Data Communications NextGen Program

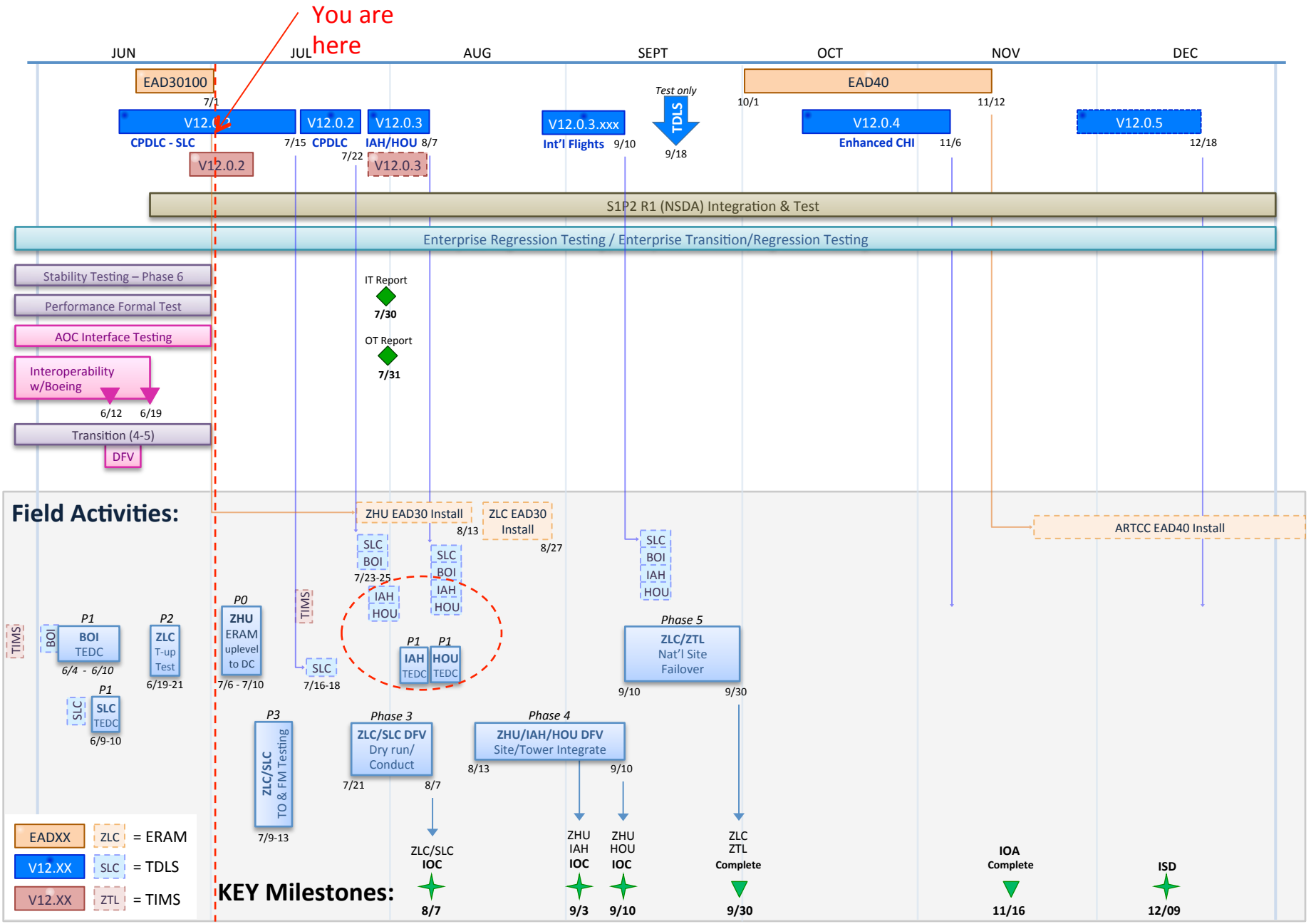
Path to In Service Decision (ISD) and Tower Waterfall Schedules

As of 7/2/2015

2015

Path to ISD

Draft v4.6



Data Comm S1P1 Tower Waterfall

Key Sites			
Site Name	Site ID	ARTCC ID	IOC[1]
Boise (Non-DCL)	BOI	ZLC	06/07/15
KS 1: Salt Lake City	SLC	ZLC	08/07/15
KS 2: Houston Intcl	IAH	ZHU	09/03/15
KS 3: Houston Hbby	HOU	ZHU	09/10/15
NAP – NAP Intgr Compl	NA	ZLC/ZT	09/30/15
IOA Compl			11/16/15
In-Service Decision			**12/09/15**

[1] IOC Dates apply only to the DCL Sites.
The Non-DCL sites do not have an IOC because they will only be upgrading to a new CHI.

Group A			
Site Name	Site ID	ARTCC ID	IOC
New Orleans	MSY	ZHU	01/25/16
Austin	AUS	ZHU	02/08/16
San Antonio	SAT	ZHU	02/22/16
Los Angeles	LAX	ZLA	03/14/16
Las Vegas	LAS	ZLA	03/28/16
San Diego	SAN	ZLA	04/11/16
John Wayne	SNA	ZLA	04/25/16
Bob Hope	BUR	ZLA	05/09/16
Ontario	ONT	ZLA	05/23/16
San Francisco	SFO	ZOA	06/14/16
Oakland	OAK	ZOA	06/28/16
San Jose	SJC	ZOA	07/13/16
Sacramento	SMF	ZOA	07/27/16
Reno (Non-DCL)	RNO	ZOA	07/27/16
Phoenix	PHX	ZAB	08/17/16
Albuquerque	ABQ	ZAB	08/31/16
El Paso (Non-DCL)	ELP	ZAB	08/31/16
Seattle	SEA	ZSE	09/22/16
Portland (Non-DCL)	PDX	ZSE	09/22/16
Dallas Love	DAL	ZFW	10/13/16
Dallas FTW	DFW	ZFW	10/27/16
Will Rogers (Non-DCL)	OKC	ZFW	10/27/16
Honolulu (Non-DCL)	HNL		11/03/16
Anchorage (Non-DCL)	ANC		11/10/16

Group B			
Site Name	Site ID	ARTC C ID	IOC
Louisville	SDF	ZID	02/15/16
Indianapolis	IND	ZID	02/29/16
Cincinnati	CVG	ZID	03/14/16
Fort Columbus (Non-DCL)	CMH	ZID	03/14/16
Memphis	MEM	ZME	04/04/16
Nashville	BNA	ZME	04/18/16
Adams Field (Non-DCL)	LIT	ZME	04/18/16
Denver	DEN	ZDV	05/09/16
Atlanta	ATL	ZTL	05/23/16
Charlotte	CLT	ZTL	06/07/16
Piedmont (Non-DCL)	GSO	ZTL	06/07/16
Jacksonville	JAX	ZJX	06/28/16
Orlando	MCO	ZJX	07/13/16
Miami	MIA	ZMA	08/03/16
Ft Lauderdale	FLL	ZMA	08/17/16
Tampa	TPA	ZMA	08/31/16
Palm Beach	PBI	ZMA	09/15/16
Luis Munos Marin (Non-DCL)	SJU	ZMA	09/15/16
St Louis	STL	ZKC	10/06/16
Kansas City	MCI	ZKC	10/20/16
Tulsa (Non-DCL)	TUL	ZKC	10/27/16
Minn-St Paul	MSP	ZMP	11/10/16
Eppley Field (Non-DCL)	OMA	ZMP	11/10/16

Group C			
Site Name	Site ID	ARTC C ID	IOC
Newark	EWR	ZNY	02/15/16
J F Kennedy	JFK	ZNY	02/29/16
La Guardia	LGA	ZNY	03/14/16
Teterboro	TEB	ZNY	03/28/16
Westchester	HPN	ZNY	04/11/16
Philadelphia	PHL	ZNY	04/25/16
Boston	BOS	ZBW	05/16/16
Providence	PVD	ZBW	05/31/16
Bradley	BDL	ZBW	06/14/16
Albany (Non-DCL)	ALB	ZBW	06/14/16
Detroit	DTW	ZOB	07/06/16
Cleveland	CLE	ZOB	07/20/16
Pittsburgh	PIT	ZOB	08/03/16
Buffalo (Non-DCL)	BUF	ZOB	08/03/16
Balt/Wash	BWI	ZDC	08/24/16
Dulles	IAD	ZDC	09/08/16
Reagan	DCA	ZDC	09/22/16
Raleigh/Durham	RDU	ZDC	10/06/16
Andrews (Non-DCL)	ADW	ZDC	10/06/16
Chicago Midway	MDW	ZAU	10/27/16
Chicago O'Hare	ORD	ZAU	11/10/16
General Mitchell (Non-DCL)	MKE	ZAU	11/10/16

