

Using Mobile Devices for IFR Clearance Delivery, IFR Release, and CDM Data Exchange

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Obtaining an IFR Clearance Today

Non-towered Airports



Problem Space

15K

IFR clearances read at towered (non-PDC/DCL) and non-towered airports per day*

75%

of pilots use a portable/mobile device for aviation⁺

*High-end number. Non-PDC equipped towered airports, average for Thursdays in October 2015: 11,015 IFR departures. Non-towered airports approximately 4,000 IFR flight plans filed per day, not all depart. ⁺2014 AOPA Survey. Current estimates are 95% or more.

Accident and Safety reports from NTSB and ASRS

- After multiple attempts, Learjet unable to pick up IFR on the ground departs VFR and crashes into mountains. *NTSB Accident Report LAX05FA015*
- FSS remote communication services not working and correct frequency to contact ATC airborne is elusive and delay in receiving an IFR clearance. *ACN1122290*
- Corporate pilot departed VFR and had TCAS alerts due to traffic inbound to adjacent airport. Pilot did not know about remote transmitter for clearance prior to departure for coordination with adjacent inbound traffic *ACN977562*
- Miscommunication between FSS, pilot, and departure controller. *ACN849146*
- Numerous VFR aircraft (at least five) airborne waiting for IFR clearance while RADAR controller coordinates with adjacent sectors. *ACN1092563*



*Cleared to GVL,
CART, FREEZE,
Foothills M 30*



Cleared to Gainesville
Airport via direct
CARTT, direct FREEZ,
direct ODF, direct,
maintain 3000, ...



I am unfamiliar with the fixes, could you please spell them?

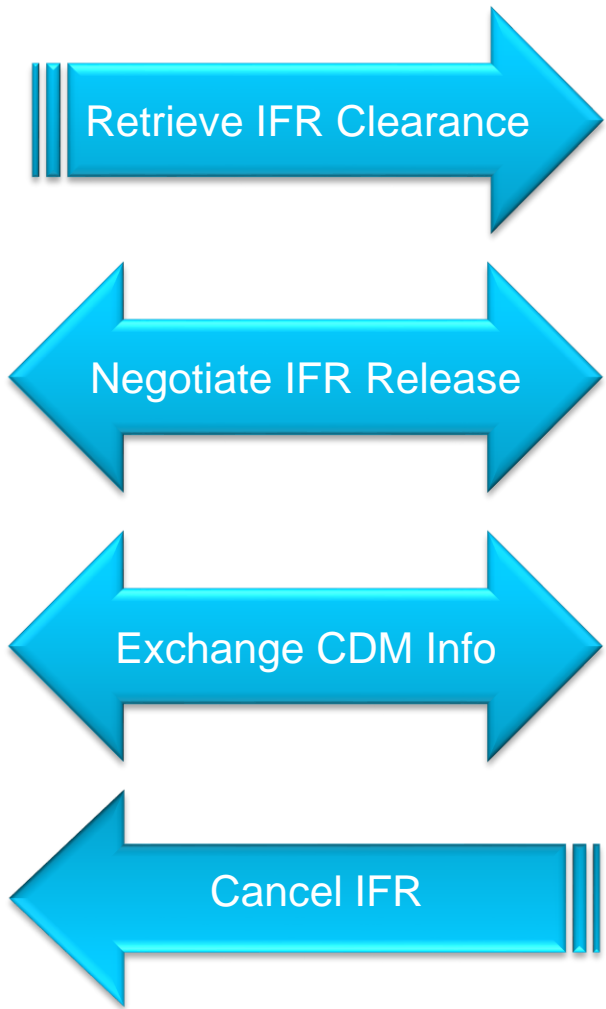
Thank you!

*Cleared to GVL,
CARTT, FREEZ,
ODF M 30*

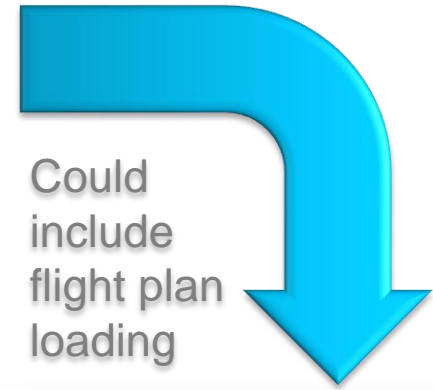


CARTT is Charlie Alpha Romeo Tango Tango;
FREEZ is Foxtrot, Romeo, Echo, Echo, Zulu;
and Foothills is Oscar Delta Foxtrot

Idea



MITRE Prototype



Prototype Demonstration

Using Mobile Devices for IFR Clearance Delivery and Release

Link to Mobile IFR Clearance Delivery video on YouTube

<https://youtu.be/XdC2lCKtxdo>

Potential Benefits

■ Safety improvements

- Provide readily available alternative to departing in MVFR conditions and subsequently picking up an IFR clearance in the air

■ Time and fuel savings

- Delayed engine start – easier to obtain clarity on release time
- Reduced pilot/controller workload
- Reduction in the need to relay clearance through FSS

■ Efficiency improvements

- Reduced arrival/departure delay – improved airport throughput
- Pilot clarity on clearance content (particularly text-based route)
- Reminder to pilot to cancel IFR after landing (using Location Services)
- Controller visual awareness of aircraft position on airport (using Location Services – situational awareness only – not for separation purposes)

■ Other benefits

- Capability creates a real-time, traceable record of the clearance transaction

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