What we know about the US CPDLC trial

OPSGROUP Team
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There is a CPDLC trial running in the US, but it isn't open for everyone…

General CPDLC stuff

CPDLC is basically a sort of 'text messaging' system that lets ATC contact you, and you contact them.

Combine it with ADS-C and you've got Datalink, which is mandated in a bunch of places like the NAT HLA, Europe and the UK above FL290 etc.

Some other useful info:

- Europe have a logon list. If you want an answer then register.

- **Europe use ATN**, everywhere else uses FANS. If you only have FANS then you can still call yourself 'CPDLC in Europe' if your original **certificate of registration is pre 2018.**

- Just to be clear, the **US requires FANS 1/A.**

- If your airplane is younger than 2014 then the system also needs a **message recording function.**

- **PBCS tracks** need a performance standard of RCP240 (ADS-C is RSP180).

- **AO56** is the LOA to get (or maybe A003).

We actually made A little Opsicle on CPDLC just the other day. It is quite a silly one, but here it is if you want a look:

GUS PROOF CPDLC homework   2 opsicles

CPDLC is for — Messaging to ATC ✓

When you use it with ADS-C this is — Datalink ✓

I need it to fly — in the NAT HLA and above FL290 in a lot of places ✓

The USA, NAT HLA, UK etc is — ~~ATN~~ FANS ✓

Europe uses — ATN ✓

Maastricht has a — logon list and I should be on it if I want them to talk to me ✓

If my airplane is older than 2018 then that's ok for Europe.

If my airplane is younger than 2014 then it also needs to be able to record messages.

Crew must be trained too or the flight is not CPDLC approved.

If it breaks in flight I should — Tell ATC ✓

If it breaks before flight I should — Put Z and DAT/CPDLCX ✓

When do I need a CPDLC LOA? — If I want to use to on remote continental or oceanic routes in USA

Which LOA do I need to operate on a PBCS track? — A056 ✓

What performance does it need to be used as an LRCS? RCP240 (ADS-C needs RSP180) ✓

Connect the Flight Plan codes together with their correct type

J1	FANS 1/A SATCOM (Inmarsat)
J2	ATN B1 VDLM2
J3	FANS 1/A HFDL
J4	FANS 1/A VDL MODE 2
J5	FANS 1/A SATCOM (Iridium)
J6	FANS 1/A VDL MODE A
J7	FANS 1/A SATCOM (M+SAT) ✓

Click for PDF.

CPDLC in the US

The US has CPDLC in a bunch of places. It isn't really mandatory yet though. At least not the **domestic en-route CPDLC.** This is the bit they are running a trial for, and they're doing it with **L3Harris.**

The trial is actually, specifically, for the business and general aviation community. The likes of Boeing and Airbus (or rather their avionics configurations) have already been approved.

So, here is the FAA info on it. Or rather, this is the notice talking about **who can participate in the trial.** They released this because a bunch of folk were participating, but their avionics version or configuration wasn't good enough and it was messing up the results.

○ !FDC 1/3379 FDC ..SPECIAL NOTICE.. GA AND BUSINESS AVIATION ACFT ARE PROHIBITED FM USING EN ROUTE CPDLC EXC APPROVED TRIAL PARTICIPANTS. CPDLC DEP CLR OPS ARE STILL PERMITTED. ALL GA AND BUSINESS ACFT, EXC TRIAL
  PARTICIPANTS, MUST MODIFY FLT PLAN FIELD 18 DATA CODE TO REMOVE EN ROUTE CPDLC IMMEDIATELY.
  FURTHER INFO CTC DCIT -AT- L3HARRIS.COM 2109271400-2209262359

Trial Notice

So how do you know if you've got what it takes?

All the systems are listed on the L3Harris site. If your aircraft type is missing from the Trial List (shown below), this means that operational acceptability hasn't been determined yet for that specific aircraft type. If that's you, you can fill in the form and email it to them at DCIT@L3Harris.com and they will check to see whether you have the spec to participate in the trial.