Data Communications Program

6-Month Briefing

Presented To: Air Traffic and Technical Operations

Presented By: Data Comm Program

September 2013

Agenda

Intro & Objectives

- Schedule Overview
- IOC Criteria

Architecture/Service Overview

- Service Flow
- PDC Descriptions
- Expected Equipage
- Certification Items

Training

- Tech Ops Training Activities
- Air Traffic Training Activities

Implementation

- Site Transition Phase Review
- Operator Coordination
- STR/DFV Execution Management
- Site Communications

Action Review / Summary

Program Office POCs

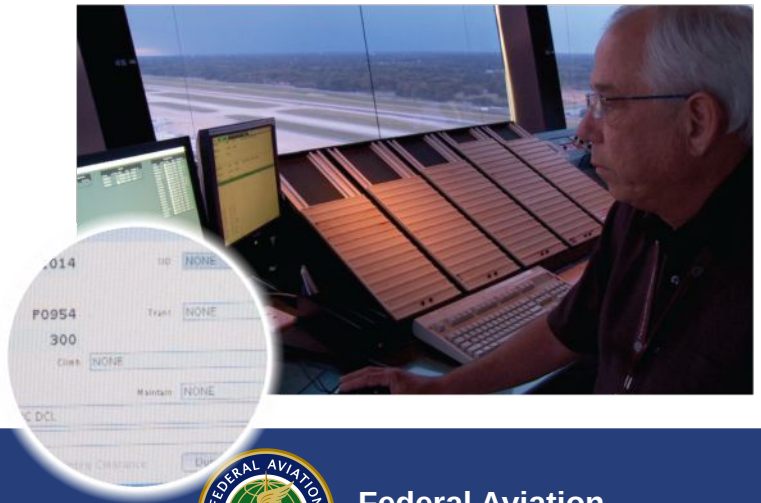
Program Acronym Listing

Briefing Objective

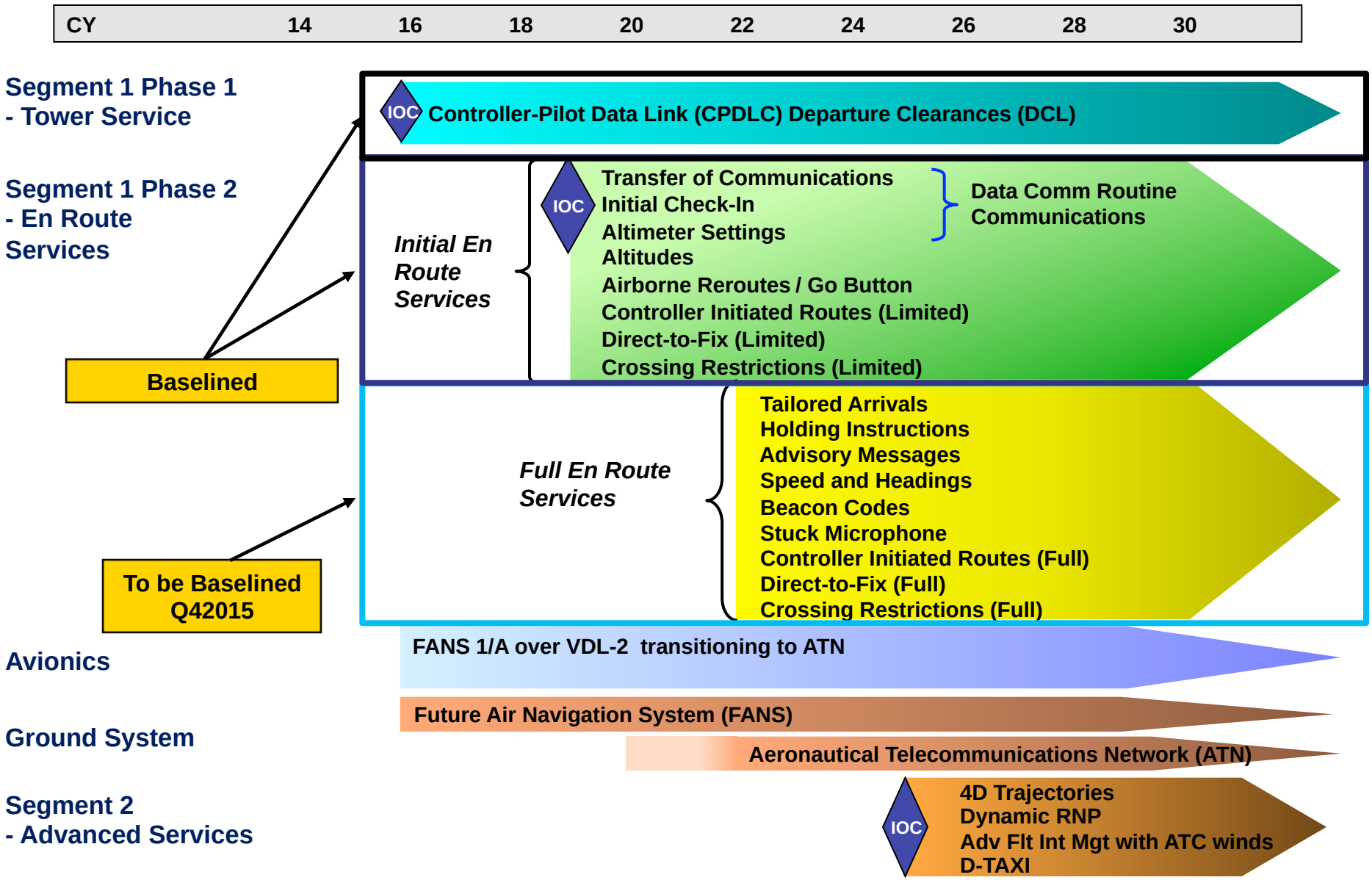
To review status of Data Comm and begin implementation planning with parent ARTCC and connected towers, leading to operational acceptance and IOC of CPDLC service.

Program 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 to be quickly and correctly loaded into an aircraft's flight management system, upon acceptance by the pilot



Program Services Roadmap



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Sacramento	SMF	ZOA	07/27/16
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Phoenix	PHX	ZAB	08/17/16
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Luis Munos Marin (Non-DCL)	SJU	ZMA	09/15/16
St Louis	STL	ZKC	10/06/16
Kansas City	MCI	ZKC	10/20/16
Tulsa (Non-DCL)	TUL	ZKC	10/27/16
Minn-St Paul	MSP	ZMP	11/10/16
Eppley Field (Non-DCL)	OMA	ZMP	11/10/16

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Westchester	HPN	ZNY	04/11/16
Philadelphia	PHL	ZNY	04/25/16
Boston	BOS	ZBW	05/16/16
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Bradley	BDL	ZBW	06/14/16
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IOC Criteria

CPDLC IOC Criteria

1. STR-ERAM-055 (TEDC Turn-up) and STR-ERAM-058 (Parent ERAM Turn-up and DFV) have run successfully including the DCL Function Verification (DFV) completed and witnessed by Site Personnel.
2. All Certification checks/procedures completed successfully at the National/Parent ARTCCs, and TDLS tower. Systems / Services certified prior to and during the 72-hour run to verify that Certification checks/procedures do not impact any services.
3. Air Traffic (AT) and Technical Operations (TO) final draft procedures, TIBS, Handbooks, etc. are available
4. FAA 2nd Level Engineering (En Route, IFCET) issue tracking, including the HARRIS Network Help Desk are ready to support the Data Comm End-to-End System.
5. Formal training and certification of Air Traffic and Technical Operations staff has been completed in accordance with Technical Training and Quota Management agreements.
6. Sufficient numbers of Flight Crews and Flight Dispatchers have been trained to participate in DFV Dry Run and Test Conduct and continue into operations.
7. The facilities agree that the system has had a suitable number of operations to assess service operational readiness. Ten (10) successful CPDLC DCL flights.
8. All AT, TO, and Flight Standards (if necessary) staff involved in witnessing the TDFV at the participating sites have sufficient confidence that the system and procedures work suitably to make the required FAA facility log entries and get Aircraft Ops Spec Approval.

