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Data Communications Program

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Data Comm Overview

- → **Provides data communications services between pilots and air traffic controllers, supplementing existing voice communications capabilities**

- → **Provides a data link between ground automation systems and flight deck avionics for air traffic control (ATC) clearances, instructions, traffic flow management, and flight crew requests**

- → **Controllers will be able to deliver instructions with a push of a button and without the need to utilize voice frequencies**

- → **Enables the transmission of complex instructions that can be quickly and correctly loaded into an aircraft's flight management system, upon acceptance by the pilot**

- → **Enables NextGen Initiatives and Trajectory-Based Operations**

Data Comm Program Benefits

Reduce communication time between controllers & pilots
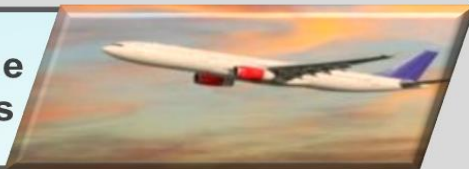
Improve re-routing around weather and congestion

Increase flexibility and accommodation of user requests

Enable NextGen Initiatives & Trajectory-Based Operations

Controller/Pilot Efficiency
- Communication Time

Throughput/Efficiency
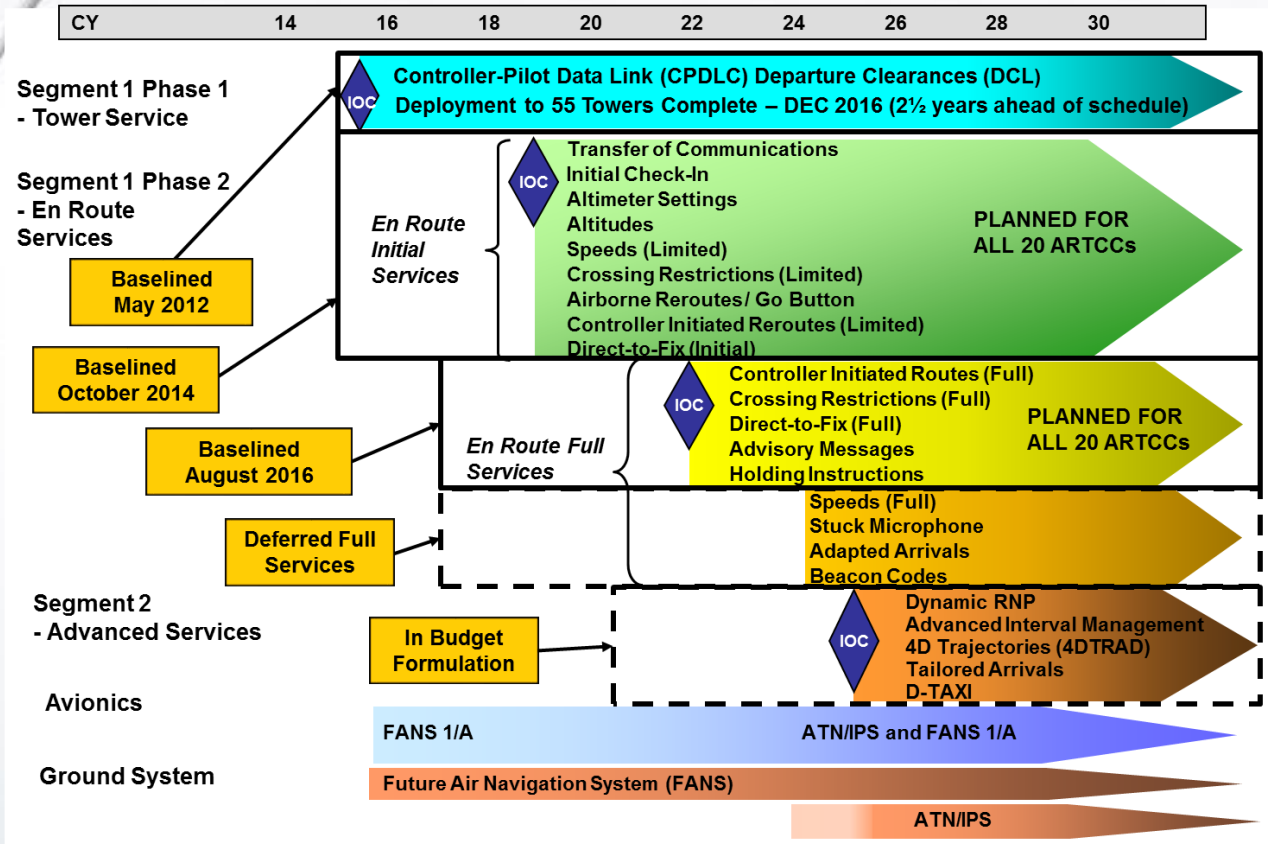- Delay
- Fuel Burn