Aircraft	CMU/Equivalent for MF VDL Mode 2	VDR for MF VDL Mode 2	Minimum FMS version	Minimum FMS version (DCL Only)	FPL Filing (En Route)	
G280	RC RIU-4010/4100: DLCA-6000	RC VHF-4000E: 822-1872-**390**	RC ProLine Fusion 6200 V**3.6** (or later)		RC PLF V**3.6**: 1FANSER	RC PLF V**3.6.1**: 1FANSE
G500 (GA5C) G600 (GA6C)	HW CMF **3.1**	HW EPIC VDR: 7026201-**813 (Mod X)**	HW NG FMS **3.1**		1FANSER	
G700 (GA7C) G800 (GA8C)	HW CMF **3.5**		HW NG FMS 1 (Similar to Block 3)		1FANSER	
F900 (A,B,C,EX)	HW Mark II+ Core SW 998-6063-**522** (or later)	HW EPIC VDR: 7026201-**815 (Mod U)**	RC Primus 2000 HW SPZ-8000		1FANSE	
Falcon 8X	HW CMF **3.0**	HW EPIC VDR: 7026201-**814 (Mod S)**	HW EASY III		1FANSE	
Pilatus PC-24	HW CMF **3.2** (or later)	HW KTR-2280A	HW NG FMS **3.2** (or later)		1FANSER	
Global: 5000(GVFD), 5500, 6000, 6500, 7500	RC RIU-4010/4110: 822-1863-**175/178/179/671/672**	VHF-4000: CPN 822-1468-**210** with SB-8 CPN 822-1468-**290** CPN 822-1468-**302** with SB-11 CPN 822-1468-**303** CPN 822-1468-**310** with SB-8 or SB-13 CPN 822-1468-**390**	RC ProLine Fusion V**5.1.5** (or later) P/N **810-0163-1B0013** Global 7500 V**2.0.2** (or later) P/N **810-0163-3B0001**	RC ProLine Fusion: All available	1FANSER	
Challenger: 300, 350, 605, 650	RC RIU-4000: 822-1469-**554/602/651/652** RC CMU-4000: 822-1739-**601/603/704**		RC ProLine 21 Advanced: P/N 946-2720-**102/110/130** (or later)		1FANSER	
Embraer: Legacy 450/550 Praetor 500/600	RC RIU-4010: 822-1863-**633-638**	VHF-4000E: CPN 822-1872-**310** with SB-8 CPN 822-1872-**390**	Embraer Avionics 6.x PLF **810-0163-1E0004 (6.X)**	Embraer Avionics 5.x/6.x PLF 810-0163-1E0003 (5.X) 810-0163-1E0004 (6.X)	1FANSER	
Various (with Universal)	UniLink-**800** SW SCN **31.3** (or later) **with External VDR**	VHF-4000F: CPN 822-2993-**310** with SB-9 CPN 822-2993-**390**	SCN **1002.1** (or later)	UniLink-800 or 801 SW SCN 30.1 (or later) for DCL only with SCN 1000.5 (or later)	1FANSE	
	UniLink-**801** SW SCN **31.3** (or later) **with Internal VDR**	Internal VDR with SCN **10.3** (or later)	SCN **1002.1** (or later)		1FANSE	
Various (with Garmin)	G3000/5000 **V4.5.X, V4.8.X, V5.1.X, V6.2.X** (or later)	GDR-66 (or later)	G3000/5000 **V4.5.X, V4.8.X, V5.1.X, V6.2.X** (or later)		1FANSE	
Not listed?	If your aircraft or configuration is not on this list, please contact your aircraft or equipment manufacturer					

Note: DCIT recommendations for aircraft operating with Data Communications. Individual operator configurations are subject to regulatory approval.

If your aircraft type (system) is not on it, then don't file as capable of en-route CPDLC and don't try and 'participate'.