CPDLC IOC Criteria under DFV

DFV will cover the IOC criteria the DCL Functional Verification is centered on nine test areas:

- Successful Certification of Systems and Services at the National/ Parent ARTCCs, and TDLS tower.
- Successful aircraft logon,
- Successful downlink clearance request (DM25),
- Successful initial clearances (Cleared as Filed (CAF) UM79, UM80),
- Successful revised clearances (UM79, UM80) single element revisions, [Note: UM83 – will not be sent until switch is turned on]
- Proper route content,
- Proper downlink responses,
- Successful connection termination,
- Successful management of non-nominal conditions including:
  - » Ability to make and interpret logon queries
  - » Add/Remove Aircraft from Blocked List

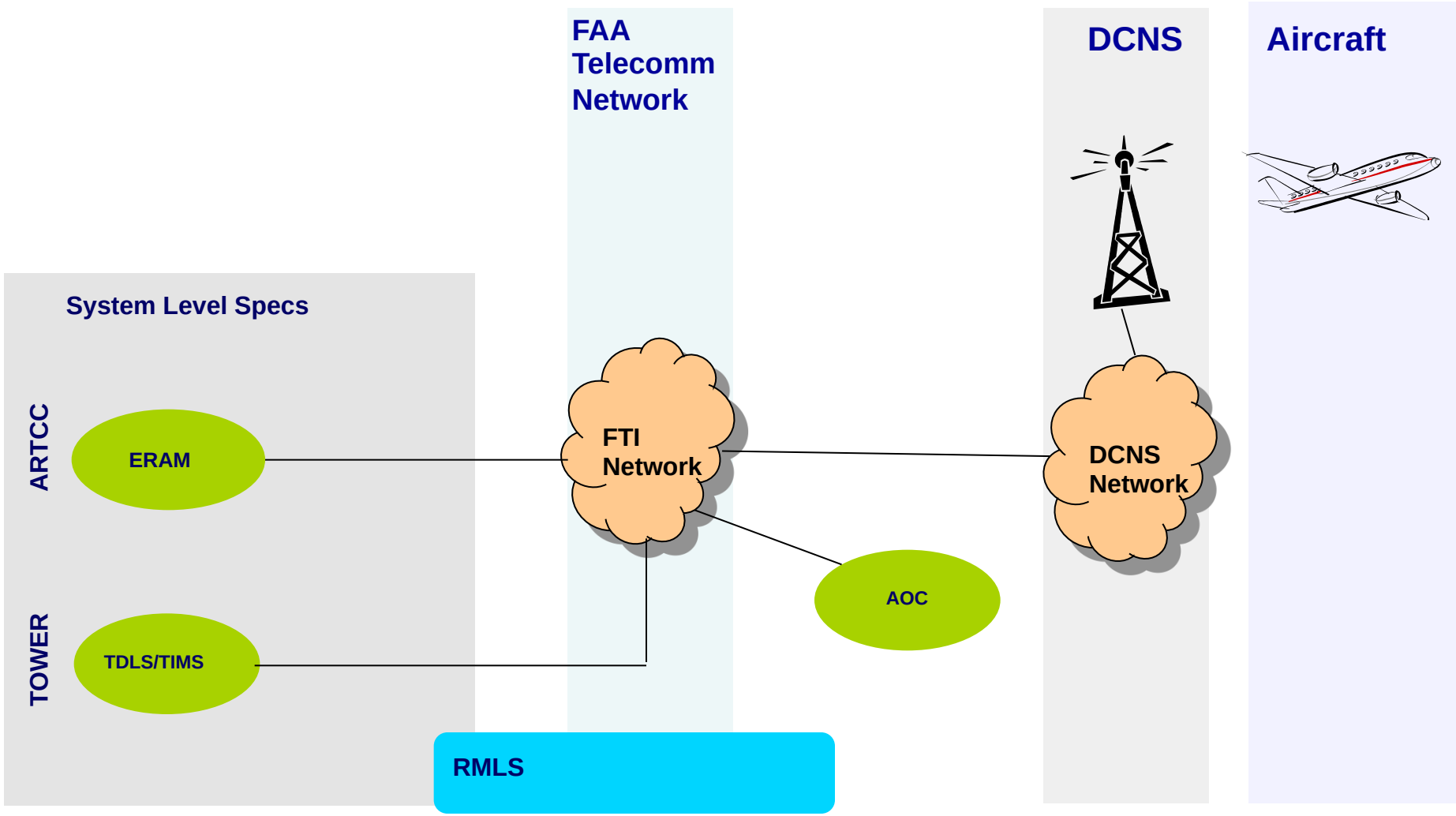
Airline CPDLC IOC Criteria

Predominance of Carriers meet the following:

- A056 approved by POI
- Training complete, pilot and dispatcher
- Sufficient back office automation to support operations

Architecture & Service Overview

Data Comm Architecture



Tower Service Requirements

- **En Route Automation Modernization (ERAM)**
  - Need ERAM Data Comm Release (EAD) running at one of the National Sites (ZLC or ZTL) and Parent ERAM prior to IOC
- **Tower Data Link Services (TDLS)**
  - Complete rollout of TDLS Tech Refresh (V11)
  - Need TDLS Departure Clearance (DCL) Release (V12) running at the IOC Keysite
- **Data Comm Network Services (DCNS)**
  - Need DCNS tested and accepted and interfaced to one of the ERAM National Sites to support IOC
- **FAA Telecommunications Infrastructure (FTI)**
  - Need all required FTI services ordered and in place to support IOC
- **Avionics**
  - Equipped aircraft (FANS 1/A and VDL-2) to support Data Comm implementation waterfall

Key Data Comm Terminology

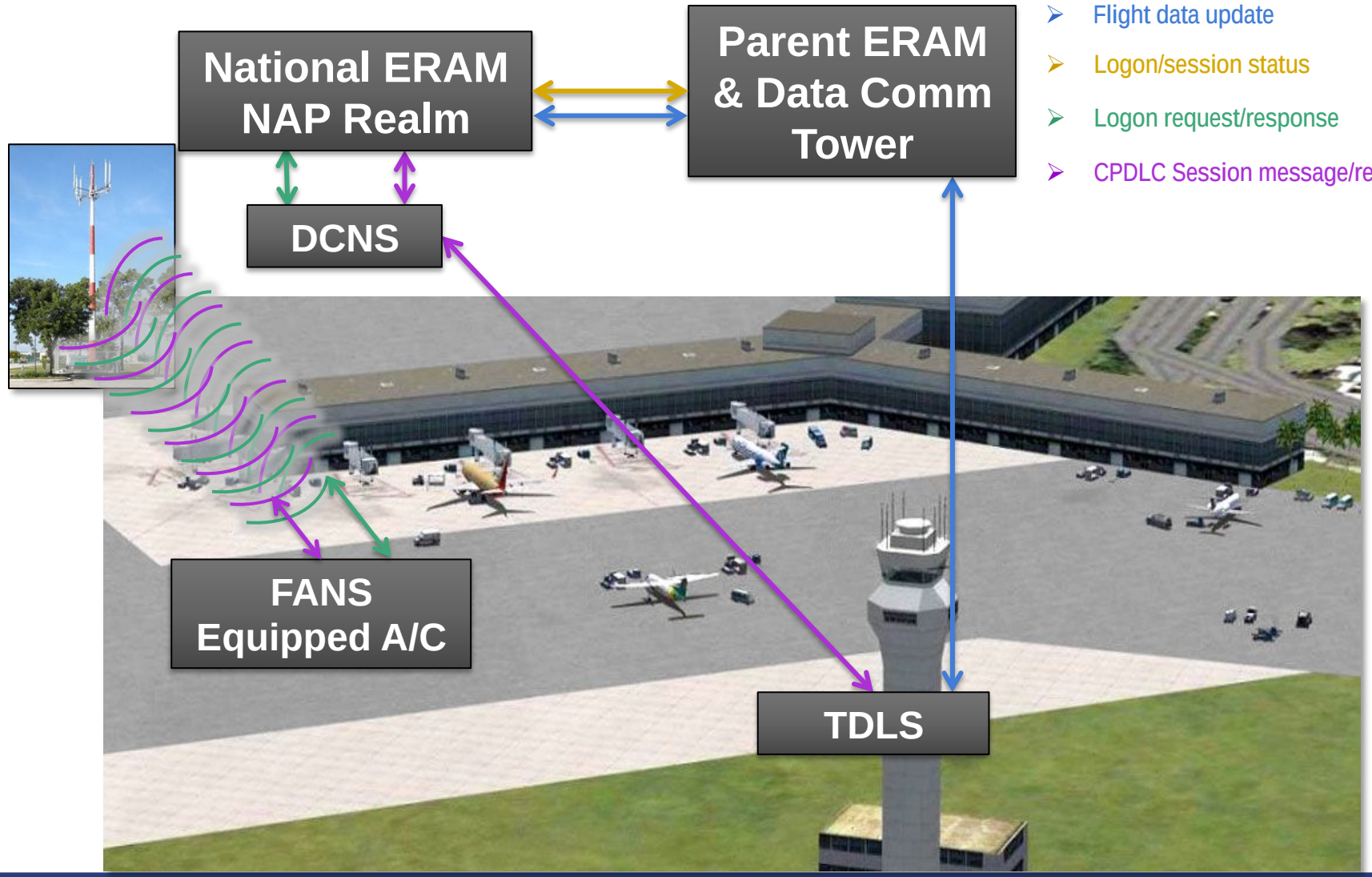
- ***Logon:*** Pilot requests DCL service via logon. Logon processing performed to establish the identity and data communications capabilities of a flight desiring data communication services

- ***Correlation:*** Process to ensure a controller-to-pilot data link communications (CPDLC) session is established with *one and only one* aircraft and an individual flight plan

