U.S. Domestic Data Link Overview

Rockwell Collins ARINCDirect Flight Support
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Data Link Departure Clearance Options Review

- Pre-Departure Clearance (PDC), North America
  - One per 24 hour period, per airport, per aircraft, revisions via voice

- Enhanced PDC, North America
  - Unlimited PDCs, revisions via voice

- FANS Departure Clearance (FANS DCL), US only
  - Used at 62 US domestic airports, considered “Push DCL” by the FAA as only a FANS logon to “KUSA” is required, revisions via FANS CPDLC uplink message.

- Departure Clearance (DCL), Global
  - Used at 120 airports for ARINC-623 equipped aircraft (ACARS/AFIS), request prompt must be filled out on MCDU.
Data Link Departure Clearance

U.S. Domestic FANS CPDLC DCL

- FANS Logon to “KUSA” via VDL Mode A or VDL Mode 2
- No LOA required for US registered aircraft
- Flight Plan Field 18 entry or SDB record required
- DCL does not replace PDC
U.S. FANS DCL Airports

- A global first
- The first step to domestic Data Link
- All FANS equipped operators may use
- FANS DCL is not ARINC 623 DCL
Domestic use of FANS DCL

- Departure Clearance Service (DCL) provides automated clearance delivery for initial and revised departure clearances
- CPDLC message elements for the following:
  - Flight plan route
  - Initial and requested altitude
  - Beacon code assignment and
  - Departure frequency
How is a CPDLC capable airport depicted?

ASDE-X in use. Operate transponders with altitude reporting mode and ADS-B (if equipped) enabled on all airport surfaces.
Equipment/Flight Plan Requirements for FANS DCL

- The FAA does not recognize SAT Data Link as media for FANS DCL
- Depending on your equipage item 10a of the ICAO Flight Plan may indicate:
  - “J3” for FANS CPDLC VDL Mode A and, or
  - “J4” for FANS CPDLC VDL Mode 2
- Indicate DCL and PDC preferences in Field 18: “DAT/1FANS2PDC” (departure only)
- Indicate DCL and PDC preferences in Field 18: “DAT/1FANSE2PDC” (enroute)
- Alternatively indicate DCL and PDC preferences via the FAA’s Subscriber Database
FAA Subscriber Database (SDB) – ARINCDirect can help

### TDLS Subscriber Database

#### Subscriber

<table>
<thead>
<tr>
<th>Subscriber Information</th>
<th>Flight/Tail Number:</th>
<th>Airport Code:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airline:</td>
<td>N</td>
<td>ALL (ALL)</td>
</tr>
</tbody>
</table>

#### Clearances

<table>
<thead>
<tr>
<th>Clearance Information</th>
<th>IATA Address for PCD and Dispatch Copy</th>
<th>Connection Provider</th>
<th>Start Date (mm/dd/yyyy)</th>
<th>End Date (mm/dd/yyyy)</th>
<th>Type of Dispatch Copy</th>
<th>Send Gate Request</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 1</td>
<td>FANS</td>
<td>ARINCXA</td>
<td>03/22/2018</td>
<td>03/22/2050</td>
<td>ALLF</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Priority 2</td>
<td>PDC</td>
<td>ARINCXA</td>
<td>03/22/2018</td>
<td>03/22/2050</td>
<td>--select--</td>
<td>--select--</td>
<td></td>
</tr>
</tbody>
</table>
New ident due to NSDA

Logon to “KUSA”

- Up to 90 mins prior filed ETD
- Logon “Accepted” = AFN_AK
- No additional action required
CPDLC is Active

ATC Comm Established

- 30 mins prior filed ETD
- Clearance Delivery approves FPL
- Behind the scenes exchange:
  - ATC sends “CR1”
  - Aircraft responds “CC1”
- CPDLC is now active
DCL Received

ATC Message

- Aural Warning
- Visual Warning
Acceptance

DCL Review

- Both crew should:
  - Review the DCL separately
  - Discuss the clearance
  - Choose to accept or reject
- No 60 sec timer on the ground
- DCL comes w/ loadable route
- May receive a revision during taxi
- Auto-logoff after departure
Any CPDLC Failure

Logon Failure

- Revert to voice
- Controller receives an error message
- 2nd preference “PDC” only works if DCL is inop at the ATC level.
Now available in your Message Center, iPad App, and to Email

Dispatch Courtesy Copy (DCC) for FAA SDB Users
Now available in your Message Center, iPad App, and to Email

Dispatch Courtesy Copy (DCC) for FAA SDB Users
How can I receive the DCC?

- Ask ARINCDirect to create a record for your aircraft in the SDB.
- Enter an email address for PDC and DCC on the Filing Page:
Looking ahead into NextGen

- Transition from individual Logons to National Single Data Authority (NSDA) supporting enroute CPDLC
- A single FANS Logon designed to carry through the enroute phase
- Enroute CPDLC rollout later in 2018
- Future integration with foreign partners
U.S. Requirements

Participation in U.S. Enroute CPDLC

- Only VDL Mode 2 equipped operators are eligible ("J4" in Field 10a)
- Indicate Enroute FANS in Field 18 using "DAT/FANSE"
- Other possible entries:

<table>
<thead>
<tr>
<th>Entry in DAT/Field</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1VOICE</td>
<td>Operator does not want a data link clearance.</td>
</tr>
<tr>
<td>1PDC</td>
<td>Operator only wants PDC.</td>
</tr>
<tr>
<td>1FANS</td>
<td>Operator wants FANS DCL without a fallback.</td>
</tr>
<tr>
<td>1FANSE2PDC</td>
<td>Operator wants FANS DCL with PDC as fallback.</td>
</tr>
<tr>
<td>1PDCFANSE</td>
<td>Operator wants PDC and Enroute CPDLC.</td>
</tr>
<tr>
<td>FANSE</td>
<td>Operator wants SDB preference departure clearance if any, otherwise voice departure clearance and Enroute CPDLC.</td>
</tr>
</tbody>
</table>
Where is Domestic CPDLC?

Resources

- **Limited Data Comm Functional Verification (DFV)** between May and September
  - KZKC (Kansas City)
  - KZME (Memphis)
  - KZID (Indianapolis)

- Work with your Service Provider for continued updates.
Resources

Scenarios

- DCL Departure from within Enroute CPDLC enabled airspace
- DCL Departure from outside of Enroute CPDLC enabled airspace
- Non-DCL Departure from within Enroute CPDLC enabled airspace
- Non-DCL Departure from outside of Enroute CPDLC enabled airspace
Support needed? Contact me:
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