Flow Management Data & Services (FMDS)

Program Overview

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Agenda

- TFMS Shortfalls and Opportunities
- FMDS Overview
- Program Scope
- How FMDS Will Address Specific TFMS Shortfalls

Why is TFMS being replaced?

TFMS Shortfalls have been well-known for years

- Aging architecture and technology cannot support capabilities moving forward
- Critical inefficiencies in usability and software integration
- Legacy implementation does not meet availability and reliability targets
- Maintenance is increasingly difficult and expensive
- Opportunity to leverage best practices and technology

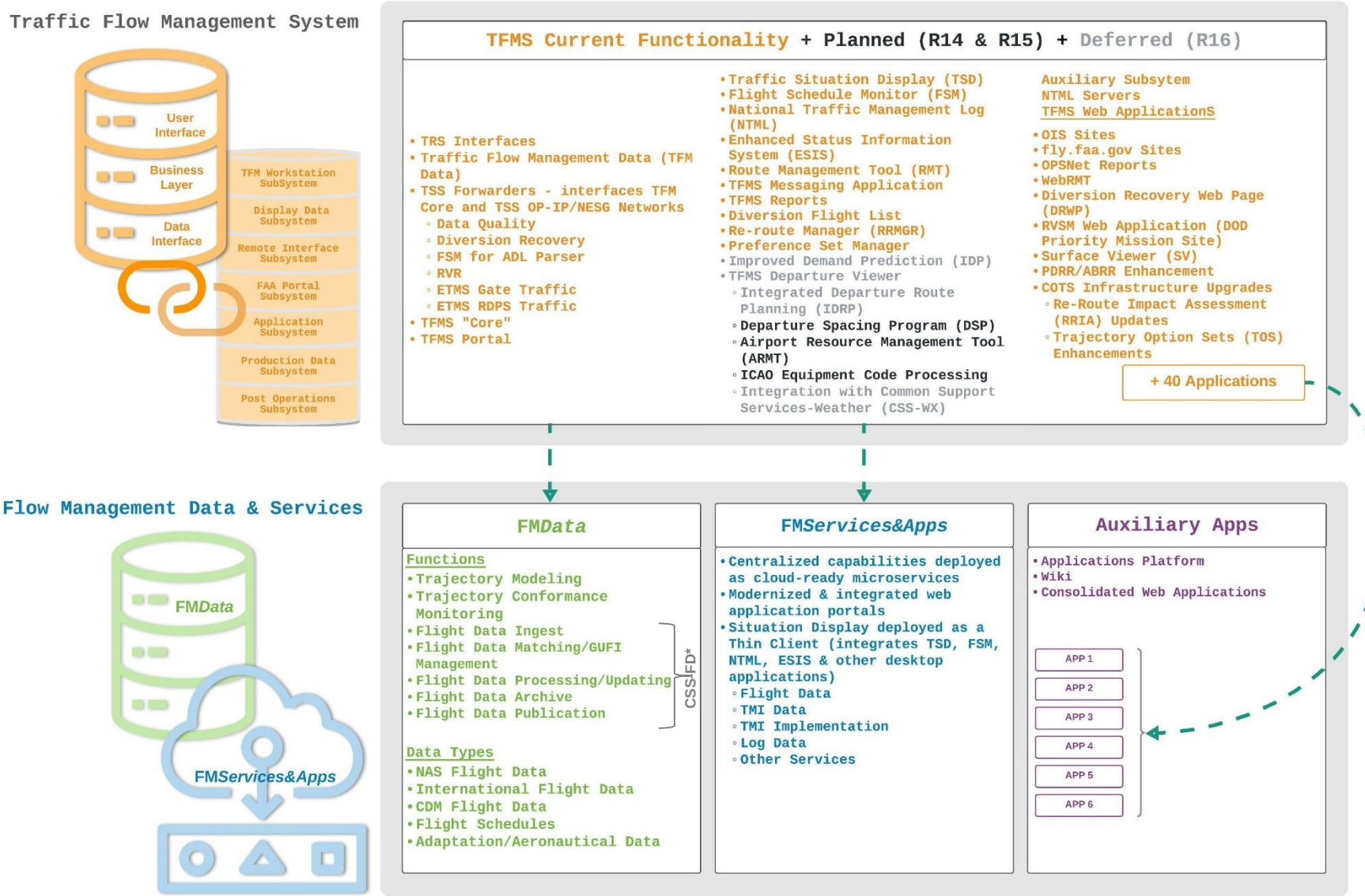
FMDS is a replacement and modernization of TFMS

FMDS Overview

- **FMDS will be acquired via two investments:**
  - Baseline TFMS functional replacement
    - Includes certain previously planned features not completed by TFMS (i.e., R16)
  - FMDS Enhancements
    - Includes capabilities that are still in the concept development phase
- **Underlying technology and framework will be established in initial investment**
- **Range of functions and capabilities, which could involve varying implementation strategies**
  - FMData ("FMD“): core data processing, mostly back-end
  - FMServices & Applications ("FMS"): user-facing tools and functions, mostly at edge nodes
- **Functions anticipated to be deployed as microservices, optimally in a cloud infrastructure**

FMDS Scope

- The baseline deployment of FMDS will include current TFMS functionality and planned Enhancement 4 capabilities through R16
- Subsequent enhancements will occur more frequently in a more agile process, based on user needs and system requirements



TFMS *SHORTFALLS*

- Aging architecture and technology cannot support capabilities moving forward
- TFMS contracts must be closed due to legal decisions
- Critical inefficiencies in usability and software integration
- Legacy implementation does not meet availability and reliability targets
- Maintenance is increasingly difficult and expensive
- Opportunity to leverage best practices and technology

FMDS*Advantages*

- *Reduced wait time for new capabilities*
- *Improved user experience due to a modernized application suite*
- *Elevated performance of TMIs with integrated, consolidated view of NAS operations*
- *Established end-to-end system and program management controls in place from inception*
- *Cloud Readiness / Integration*
- *Streamlined use of bandwidth*

**The call-out bracket in the FMData box refers to the capabilities that FMDS is aligning with the Common Support Services-Flight Data program.*

TFMS to FMDS: Scalability, Availability, Reliability

Addresses several infrastructure TFMS shortfalls:

- TFMS lacks a comprehensive failover strategy for loss of service.
- TFMS lacks a comprehensive, timely response to major disaster failures.