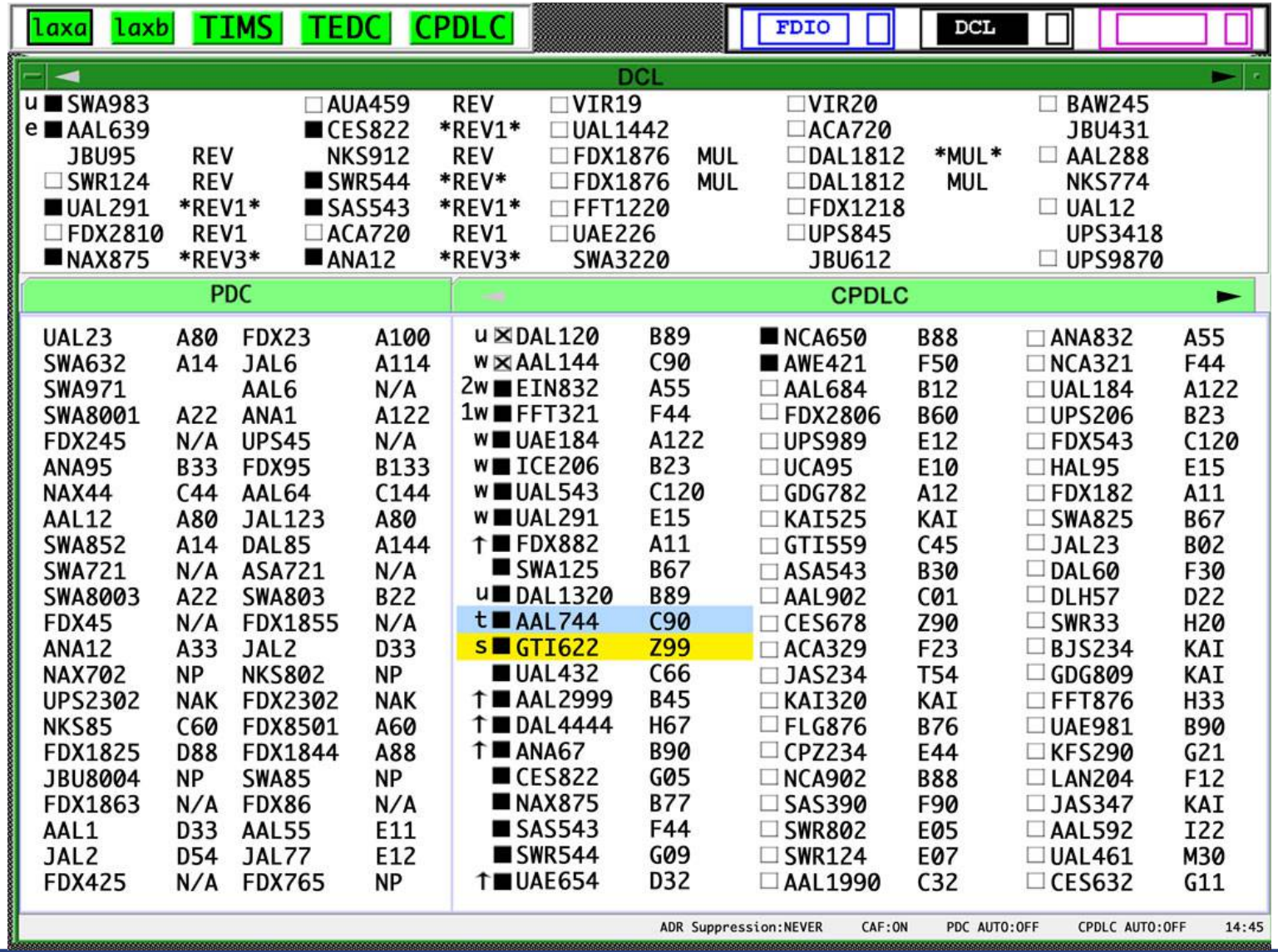
- ***Session:*** A virtual connection between TDLS and the aircraft for the exchange of CPDLC messages

- ***Blocked List:*** List of aircraft disallowed from logging on. Blocked status for an aircraft may be system-generated (e.g., too many invalid logon attempts) or manually added (or removed) from an AT Specialist Workstation

CPDLC Message Data Flow



DCL Application – V12



ZID Towers Expected Airline Equipage

*Note: Some daily variations expected due to seasonality, schedule changes, and flight crew availability

Estimated Average Daily Operations

AIRPORT	Minimum Expected OPS per day	Likely Projected Total OPS per day in FY16	% of Total OPS per day in 2016
KSDF	43	46	22%
KCVG	5	7	4%
KIND	8	19	9%

ZNY Towers Expected Airline Equipage

*Note: Some daily variations expected due to seasonality, schedule changes, and flight crew availability

Estimated Average Daily Operations

Airport	Minimum Expected OPS per day	Likely projected total OPS per day in FY16	% of Total OPS per day in 2016
KLGA	1	45	9%
KPHL	12	29	5%
KEWR	84	114	23%
KJFK	132	160	27%
KTEB	8	8	3%
KHPN	4	4	3%

ZHU Towers Expected Airline Equipage

*Note: Some daily variations expected due to seasonality, schedule changes, and flight crew availability

Estimated Average Daily Operations

Airport	Minimum Expected OPS per day	Likely projected Total OPS per day in FY16	% of Total OPS per day in 2016
KSAT	3	21	10%
KAUS	3	20	9%
KMSY	2	14	8%

Local 48 Team

- **Role**
  - Facility Representatives with decision making authority
    - Fully expected to brief and consult with your ATM and FACREP
    - Collaborative Team
- **Responsibilities**
  - Facility TDLS Application Specialists (TAS)
    - Attend TAS Training as a Team
  - **Training**
    - Facility Air Traffic DCL Training Cadre
    - Develop Training Schedules
    - Brief Procedures and new Automated Clearance Order
  - **Procedure Development**
    - Develop Strip marking
    - Develop Standard Operating Practices
  - **Testing support**
    - Support Site Testing and verify facility is ready to accept service
  - **Participate in Program Office DCL Telecoms and Site Visits**
  - **Document system issues and report**
  - **Implement and Train future enhancements to TDLS**

Data Communications Certification Plan

- **Basic Overview**
  - Certification is a component of each individual NAS system
  - Certification Types
    - Event Based (System)
    - Service Level (Periodic)
- **Certification Expectations**
  - Procedures developed and delivered by each Office of Primary Responsibility (OPR)
  - During test FAA SMEs exercise all certification procedures, both Event Based & Service Level for both EAS & TDLS
- **TDLS adds a new Service level Certification**
  - CPDLC
- **EAS has enhanced Event Based and Service Level**
  - EAS Event Based and CFAD at all 20 ARTCCs

Data Communications Service Level Certification

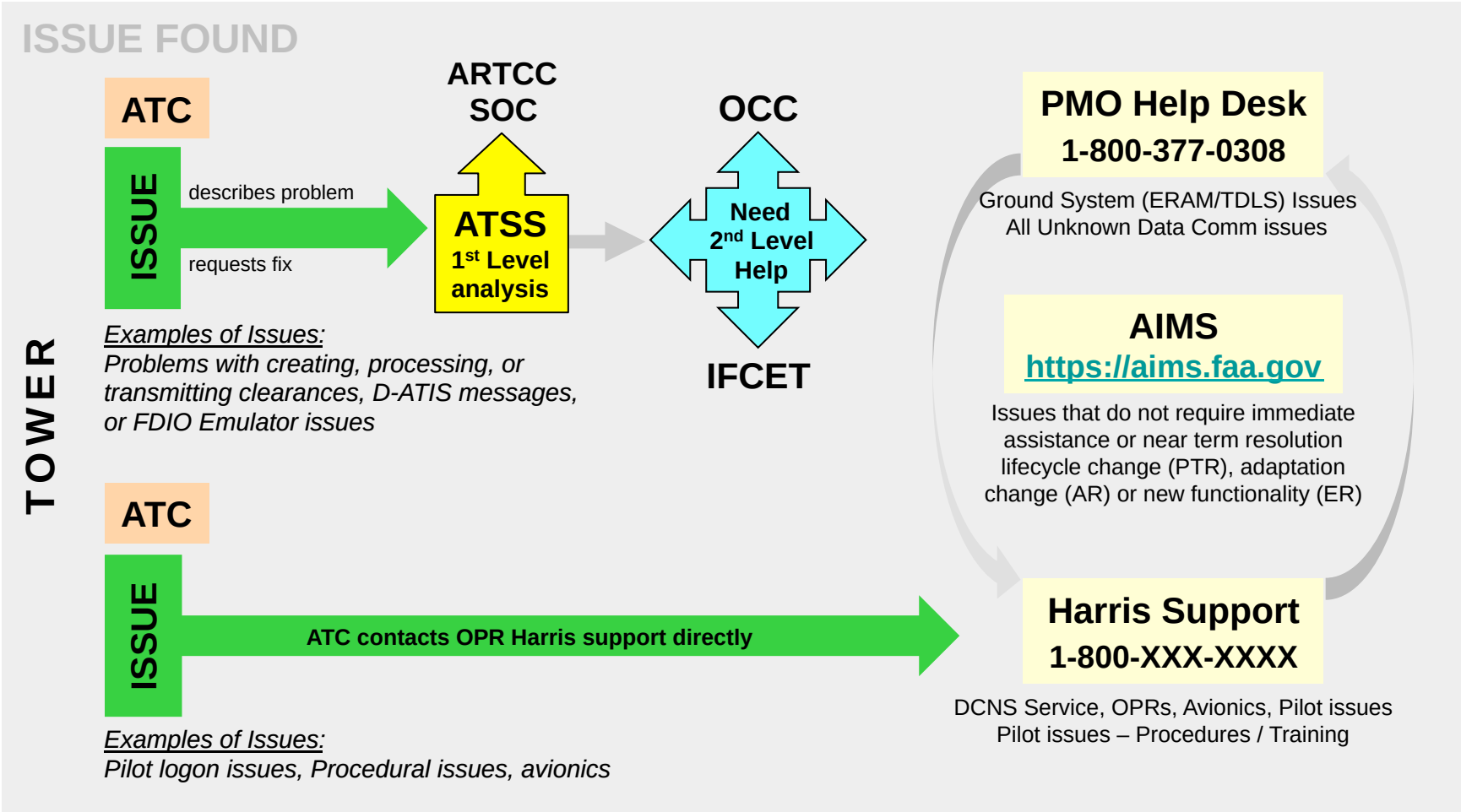
- **Maintenance Handbook (MTHB) Office of Primary Responsibility (OPRs) for TDLS (AJW-178) and EAS (AJM-25) will develop certification procedures verified by NAS Policy (AJW-137). SLE, program management, subject matter experts, and field technical personnel will provide input to the OPRs for the Maintenance Handbook (MTHB) and Technical Instructions (TIs) content IAW1320.58, section 2.**
- **Parrot Suite provides NAP validations of log on capability for the ARTCCs**
- **Parrot Suite will be provided for 'end-to-end' validation of test message transmit and expected reply from a simulated flight deck.**
- **NAPRS guidance will be updated to reflect new service capabilities and certification.**

