



NAM/CAR/SAM ATS DATALINK IMPLEMENTATION WORKSHOP

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CHALLENGES AND LESSONS LEARNED

S E R V I N G A W O R L D I N M O T I O N



CHALLENGES

Human Challenges

- ▣ Education / Training for controllers and pilots
- ▣ Working in a VHF environment – it is easier to “press to talk”

CHALLENGES

System Challenges:

- ▣ **Consistency of Information**
 - Hyphen in tail numbers, and not in Flight Plan
 - Leading zeros in aircraft identification
- ▣ **Variations of equipment.**
 - Different manufacturers, airframes, avionics
 - Retrofits are not cheap or easy

CHALLENGES

- ▣ **Errors or delays in message flows**
 - Errors with Flight Plan messages require manual intervention of the flight data and result in delays
 - Missing or delayed AFN or RCL messages also cause issues
- ▣ **Standardizing Data Link information on flight plans**
 - ICAO Flight Plan provides a good indication of equipage. Currently, we rely on AFN contact to initiate ADS contracts and CPDLC connections.
- ▣ **Improving CPDLC/ADS-C Performance**
 - Monitoring, understanding and improving communication performance

Lessons Learned

- ▣ **Data Link is complex**
 - Multiple users, systems, layers, and special cases
- ▣ **A lot of Data Link issues are due to special cases**
 - Logon problems, hyphens, leading zeros, missing CRC (cyclic redundancy checks)
- ▣ **Data Link is about Teamwork**
 - Collaboration is required in identifying problems and implementing solutions together. (Air Navigation Service Providers, Operators, Communication Service Providers, Data Link Monitoring Agency)
 - Communication and access is critical

Lessons Learned

- ▣ **Timing is paramount**
 - Delays in messages (FPL, RCL,AFN) cause Data Link issues
 - Connections and contracts need to be requested at the “right” time

- ▣ **Providing better service, costs more**
 - Continuously adding Data Link functionality has to be planned and programmed effectively
 - Resources are required to troubleshoot and recommend solutions

Lessons Learned

Flexibility is critical – plan for the unexpected

Adaptation should allow for changes to

- ❑ Timers
- ❑ Addressing
- ❑ Boundary definitions

Where possible, allow for flexibility on a site by site basis

- ❑ This is important for ground-ground datalink

Be prepared for delays.



Lessons Learned

- ❑ Airlines and avionics do not always do what they are supposed to do
 - Prepare for known issues
 - Learn from others
- ❑ Pilots do not always do what they are supposed to do
 - educate through user forums/NOTAMS/AIC
 - have a contact list for users (safety@airline.com) and a central contact for users to ask questions/report issues
- ❑ Controllers do not always do what they are suppose to do
 - Train, refresh and review.
 - Quick reference guides

Questions?