For those of you who are on it…

Here is a map of current active CPDLC sites:
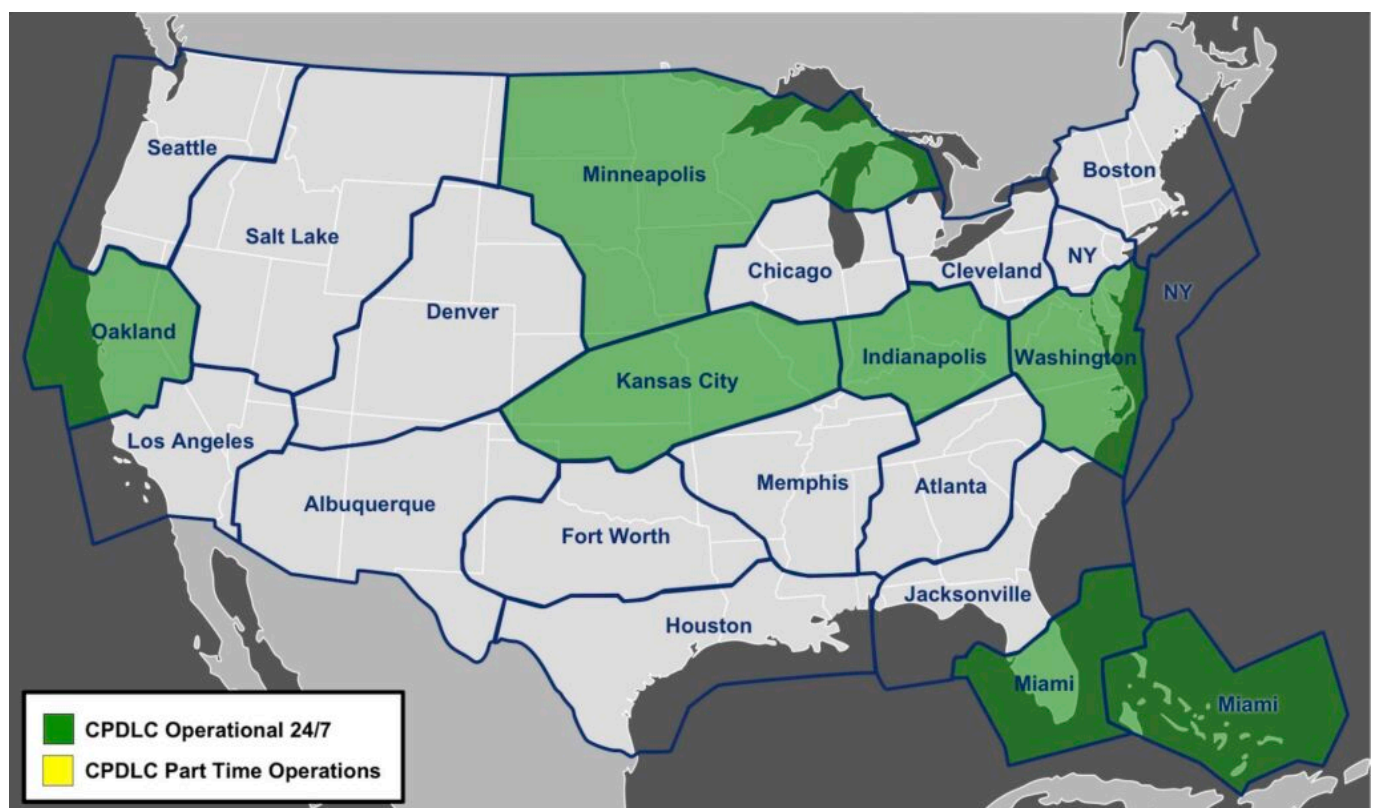
ZID/Indianapolis, ZKC/Kansas City, ZMP/Minneapolis, ZDC/Washington, ZOA/Oakland, and ZMA/Miami en-route control facilities are all up and running 24/7 now.

We've so far only found a table showing **61 airports** where **CPDLC DCL services** are currently available:

CPDLC DCL SERVICES AVAILABLE								
KABQ	KATL	KAUS	KBDL	KBNA	KBOS	KBUF	KBUR	KBWI
KCHS	KCLE	KCLT	KCMH	KDAL	KDCA	KDEN	KDFW	KDTW
KEWR	KFLL	KHOU	KHPN	KIAD	KIAH	KIND	KJFK	KLAS
KLAX	KLGA	KMCI	KMCO	KMDW	KMEM	KMIA	KMKE	KMSP
KMSY	KOAK	KONT	KORD	KPDX	KPHL	KPHX	KPIT	KRDU
KRNO	KRSW	KSAN	KSAT	KSDF	KSEA	KSFO	KSJC	KSLC
KSMF	KSNA	KSTL	KTEB	KTPA	KVNY	TJSJ		

U.S. DOMESTIC EN ROUTE CPDLC SERVICES CURRENTLY IN DEPLOYMENT

But we know this is a bit out of date. We've counted 65 airports currently operational including these:

- KJAX/Jacksonville

- KPBI/Palm Beach

- KCVG/Cincinnati/Northern Kentucky

- KADW/Joint Base Andrews

Some stuff on using it

OK, so if you **take-off from an airport that has CPDLC DCL** and which is **in an en-route CPDLC area** then KUSA (because they're who you'll basically be logged onto on the ground) is going to stay active and there is nothing else to do once airborne.

If you take-off logged onto KUSA and **only get into the en-route CPDLC bit later** then again, KUSA stays on and there's nothing more for you to do.

If you take-off logged onto KUSA and then are leaving all CPDLC airspace, it will **auto log off** when it needs to.

For all other scenarios, you probably need to **manually log on** when you reach the place where CPDLC is available.

KUSA is available on the ground in the lower 48 states, San Juan and Puerto Rico.

This info is all available here.

L3Harris are very active in all this and get in touch if they spot any irregularities with aircraft involved in the trial (nice to know they're out there, watching).

Handing over the 'info baton'

So far, all this has been snatched from a bunch of very handy guides that L3Harris publish, so here are the links to those for further info:

- The main L3Harris page on the FAA DataComm stuff

- The CPDLC Pilot Handbook, by L3Harris

- The FAA page on DataComm stuff (not just for this trial, but anywhere they use it)

And if you are an operator in the US with questions about this, then speak to these folk – DCIT@L3Harris.com