NAPRS

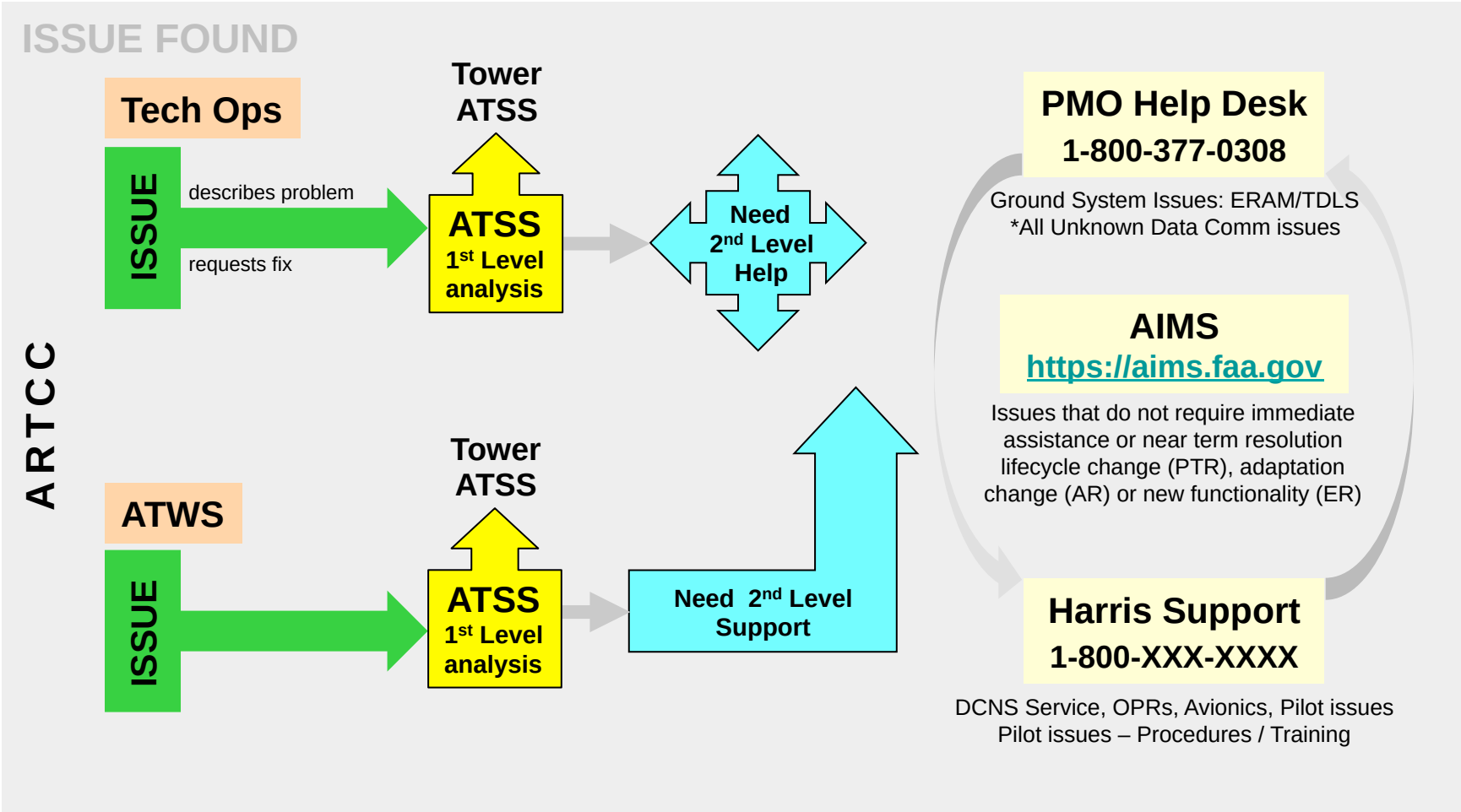
- **NAPRS Reporting Details**

Issue Tracking

Data Comm First / Second Level Flow



Data Comm First / Second Level Flow



Which one? PMO Help Desk – AIMS – OPR

PMO Help Desk

- ✓ issues that require immediate assistance (System recovery, Installation issues, Chart date issues, critical Maintenance Tasks, Certification issues, etc.)
- ✓ Issue is affecting ATC capabilities and/or issue is blocking the use of the system
- ✓ Security Related issues (alerts, suspect system behavior, etc.)
- ✓ As directed by SSD, Tech Manuals, Mailboxes, etc.

Automation Issues Management System (AIMS)

- ✓ Issues that do not require immediate assistance or near term resolution
- ✓ Issues causing a lifecycle change (PTR, CR), Requesting new functionality (ER) or Adaptation fix (AR)

Operational Problem Report (OPR)

- ✓ Issues related to ARINC 623 and Logon, Clearance Request, or Avionics Events
- ✓ Issues related to specific fields: Aircraft Call Sign, Strip Number, Submitter/User, Tower Location, Date/Time, Problem Description, and/or Tail Numbers

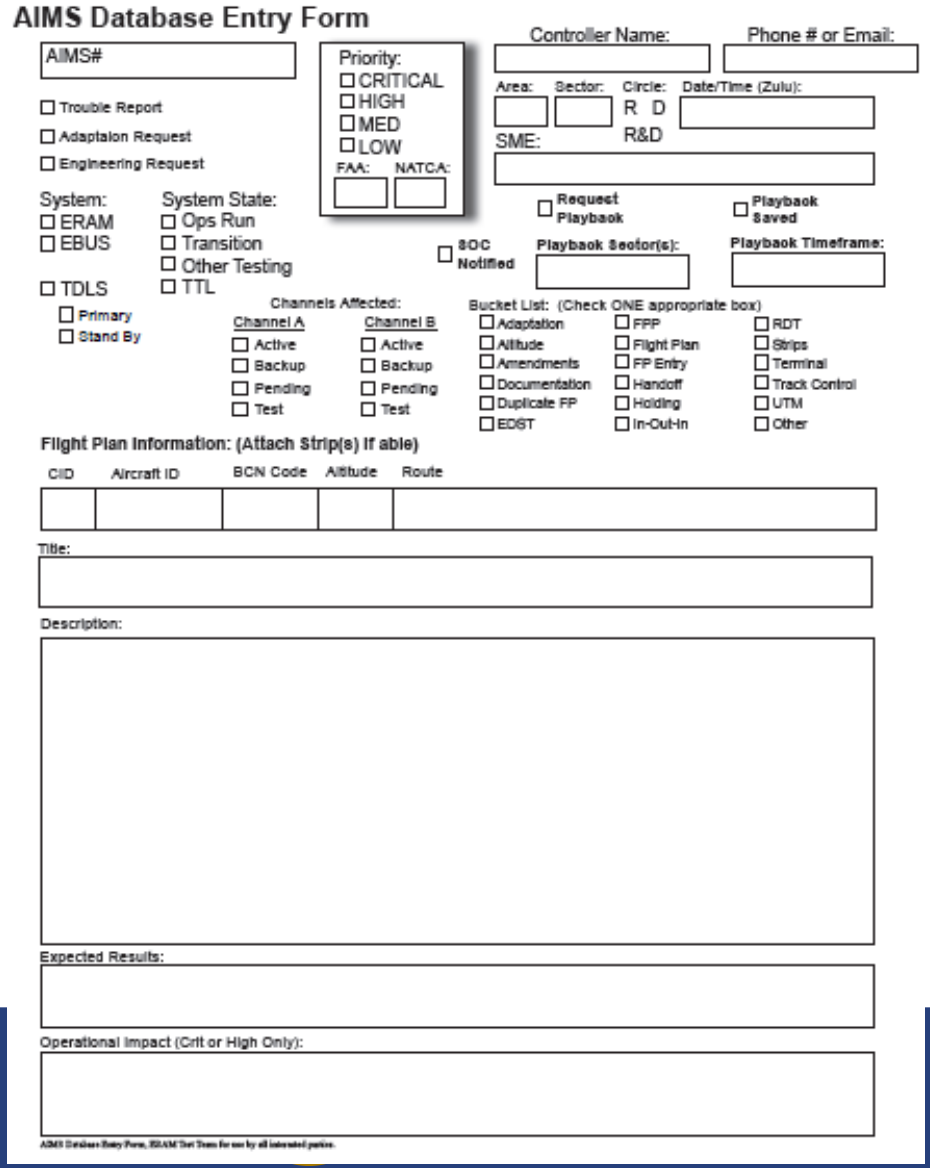
***Note: AIMS Tickets may be opened in concert with HD and OPR Tickets for site tracking purposes**

