

*Friends and Partners in Aviation Weather
2012 Summer Session*

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Task N

Convective Weather Integration into TMA Demonstration



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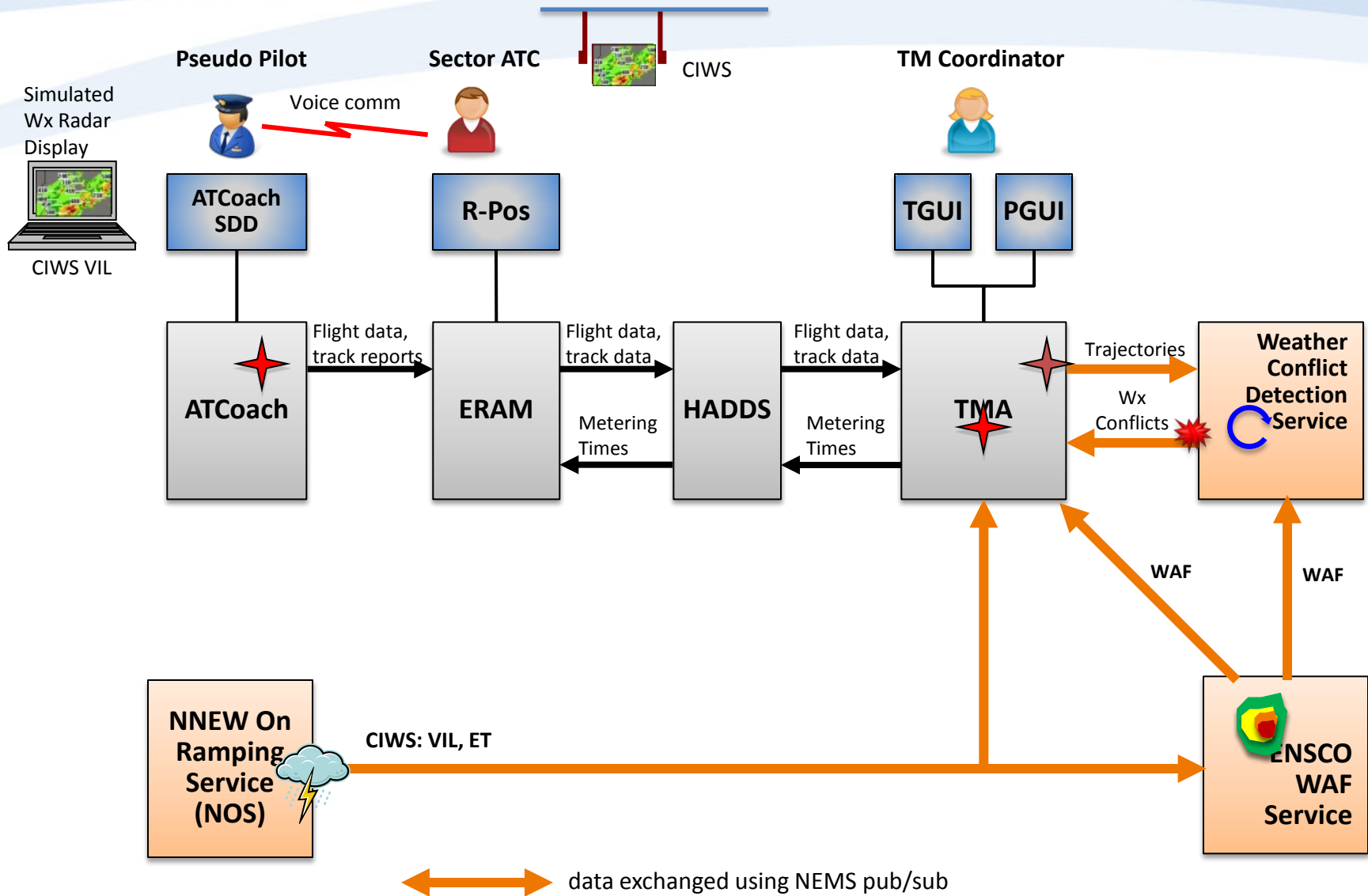
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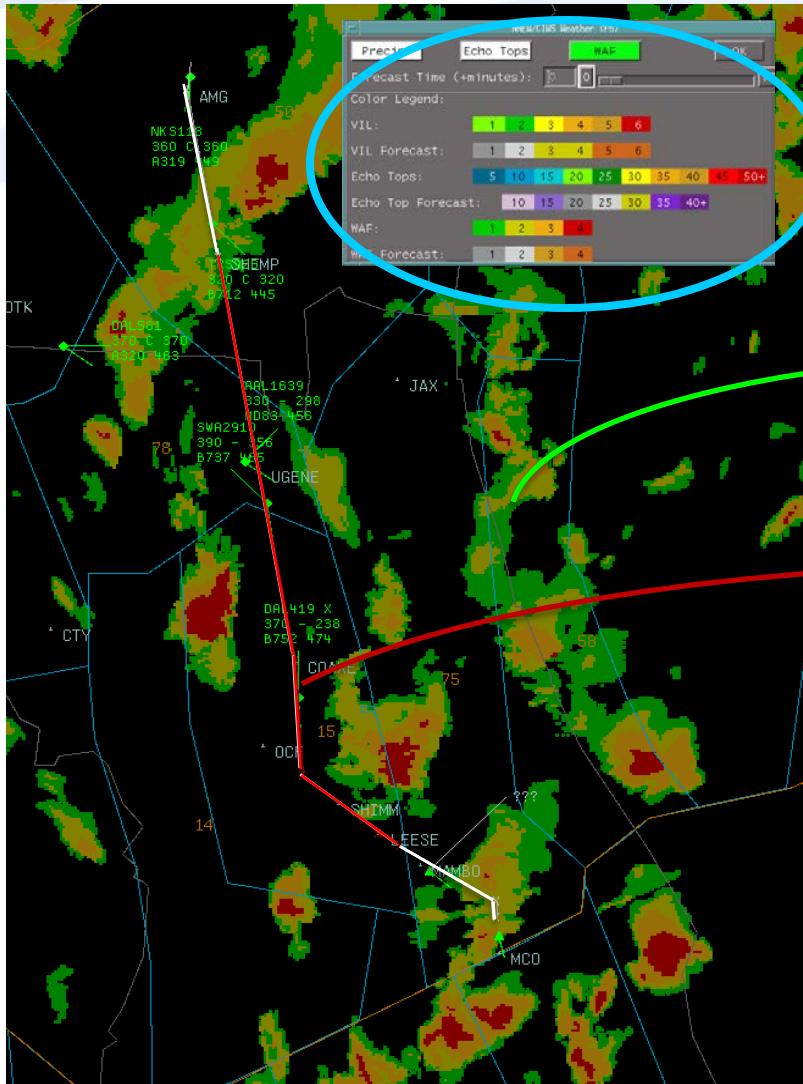
TBFM Enhancements

