airplanes always including the optional lat/long
 - B787 reporting waypoints on the dateline as invalid in ADS
 - Several reports of corrupted data in 777 position reports
 - B777 appending 128nm offset indication to position report
 - Required sending the position report within a few seconds of executing the offset to see this

Feedback

- A key part of the CRA task is providing feedback
 - To the originator (who experienced the problem)
 - Originator can review report and check status on the website
 - To the regional group covering the airspace
 - NAT/CNSG, ISPACG, IPACG, FIT/Asia, etc.

- Allows for oversight of (and agreement on) closure of the report

- Shares information on potential issues with stakeholders in the region
 - Closure may not mean the problem goes away immediately

- FIT Asia CRA provides a report at each FIT Asia meeting of PR activity in the region

- Similar reports to other regional groups (ISPACG FIT, IPACG FIT,...)

The Website (1)

- CRA uses a common website
 - NAT, SOPAC, NOPAC, FIT/Asia use a site maintained by Airways Corp.
 - <http://www.ispacg-cra.com/>
 - CRASA-J has a separate website
 - Need to register (group IDs available)
 - Allows reporting of problems, status of activity, access to reports/data



The Website (2)

- Problem reports can be entered here
- Provide as much information as possible
 - The more we have, the likelier we are to find (and fix) it
 - A picture is worth at least a thousand words
 - CRA may have to contact you for more information
 - For airplane issues, we may need to know exactly what was happening

The screenshot shows a web browser window displaying the ISPACG-CRA Form website. The page title is "ISPACG-CRA Form" and the URL is "www.ispacg-cra.com/problem_reports_form_secure.asp". The website features a navigation menu with links for Home, About, Gold Info, Problem Reports, System Availability, Performance Information, and Contact. The main content area is titled "FANS 1/A Problem Report Form" and contains a form with the following fields:

Originators Reference Number		GS-001	
Title: Transfer from ABCD to DEFG failed			
Date UTC	4/1/2013	Time UTC	0000z
Registration	N12345	Flight Number	SHA001
Flight Sector: KBF/KLGB			
Originator	Gordon Sandell	Aircraft Type	B788
Organisation: Boeing			
Active Center	ABCD	Next Center	DEFG
Position: NOPAC - SEA			
Problem Description (box will expand as you type): DEFG was shown as the NEXT Center, but after crossing the boundary between ABCD and DEFG, ABCD was still connected as the active center. Terminated ATC COMM and logged on to DEFG successfully.			
Browse... (click browse - do not type in this field)			
Browse... (click browse - do not type in this field)			

Questions?