Environmental
- Emissions (CO_2)

Safety
- Read/hear back errors
- Loss of Comm events

Data Comm Program Services Roadmap

Data Comm Tower Services

Key Sites

Site Name	Site ID	ARTCC ID	IOC
Boise (Non-CPDLC)	BOI	ZLC	06/10/15
KS 1: Salt Lake City	SLC	ZLC	08/07/15
KS 2: Houston Intcl	IAH	ZHU	09/03/15
KS 3: Houston Hobby	HOU	ZHU	09/10/15
NAP – NAP Intgr Compl	N/A	ZLC/ZT	09/30/15

Group A

Site Name	Site ID	ARTCC ID	IOC
New Orleans	MSY	ZHU	01/21/16
Austin	AUS	ZHU	02/04/16
San Antonio	SAT	ZHU	02/19/16
Los Angeles	LAX	ZLA	03/10/16
Las Vegas	LAS	ZLA	03/25/16
San Diego	SAN	ZLA	04/07/16
John Wayne	SNA	ZLA	04/25/16
Burbank	BUR	ZLA	05/06/16
Ontario	ONT	ZLA	05/18/16
San Francisco	SFO	ZOA	06/08/16
Oakland	OAK	ZOA	06/23/16
San Jose	SJC	ZOA	07/06/16
Sacramento	SMF	ZOA	07/20/16
Reno	RNO	ZOA	07/25/16
Phoenix	PHX	ZAB	08/10/16
El Paso (Non-CPDLC)	ELP	ZAB	08/29/16
Portland	PDX	ZSE	09/14/16
Seattle	SEA	ZSE	09/15/16
Albuquerque	ABQ	ZAB	09/21/16
Dallas Love	DAL	ZFW	10/10/16
Dallas FTW	DFW	ZFW	10/18/16
Will Rogers (Non-CPDLC)	OKC	ZFW	10/24/16
Honolulu (Non-CPDLC)	HNL		12/06/16
Anchorage (Non-CPDLC)	ANC		12/12/16
Reno	RNO	ZOA	02/26/18
Van Nuys (New TDLS)	VNY	ZLA	06/11/18

Group B

Site Name	Site ID	ARTC C ID	IOC
Louisville	SDF	ZID	02/10/16
Cincinnati (Non-CPDLC)	CVG	ZID	02/29/16
Indianapolis	IND	ZID	03/07/16
Columbus	CMH	ZID	03/11/16
Memphis	MEM	ZME	03/25/16
Nashville	BNA	ZME	04/13/16
Adams Field (Non-CPDLC)	LIT	ZME	04/17/16
Denver	DEN	ZDV	05/03/16
Atlanta	ATL	ZTL	05/19/16
Charlotte	CLT	ZTL	06/02/16
Greensboro (Non-CPDLC)	GSO	ZTL	06/07/16
Orlando	MCO	ZJX	06/30/16
Miami	MIA	ZMA	07/29/16
Ft Lauderdale	FLL	ZMA	08/12/16
Tampa	TPA	ZMA	08/29/16
St Louis	STL	ZKC	09/29/16
Kansas City	MCI	ZKC	10/11/16
Tulsa (Non-CPDLC)	TUL	ZKC	10/17/16
Minn-St Paul	MSP	ZMP	11/03/16
Eppley Field (Non-CPDLC)	OMA	ZMP	11/09/16
Jacksonville (Non-CPDLC)	JAX	ZJX	11/10/16
Palm Beach (Non-CPDLC)	PBI	ZMA	11/18/16
San Juan	SJU	ZMA	12/09/16
Columbus	CMH	ZID	04/09/18
Fort Myers (New TDLS)	RSW	ZMA	04/30/18
Charleston (New TDLS)	CHS	ZJX	05/14/18