Issue Tracking/Problem Reporting Process
AIMS Form Sample

Types of problems:
- System issues requiring SW fix
- Issues resulting in lifecycle change
- Request for new functionality (ER)
- Request for Adaptation fix (AR)

Required Fields:
- Report Type (TR, ER, AR)
- Date/Time
- Title
- Description

Important Fields:
- System State
- Priority (based on Ops impact)
- Controller Name / Phone or email


AIMS Database Entry Form

AIMS#

Priority: CRITICAL HIGH MED LOW FAA: NATCA:

Controller Name: Phone # or Email:

Area: Sector: Circle: R D R&D Date/Time (Zulu):

SME:

Trouble Report
Adaptation Request
Engineering Request

System: ERAM EBUS TDLS (Primary, Stand By)

System State: Ops Run, Transition, Other Testing, TTL

Request Playbook | Playbook Saved | SOC Notified | Playbook Sector(s): | Playbook Timeframe:

Channels Affected:

Channel A	Channel B
Active	Active
Backup	Backup
Pending	Pending
Test	Test

Bucket List: (Check ONE appropriate box)

Adaptation	FPP	RDT
Altitude	Flight Plan	Strips
Amendments	FP Entry	Terminal
Documentation	Handoff	Track Control
Duplicate FP	Holding	UTM
EDST	In-Out-In	Other

Flight Plan Information: (Attach Strip(s) if able)

CID	Aircraft ID	BCN Code	Altitude	Route

Title:

Description:

Expected Results:

Operational Impact (Crit or High Only):

Issue Tracking/Problem Reporting Process Cont.'

Harris OPR Form

Types of problems:

- Logon Events
- Clearance Request Events (DM25)
- ARINC 623
- Avionics Events
- Etc.

Important Fields:

- Aircraft Call Sign
- Strip Number
- Submitter/User
- Tower Location
- Date/Time
- Problem Description
- Tail Number

Data Comm
Operational Problem Report Ticket

Helpdesk Contact Information:
Phone: (888) 902-3633
Fax: (321) 837-5621
Email: OPR@Harris.com

(Fields marked with BOLD* are required)

General Information
Incident Date:*
Location:*
Incident Time:
Organization:
Role:

Flight Information
Flight ID:*
Tail #
Strip ID:
Carrier:
Non-Flight Related
Multiple Flights
(If multiple, include information on each flight in Problem Description)

Submitter information
Full Name:
Phone:
Email:

Contact Representative (for your organization)
Full Name:
Phone:
Email:
Same as Submitter

Problem Description*

Attach Strip here if available:

Training

Data Communications Training

- **Overview**
  - High level for any Air Traffic Employee (eLMS approx. 1 hr)
  - High level for any Technical Operations Employee (eLMS approx. 1 hr)
  - Roles & Responsibilities for Technical Employees (First/ Second/Support) with a Data Communications responsibility (via TDLS-ERAM-FTI-OCC-FAST-Second Level, etc.) eLMS approx. 2 hours
  - OCC / NEMC / SOC (eLMS approx. 4 hr - target audience - employees with a Monitoring / Logging responsibility

Terminal Domain Training

- **Air Traffic**
  - Air Traffic Controller/Assistant (eLMS approx. 4 hr total - target audience - 2152s/2154s at TDLS facilities
    - PDC Course – 2 hrs
    - CPDLC Course – 2 hrs
  - TDLS Application Specialist (ILT approx. 24 hr - target audience - two (2) 2152s per TDLS facilities – adaptation / configuration training
    - Location: MMAC, OK
    - Travel: Mon & Fri of scheduled week
- **Technical Operations**
  - TDLS V12 Delta for ATSSs WBT ~8hrs target audience - 2101s who have a TDLS maintenance responsibility
  - TDLS Second Level (ILT approx 80 hr)

En Route Domain Training

- **Air Traffic**
  - Flight Data Specialist (eLMS approx. 1 hr - target audience 2154s)
- **Technical Operations**
  - Service Management (eLMS approx. 8 hr - target audience - every Technical Operations Specialist (NAS/NOM) with a ERAM maintenance responsibility; Also available to Second Level and FAST

Tech Ops Training Events

En Route		
All ARTCCs	En Route Parent ERAM Service Mgt. Course #: FAA49294001 (eLMS)	ZHU: 4/15 - 08/10/15 ZID: 11/2-12/10/15 ZNY: 11/2-12/10/15
Terminal (Familiarization)		
IAH	Tech Ops ATSS Training Window	08/03 – 10/01
HOU	Tech Ops ATSS Training Window	08/03 - 10/28
MSY	Tech Ops ATSS Training Window	06/25-01/25/16
AUS	Tech Ops ATSS Training Window	07/10-02/10/16
SAT	Tech Ops ATSS Training Window	07/24-02/22/16
SDF/ EWR	Tech Ops ATSS Training Window	07/17-02/15/16
IND/JFK	Tech Ops ATSS Training Window	07/31-02/29/16
CVG/LGA	Tech Ops ATSS Training Window	08/14-03/14/16
TEB	Tech Ops ATSS Training Window	08/28-03/28/16
HPN	Tech Ops ATSS Training Window	09/14-04/11/16
PHL	Tech Ops ATSS Training Window	09/28-04/25/16

IAH		TDLS V12 Turn-up start date
AT TAS Familiarization Training	06/08 – 06/12	
AT Workforce PDC PPT Training	06/22 – 07/10	7/09/15
AT Workforce V12 CPDLC PPT Training	08/10 – 08/22	
HOU		
AT TAS Familiarization Training	06/06 – 06/12	
AT Workforce PDC PPT Training	07/06 – 07/18	07/13/15
AT Workforce V12 CPDLC PPT Training	08/17 – 08/28	
MSY		
AT TAS Training Window	10/12-10/17	
AT Workforce Initial PDC	Completed by 12/03/15	12/03/15
AT Workforce Initial CPDLC	Complete by 1/11/16	
AUS		
AT TAS Training Window	10/12-10/17	
AT Workforce Initial PDC	Completed by 12/17/15	12/17/15
AT Workforce Initial CPDLC	Completed by 1/26/16	
SAT		
AT TAS Training Window	10/12-10/17	
AT Workforce Initial PDC	Completed by 01/19/16	1/19/16
AT Workforce Initial CPDLC	Completed by 2/09/16	

ZHU Towers Air Traffic Training Events

SDF		TDLS V12 Turn-up start date
AT TAS Training Window	10/12-12/03	
AT Workforce Initial PDC	Completed by 12/03	12/03/15
AT Workforce Initial CPDLC	Completed by 2/2/16	
IND		
AT TAS Training Window	11/17-01/26/16	
AT Workforce Initial PDC	Completed by 1/26/16	1/26/16
AT Workforce Initial CPDLC	Completed by 2/16/16	
CVG		
AT TAS Training Window	12/10-02/09/16	
AT Workforce Initial PDC	Completed by 02/09	2/09/16
AT Workforce Initial CPDLC	Completed by 3/1/16	
CMH		
AT TAS Training Window	01/19/16-03/01/16	
AT Workforce TDLS V12.x.x. PDC Training	Completed by 3/01/16	3/01/16

