

Terminal Flight Data Manager (TFDM)

System Description

FAA Terminal Program Industry Day Briefing

**Michael Huffman,
TFDM Program Manager**

Day 2



Federal Aviation
Administration



Terminal Flight Data Manager

**Michael Huffman,
TFDM Program Manager**

- **System Description**
- **Core System Overview**
- **Interdependencies**
- **Notional Architecture**
- **Questions**



TFDM Description

TFDM will provide efficiencies in the airport surface and terminal airspace by providing new integrated surface traffic control and management capabilities, including:

S-CDM	Surface collaborative decision making (S-CDM), including departure scheduler, departure metering, and other airport decision tools
EFD	Electronic Flight Data and Electronic Flight Strips in the Tower
TFM	Enhanced Air Traffic Control Tower (ATCT) Traffic Flow Management
Systems Consolidation	Replacement or subsumption of multiple systems in the National Airspace System (NAS)

TFDM Core System (Current)

- Electronic flight strips
- ERAM data exchange via FDIO
- ASDE-X/ASSC – integration of surface surveillance and aircraft state, local flight data exchange, and safety logic notifications
- STARS data exchange
- PDC/DCL Integration
- TFMS/TBFM data exchange
- S-CDM data exchange with flight operations systems (FOSs)

EFD

- Real time and forecasted flight data information sharing
- Flight specific schedule data exchange e.g. Gate, EOBT, TMATs
- Departure metering (virtual departure queue management/flight operation substitutions)
- Enhanced flight operators decision-making ability to prioritize aircraft departures
- Surface resource use predictions

S-CDM

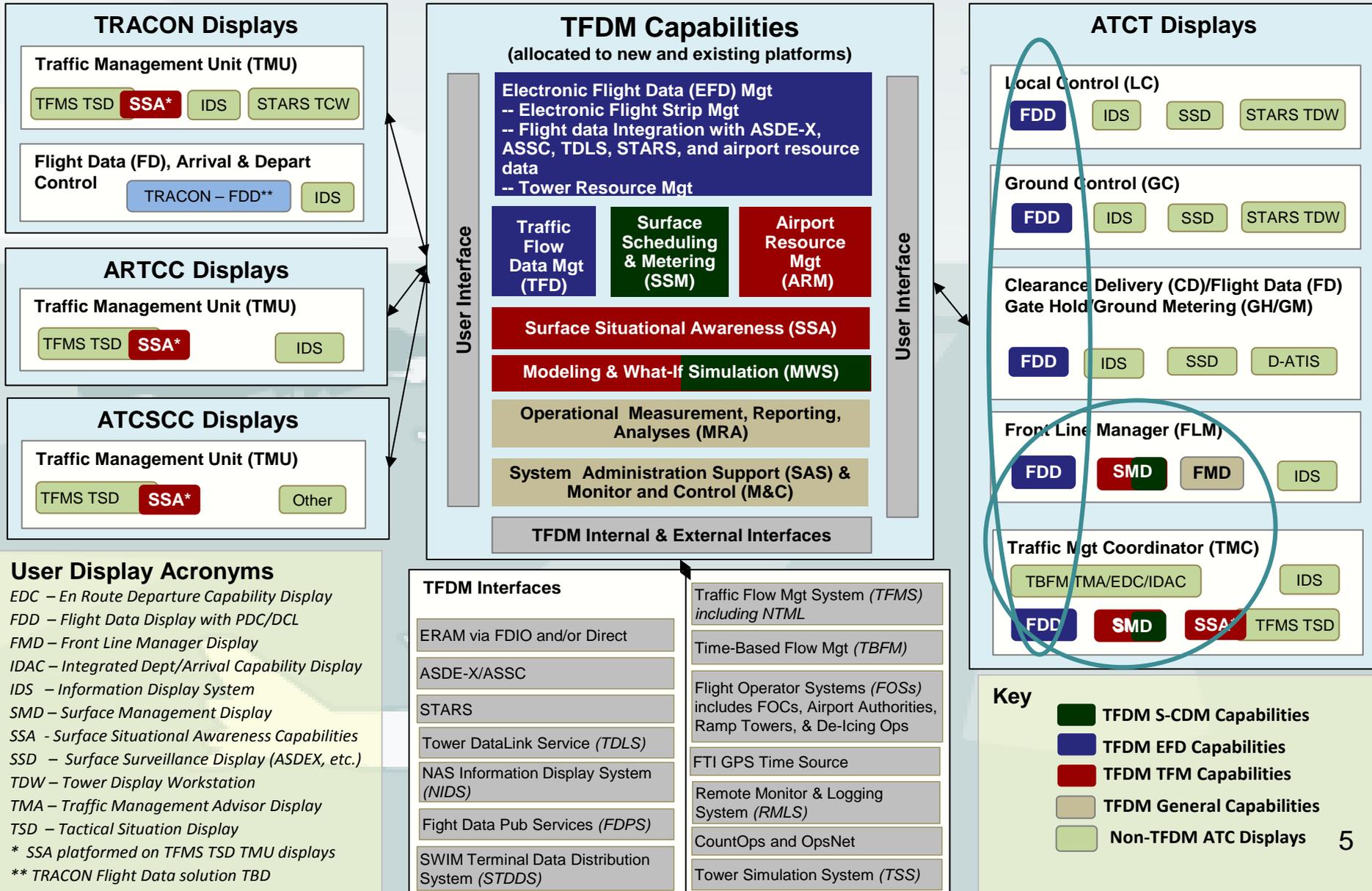
- Integration with TBFM and TFMS
- Surface trajectory modeling
- Improved demand predictions
- Enhanced Tactical Departure Scheduling (TBFM)
- Airport configuration/runway balancing planning
- SSA capability in ATCTs, TRACONs, ARTCCs, & ATCSCC

TFM

Systems Consolidation

- EFSTS replacement at 77 sites
 - Departure Spacing Program (DSP) system replacement (requires EFD, Departure Scheduler, and TBFM/IDAC integration)
- Airport Resource Management Tool (ARMT) system replacement
- SMA system (in Atlanta) replacement
- TDLS PDC/DCL display replacement

TFDM Core: System & Operational View



TFDM Interdependencies

Major Internal Interfaces

TFDM Local

- ASDE-X/ASSC
- FDIO PC-RCU
- ERAM (if no TDLS)
- NIDS
- STARS
- TDLS
- TFDM Central (via SWIM)

TFDM Central

- FDPS (via SWIM)
- STDDS (RVR, ASDE-X, STARS via SWIM)
- TFDM Local (via SWIM)

Both TFDM Local and Central

- TBFM (via SWIM) [includes IDAC integration]
- TFMS (via SWIM)
- FTI Time Source
- RMLS

External Interfaces

Flight Operator Systems (FOSs) (via SWIM)

- Flight Operations Centers (FOCs)
- Airport Authorities
- Ramp Towers and De-Icing Operations

Non-System Interdependency

- CDM Community
- Policies, Procedure, and Process (P3) development
- Flying Public Outreach
- Training Development

Facilities Affected

- ATCTs (79)
- TRACONs (22)
- ARTCCs (17)
- ATCSCC
- WJHTC
- DRC
- MMAC

TFDM Notional Architecture