Group C

Site Name	Site ID	ARTC C ID	IOC
Newark	EWR	ZNY	02/12/16
J F Kennedy	JFK	ZNY	02/25/16
La Guardia	LGA	ZNY	03/14/16
Teterboro	TEB	ZNY	03/24/16
Westchester	HPN	ZNY	04/12/16
Philadelphia	PHL	ZNY	04/22/16
Boston	BOS	ZBW	05/13/16
Providence (Non-CPDLC)	PVD	ZBW	05/13/16
Bradley	BDL	ZBW	06/10/16
Albany (Non-CPDLC)	ALB	ZBW	06/15/16
Detroit	DTW	ZOB	06/30/16
Cleveland	CLE	ZOB	07/13/16
Pittsburgh	PIT	ZOB	07/29/16
Buffalo	BUF	ZOB	07/29/16
Balt/Wash	BWI	ZDC	08/16/16
Dulles	IAD	ZDC	08/30/16
Reagan	DCA	ZDC	09/14/16
Chicago Midway	MDW	ZAU	10/19/16
Chicago O'Hare	ORD	ZAU	10/28/16
Raleigh/Durham	RDU	ZDC	11/02/16
Milwaukee	MKE	ZAU	12/08/16
Andrews	ADW	ZDC	11/08/17
Buffalo	BUF	ZOB	05/21/18

TDLS Sites Color Key

Site Operational	
Site Operational (PDC Only)	
Upgrade to CPDLC/DCL	
New PDC/CPDLC Tower	

- **In response to operator and site requests the program will implement Data Comm CPDLC DCL Tower Service to seven additional towers**
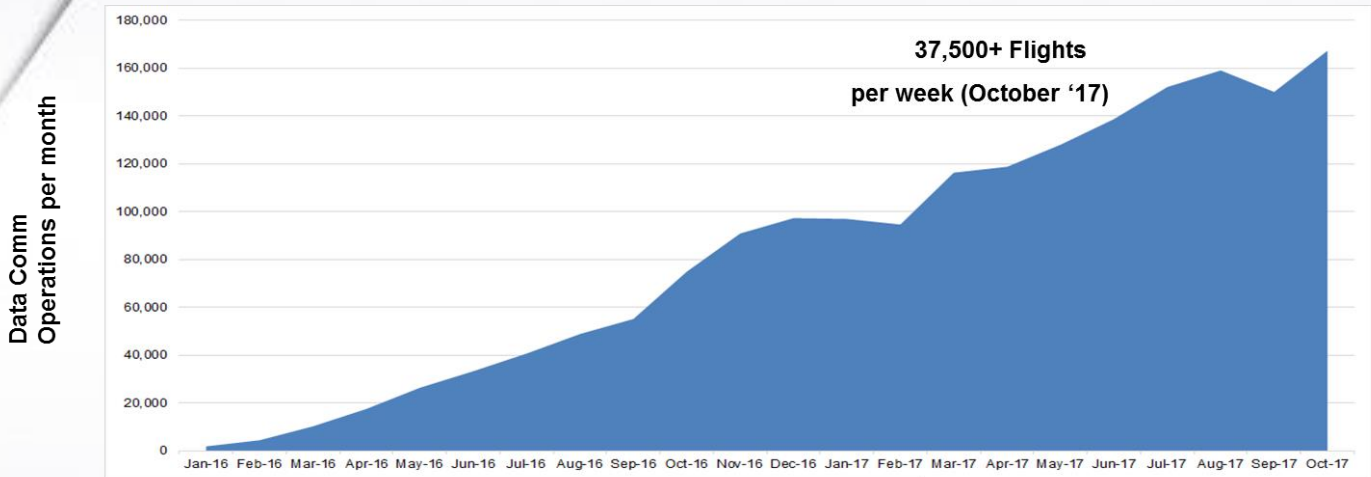 - ✓ Andrews (ADW)   Columbus (CMH)   Charleston (CHS)   Van Nuys (VNY)
  - Reno (RNO)   Fort Myers (RSW)   Buffalo (BUF)
- **Transitioned to National Single Data Authority (NSDA) on October 21-22**
  - Ready for En Route service deployment
  - Standardized Data Comm log on to KUSA