ZID Towers Air Traffic Training Events

EWR		TDLS V12 Turn-up start date
AT TAS Familiarization Training	10/12-12/03/15	
AT Workforce PDC PPT Training	Completed by 12/03/15	12/3/15
AT Workforce V12 CPDLC PPT Training	Completed by 02/02/16	
JFK		
AT TAS Familiarization Training	11/17-01/26/16	
AT Workforce PDC PPT Training	Completed by 01/26/16	1/26/16
AT Workforce V12 CPDLC PPT Training	Completed by 02/16/16	
LGA		
AT TAS Training Window	12/10—02/09/16	
AT Workforce PDC PPT Training	Completed by 2/09/16	2/09/16
AT Workforce CPDLC PPT Training	Completed by 3/01/16	
TEB		
AT TAS Training Window	1/11/16-2/23/16	
AT Workforce Initial PDC	Completed by 2/23/16	2/23/16
AT Workforce Initial CPDLC	Completed by 3/15/16	
HPN		
AT TAS Training Window	1/26/16-3/08/16	
AT Workforce Initial PDC	Completed by 3/08/16	3/08/16
AT Workforce Initial CPDLC	Completed 3/29/15	
PHL		
AT TAS Training Window	2/09/16-3/22/16	
AT Workforce Initial PDC	Completed by 3/22/16	3/22/16
AT Workforce Initial CPDLC	Completed by 4/12/16	

ZNY Towers Air Traffic Training Events

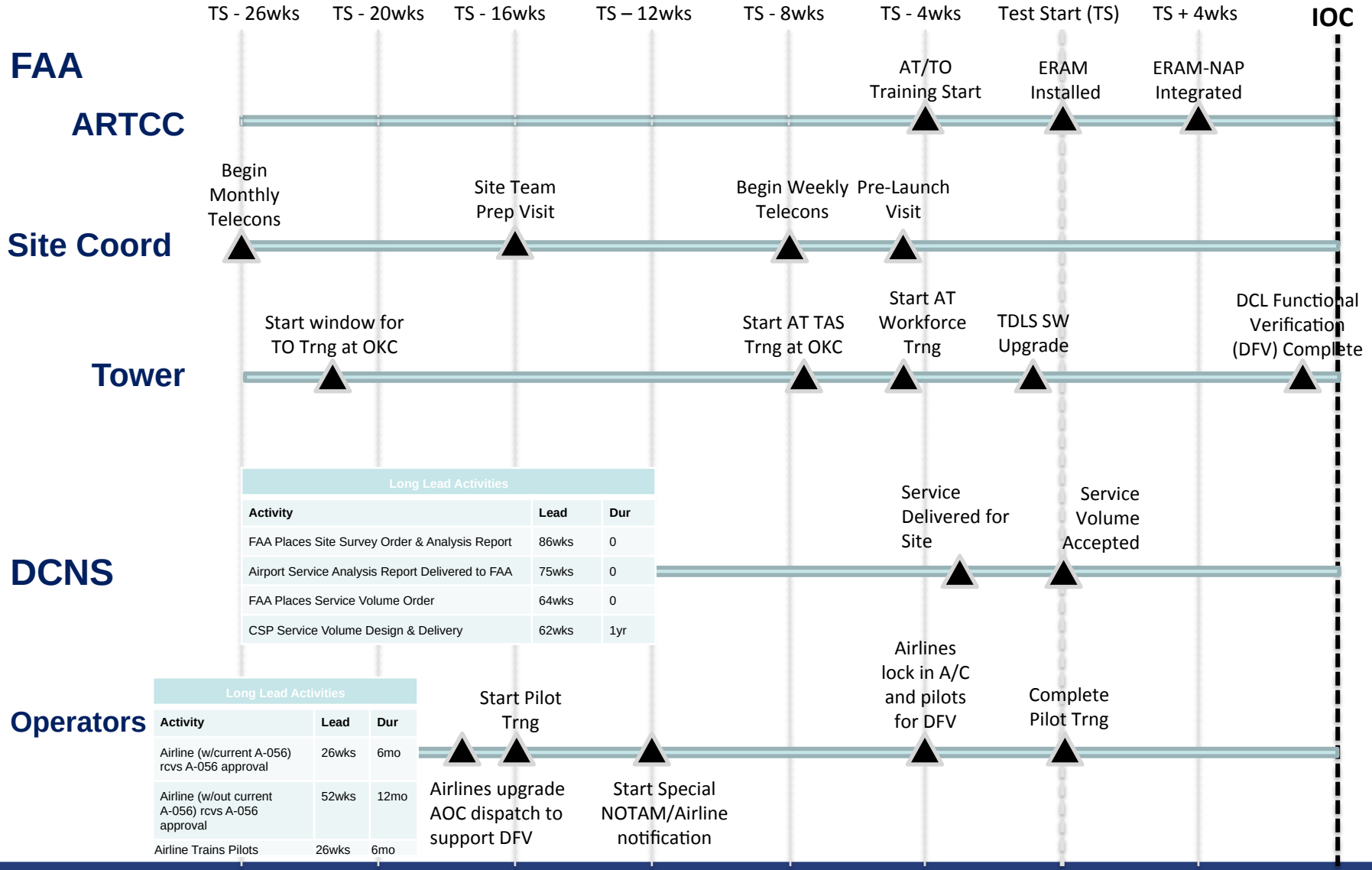
Supporting Documentation

The following are available to DCL sites via KSN or request:

- Site Specific Coordination Document (TBD)
- Master Data Comm System Deployment and Implementation Plan (MD&IP) – Available via KSN
- STRs – Available via En Route & Oceanic Systems PMO Terminal Field Operational Support Air Traffic Systems Help Desk and IFCET
- SSMs

Implementation

Data Comm – Site Milestones



Long Lead Activities		
Activity	**Lead**	**Dur**
FAA Places Site Survey Order & Analysis Report	86wks	0
Airport Service Analysis Report Delivered to FAA	75wks	0
FAA Places Service Volume Order	64wks	0
CSP Service Volume Design & Delivery	62wks	1yr

Long Lead Activities		
Activity	**Lead**	**Dur**
Airline (w/current A-056) rcvs A-056 approval	26wks	6mo
Airline (w/out current A-056) rcvs A-056 approval	52wks	12mo
Airline Trains Pilots	26wks	6mo

Data Communications Stakeholders

CPDLC Service Users

- Flight Crews
- ATCT Clearance Delivery
- Airline Operations/Flight Dispatchers

CPDLC Service Delivery Support

- DCNS Service Delivery Subsystem - Harris
  - Communication Service Providers (CSP) Networks - Rockwell Collins, SITA
- Network Enterprise Management Center (NEMC) - Ops Lead
- Operation Control Centers (OCCs) – Control Center Specialists
- Tower Data Link Service (TDLS) – ATSS, TAS
- All ARTCCs EAS – NAS NOMs, FDCS, POFM (FAST), ATSS

Transition Phase Definitions

- **ERAM SW Uplevel to Data Comm & TDLS Up-level w/PDC (Phase 0)**
  - Involves the installation of TDLS V12, ERAM EAD 20 with Data Comm tied off and DCNS service volume activation complete
- **TEDC Turn-up (Phase 1)**
  - Upgrades the Legacy PDC interface to the new TEDC interface
- **ERAM to National Site Integration (Phase 4)**
  - Connection of a Parent ERAM, other than ZLC, to one or both National Site (ZLC or ZTL) NAP Realms

DFV Procedures Overview

The DCL Functional Verification (DFV) is centered on nine test areas. These support the IOC Criteria described herein:

- Successful Certification of Systems and Services at the National/Parent ARTCCs, and TDLS tower.
- Successful aircraft logon,
- Successful downlink clearance request (DM25),
- Successful initial clearances (Cleared as Filed (CAF) UM79, UM80),
- Successful revised clearances (UM79, UM80) single element revisions,
  - » Note: UM83 – will not be sent until switch is turned on
- Proper route content,
- Proper downlink responses,
- Successful connection termination,
- Successful management of non-nominal conditions including:
  - » Ability to make and interpret logon queries
  - » Add/Remove Aircraft from Blocked List

DFV Procedures Overview Cont'.

- **DFV test procedures are grouped into logical test sequences and distributed amongst three potential participating carriers:**
  - Group 1 - Airline A; Group 2 - Airline B; Group 3 – Airline C
  - Each sequence is made up of one or more DFV test cases:
    - Sequence 1 and 2 cover nominal AFN and CPDLC scenarios,
    - Sequences 3 through 5 cover off-nominal scenarios.

- **For tests that involve a single airline, the test conductor may run the test cases from a sequence in the order they are provided.**

STR Transition Delivery Summary

Site	ERAM-SSM-185 (Phase 0)	TDLS Uplevel (Phase 0)	STR-ERAM-055 TEDC Turn-up (Phase1)	STR-ERAM-058 DCL Dry Run & Conduct (Phase 4) →	DCL Functional Verification (DFV)
ZHU (in process)	✓	✓	✓	✓	✓
IAH/HOU (in process)			✓	✓	✓
MSY/AUS/SAT		✓	✓	✓	✓
ZID	✓	✓	✓	✓	✓
SDF/ IND/CVG		✓	✓	✓	✓
CMH		✓	✓		
ZNY	✓	✓	✓	✓	✓
EWR/ JFK/ LGA/ TEB/ HPN/ PHL		✓	✓	✓	✓

- Collaboration between ERAM & TDLS producing one set of procedures
- Chart illustrates which facility will receive the required SSM and/or STR

Post-IOC Support

- Consists of a minimum of one week, on-site, support
- Occurs in the timeframe around IOC, either before or after it is declared, when real ops traffic is beginning
- Intend to have SMEs available to answer and assist ATC with any issues which surface

Site Communications

In conjunction with Monthly Telecons with the site (ARTCC and connected towers)

- Starts 6 months prior to TEDC Integration
- Begin discussions with site to explain Data Comm and set up the Local Team Prep Visit.
- Discuss High level schedule, Transition Plan, Obtain site constraints, determine local adaptations

Local Team Prep Visit

- Occurs 4 months prior to TEDC Integration. This will be the first site specific briefing. It will last for 3 days and will cover: Data Comm Message Sets, testing requirements, review progress on local procedure development, if required and create detailed site schedules (includes coordination between parent, national and tower reps).