TFMS Core

Atlantic City, NJ

- Full System Functionality
- Supports All Users Simultaneously
- Marginal performance, especially peak load

TFMS Disaster Recovery Center (DRC)

Oklahoma City, OK

- Reduced System Functionality
- Cold Spare

FMDS
East Coast Facility

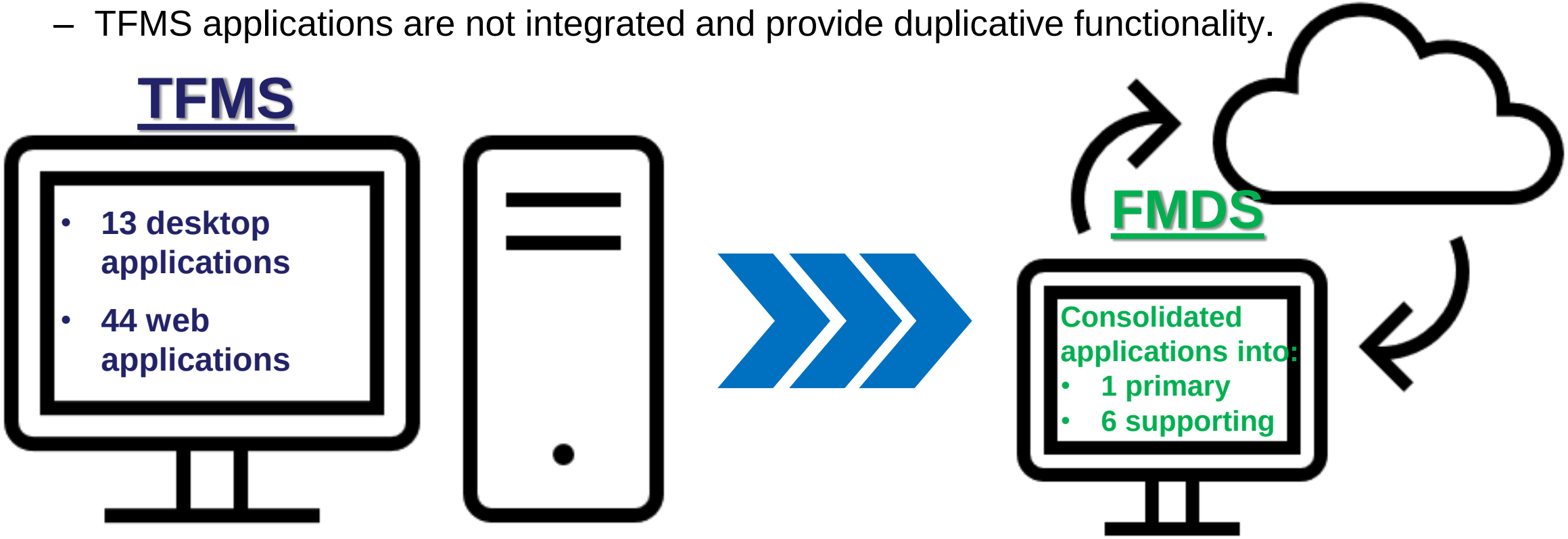
FMDS
West Coast Facility

- Full System Functionality in Both Environments
- Shares User Load
- Either Can Serve as a Hot Spare
- Scalable to meet peak demand and future capabilities

TFMS to FMDS: Integration, Usability, Productivity

Addresses the following shortfalls:

- TFM operational decision-making requires manual assimilation of data from a variety of sources due to piecemeal operational information, decision-making, and tools.
- TFMS user interfaces are graphically and functionally inconsistent and complex.
- TFMS applications are not integrated and provide duplicative functionality.

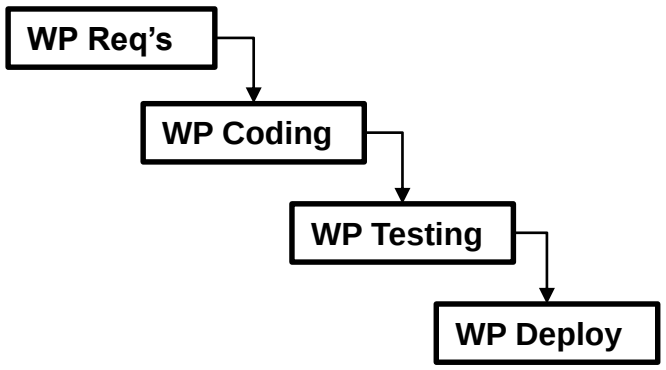


TFMS to FMDS: Development Methodology

Addresses the following shortfalls:

- Time from concept development to operational deployment for enhancements hinders operational benefits.
- Use of a single vendor promotes vendor lock in, drives up cost, and limits innovation and competition.

Single Vendor
Single Package
Waterfall



Multiple Vendor
Independent Services
Agile