En Route Initial Services Waterfall

20 ZSE
11/22/19

18 ZLC
10/25/19

7 ZMP
4/12/19

11 ZBW
7/12/19

19 ZOA
11/8/19

16 ZDV
9/27/19

5 ZAU
3/15/19

8 ZOB
4/26/19

ZNY **9**
5/10/19

1 ZKC
10/1/18

3 ZID
11/1/18

10 ZDC
5/24/19

17 ZLA
10/11/19

15 ZAB
9/13/19

6 ZFW
3/29/19

2 ZME
10/15/18

4 ZTL
3/1/19

12 ZJX
7/26/19

14 ZHU
8/30/19

13 ZMA
8/16/19

Data Comm Avionics
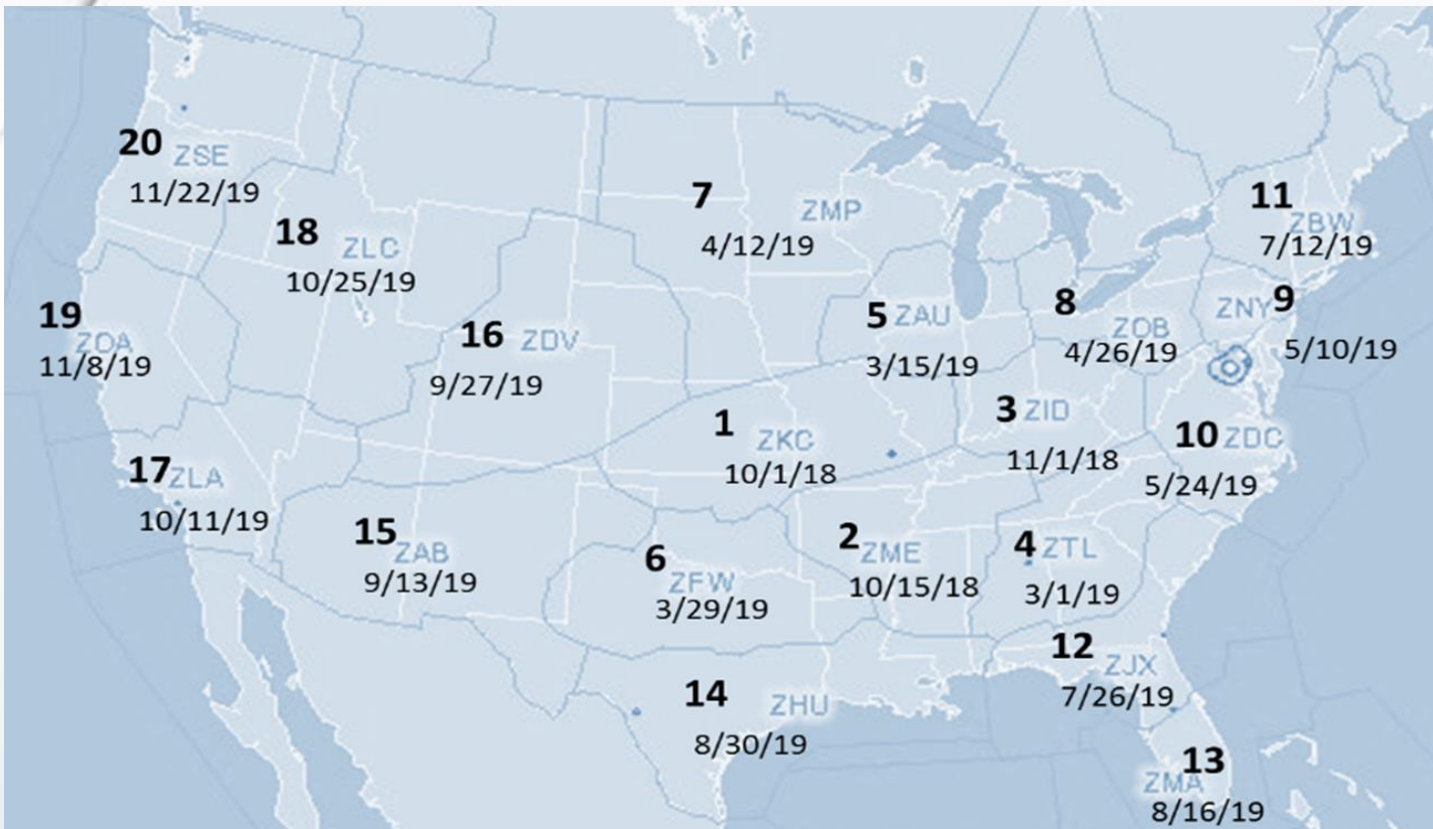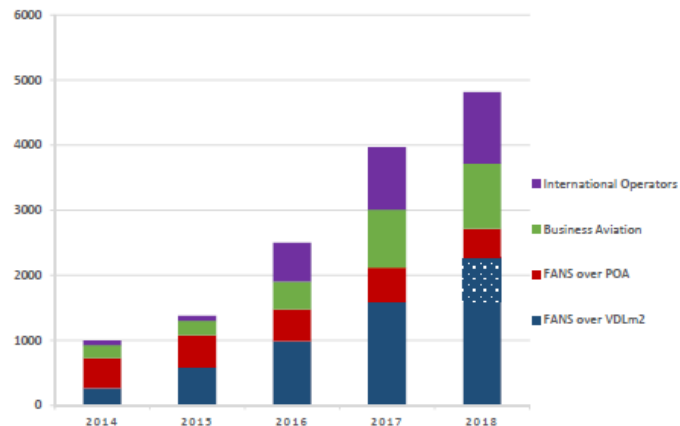
- **Initial service deployed with Future Air Navigation System (FANS) 1/A communications avionics**
  - Integrated avionics functionality supports all Segment 1 Tower and En Route services
  - Leverages avionics in operation in the NAS and Ocean today