Telecons

- Next Telecon planned for 7/21/15
- Weekly Telecons begin two months prior to TEDC integration.
- Covers any and all issues as required to get sites prepared for training, local adaptations, site visits, and transition testing.
- Continue to work schedule.
- Review of test scripts and answer more detailed questions on transition process.

DFV Visit

- DFV consists of two weeks, one for a dry run, and one for a formal test conduct
- Provide DFV Dry-Run and Conduct support

Post IOC Support

- Consists of a minimum of one week support
- Occurs in the timeframe around IOC, either before or after it is declared, when real ops traffic is beginning.
- Intend to have SMEs on site to answer and assist ATC with any issues which surface

Communication Schedule

Site	Center	6 Mos Brief - Monthly Site Telcons Begin (Ph 1 - 6 Mos.)	120 Day Brief @ WJHTC (Local Team Prep)	Weekly Site Telcons Begin (Ph 1 - 2 Mos.)	On-Site Pre-Launch Check-Up (Ph 1 - 4 Wks)	IOCs
ZLC, SLC	**ZLC**					N/A
SLC	**ZLC**	N/A	N/A	02/09/15	N/A	08/07/15
BOI	**ZLC**	N/A	N/A	03/23/15	04/27/15	N/A
ZHU, IAH, HOU	**ZHU**					
IAH	**ZHU**	N/A	N/A	05/11/15	07/02/15	09/03/15
HOU	**ZHU**	N/A	N/A	05/11/15	07/10/15	09/10/15
ZTL National	**ZTL**	N/A	TBD	TBD	N/A	N/A
MSY, AUS, SAT	**ZHU**					
MSY	**ZHU**	06/30/15	08/17/15	10/05/15	10/26/15	01/25/16
AUS	**ZHU**	06/30/15	08/17/15	10/19/15	11/16/15	02/08/16
SAT	**ZHU**	06/30/15	09/21/15	11/02/15	12/14/15	02/22/16
ZID, SDF, IND, CVG	**ZID**					N/A
SDF	**ZID**	06/30/15	08/17/15	10/05/15	10/26/15	02/15/16
IND	**ZID**	06/30/15	08/17/15	11/09/15	12/14/15	02/29/16
CVG	**ZID**	06/30/15	09/21/15	12/03/15	01/11/16	03/14/16
CMH	**ZID**	N/A	??	01/11/16	02/01/16	N/A
ZNY, EWR, JFK, LGA,	**ZNY**					N/A
EWR	**ZNY**	06/30/15	08/17/15	10/05/15	10/26/15	02/15/16
JFK	**ZNY**	06/30/15	08/17/15	11/09/15	12/07/15	02/29/16
LGA	**ZNY**	06/30/15	09/21/15	12/03/15	01/11/16	03/14/16
TEB	**ZNY**	06/30/15	09/21/15	12/17/15	01/25/16	03/28/16
HPN	**ZNY**	06/30/15	09/21/15	01/19/16	02/09/16	04/11/16
PHL	**ZNY**	06/30/15	09/21/15	02/02/16	02/22/16	04/25/16

Are there dates above that may conflict with any site activities in the months prior to IOC dates?

- **OAPM events or Local Moratoriums**

Data Comm Program Office Team

Jesse Wijntjes – Program Manager

Rachael Cobler – IFCET Lead

Leo Parsio - ERAM 2nd Level Engineering Site Support Lead

Kevin Grimm – Engineering Lead

Gregg Anderson – Air Traffic Operations, Trials, and Equipage Lead

Hal Ludwig – Implementation Lead

John Wozniak – Tech Operations Lead

Chad Geyer – NATCA National Data Comm Rep

Fausto Hidalgo – PASS National ERAM Data Comm Rep.

Matthew Roland – PASS National TDLS Rep.

Quincy Maxwell – NAGE FDCS/ATA National Rep.

Action Item Review

Action	Assigned	Due	Comments

Next Steps

60 day look ahead

Travel arrangements and funding

BFOT

Event Manager (Coordination POCs)

CKT USI (Peabody Entry)

Data Comm Program Acronyms

A/C - Aircraft
ACARS – A/C Communications Addressing & Reporting System
ADS-B - Automatic Dependent Surveillance Broadcast
AFI - Abbreviated Flight Interface
AIMS - Automation Issues Management System
AOC - Airline Operations Center
ARINC – Aeronautical Radio, Inc. (now Rockwell Collins)
ARTCC - Air Route Traffic Control Center
ASAR - Airport Service Analysis Report
ATC - Air Traffic Control
ATSS - Airway Transportation Systems Specialist
ATSW - Air Traffic Specialist Workstation
BEP – Back-End Processor
BLKQC - Blocked List and Logon Query
BNOCC – Backup Network Operations Control Center
CBP - CMAP Base Processing
CDLS - Contractor Depot Logistics System
CDP - CMAP Data Proxy
CDR - Critical Design Review
CFAD - Composite Flight Data Processing
CHI - Computer Human Interface
CMA - Context Management Application
CMAP - Context Management Application Processing
CPDLC - Controller Pilot Data Link Communications
CPP - Conflict Probe Processor
CSP – communication service provider
D-ATIS – Digital - Automatic Terminal information Service
DCGS - Data Communications Ground System
DCIS - Data Communications Integrated Services
DCL - Departure Clearance
DCP – Data Communications Progam
DCNS - Data Communications Network Service
DCNSM - Data Communications Network Service Monitoring
DFV - DCL Functional Verification
DTAP - Data Communications Trials Automation Platform
ECG - En Route Communications Gateway
EDSM - En Route Display Management
ELMS - Electronic Learning Management System
ERAM - En Route Automation Modernization
FAA – Federal Aviation Administration
FDCS - Flight Data Communications Specialists
FDIO - Flight Data Input Output
FEP – Front-End Processor
FID - Final Investment Decision
FOC - Flight Operations Center
FRAC – FTI Remote Access Capability
FTI – FAA Telecommunications Infrastructure
GFE - Government Furnished Equipment
I&I - Installation & Integration
IATA – International Air Transport Association
IFCET - Inter-Facility Communications Engineering Team
ILT - Instructor Led Training
IOA - Independent Operational Assessment
IOC - Initial Operating Capability
IPF - Interface Proxy Flight Deck
ISD - In-Service Decision

Data Comm Program Acronyms

ITR - Initial Test Release
M&C - Monitor & Control
MAP - Maintenance, Analysis, and Procedures
MCI - Monitor & Control Interface
MCP - Monitor and Control Processor
MHB - Maintenance Handbook
MTBO – Mean Time Between Outages
MTM - Maintenance Menu
NAGE - National Association of Government Employees
NAP - National Application Processing
NAPP - National Application Processing Processor
NATCA - National Air Traffic Controllers Association
NEMC - National Enterprise Management Center
NESG - National Enterprise Security Gateway
NI - Non-Interference
NOC - Network Operations Center
NOTAM - Notice To Airmen
NPRTR – NAP Subsystem router
NSDA – Natl' Single Data Authority
OCC - Operations Control Center
ORD - Operational Readiness Decisions
OT - Operational Test
PASS - Professional Aviation Safety Specialists
PDC - Pre-Departure Clearance
PDR - Preliminary Design Review
PGW - Protocol Gateway
PNOCC - Primary Network Operations Control Center
POC - Point-of-Contact
POFM - Program Operations Field Representative
RF – Radio Frequency
RMLS - Remote Monitoring and Logging System
RC – Rockwell Collins (a.k.a. ARINC)
SAIMS - Site Automation Issues Management System
SAR - System Analysis Recording
SAT - Service Acceptance Test
SIDs - Standard Instrument Departures
SMGT - System Management
SOC - Service Operations Center
SOMS – Service Operations Monitoring Subsystem
SRR - Site Readiness Review
SS – System Specialist
SSM - System Support Modification
STR - System Technical Release
STR – System Technical Report
SWFEO – Front End Operational LAN switch
SWFEM – Front End M&C LAN switch
SWBEO – Back End Operational LAN switch
SWBEM – Back End M&C LAN switch
TAI - TDLS Adapter Interface
TAS - TDLS Application Specialist
TDLS - Tower Data Link Services
TEDC - TDLS-ERAM Direct Connect
TIMS - Tower Information Management System
TMC - TDLS Monitoring & Control
VDL - VHF Digital Link
VPN – Virtual Private Network

Questions?