- **Air-ground network is VHF Data Link (VDL) Mode 2**
  - Program accommodating VDL Mode 0 radios for Tower Service
  - Establishing monitoring framework related to VDL Mode 0 in En Route airspace

- **Equipage Initiative**
  - No rulemaking required for Segment 1 services
  - Program includes a target of at least 1,900 Data Comm capable aircraft
    - ➢ 3,988 Data Comm equipped aircraft operating in the NAS (as of 25 Oct)
    - ➢ 1,606 of the 3,988 were equipped through the incentive (as of 25 Oct)
  - An additional 774 DoD aircraft are equipped with Data Comm capable avionics

DATA COMM AIRCRAFT

Legend: International Operators, Business Aviation, FANS over POA, FANS over VDLm2

Years: 2014, 2015, 2016, 2017, 2018

Data Comm Benefits Snapshot

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Data Comm has delivered benefits to:

✈ **1,503,372 flights**

🎫 **217.9M passengers**

Air Carriers:	Business Aviation:	Different Aircraft:
12 US 39 Int'l	100+ Users	49 Types

Fast Facts:

- 58,000+ minutes of radio time saved
- 14,000+ minutes of delay savings – July 2017
- Prevented 2,500+ readback errors in 6 month period
- Reduced workload for ATC and pilots during busy periods
- 38,000+ operations a week

Results based on 2017 route-revised flights reporting on-time performance metrics.

- **Continuing to grow Tower Service operations**
  - Successfully transitioned to NSDA 10/21-22
  - Implementation for additional towers on schedule

- **Proceeding with Initial En Route CPDLC integration and test**

- **On track for starting En Route CPDLC operations in October 2018**
  - AC 90-117 published and available