- **Display** convective weather products on Planview Graphical User Interface (PGUI)
 - ✦ Corridor Integrated Weather System (CIWS) precipitation product or Vertically Integrated Liquid (VIL)
 - ✦ CIWS Echo Tops (ET)
 - ✦ ENSCO Weather Avoidance Field (WAF) as derived from CIWS VIL and ET
- **Integrate** convective weather impact into the estimated time of arrival (ETA) and scheduled time of arrival (STA) calculations in the TMA decision support tool
 - ✦ Compute and display trajectory-based NAS impact on PGUI
 - ✦ Compute and display weather-impacted ETA and STA on Timeline Graphical User Interface (TGUI)
- **Communicate** to sector controller that metering times include weather delay using a simple indicator

Demonstration Functional Flow - With Task N Enhancements



PGUI Enhancements

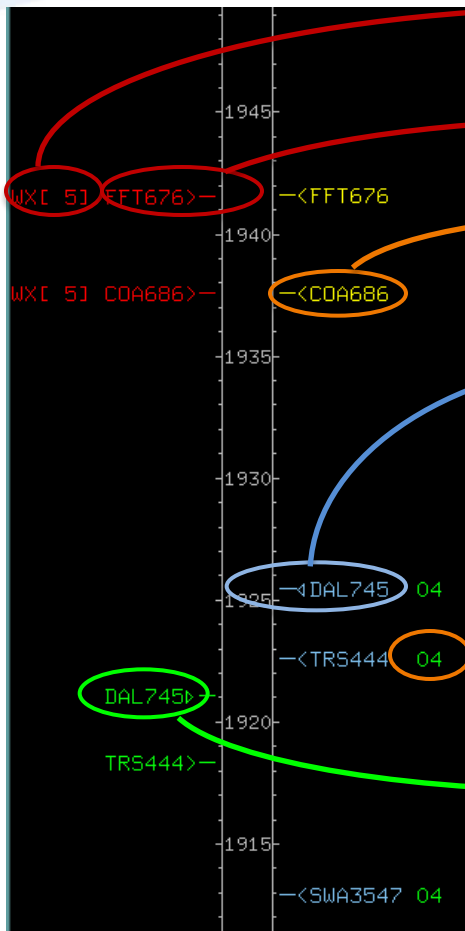


F5 NNEW Weather Panel – Control and display for Precip, ET and WAF for both current and forecast modes

NNEW VIL, ET; ENSCO WAF – Weather data in gridded format (i.e., NetCDF4)

Convective Impact to Trajectory – Route Analysis (RA) Route function now includes Trajectory segments impacted by convective weather highlighted in red

TGUI Enhancements



Weather Delay – estimated time in minutes a flight is expected to deviate around weather. It is accounted for in STA and ETA computations

Estimated Time of Arrival (ETA) - Undelayed estimated clock time for flight that has not yet crossed the **Freeze Horizon** to reach the meter fix

Unfrozen Scheduled Time of Arrival (STA) - Clock time at which a flight that has not yet crossed the **Freeze Horizon** must arrive at the meter fix that meets sequencing/scheduling constraints entered by the TMC

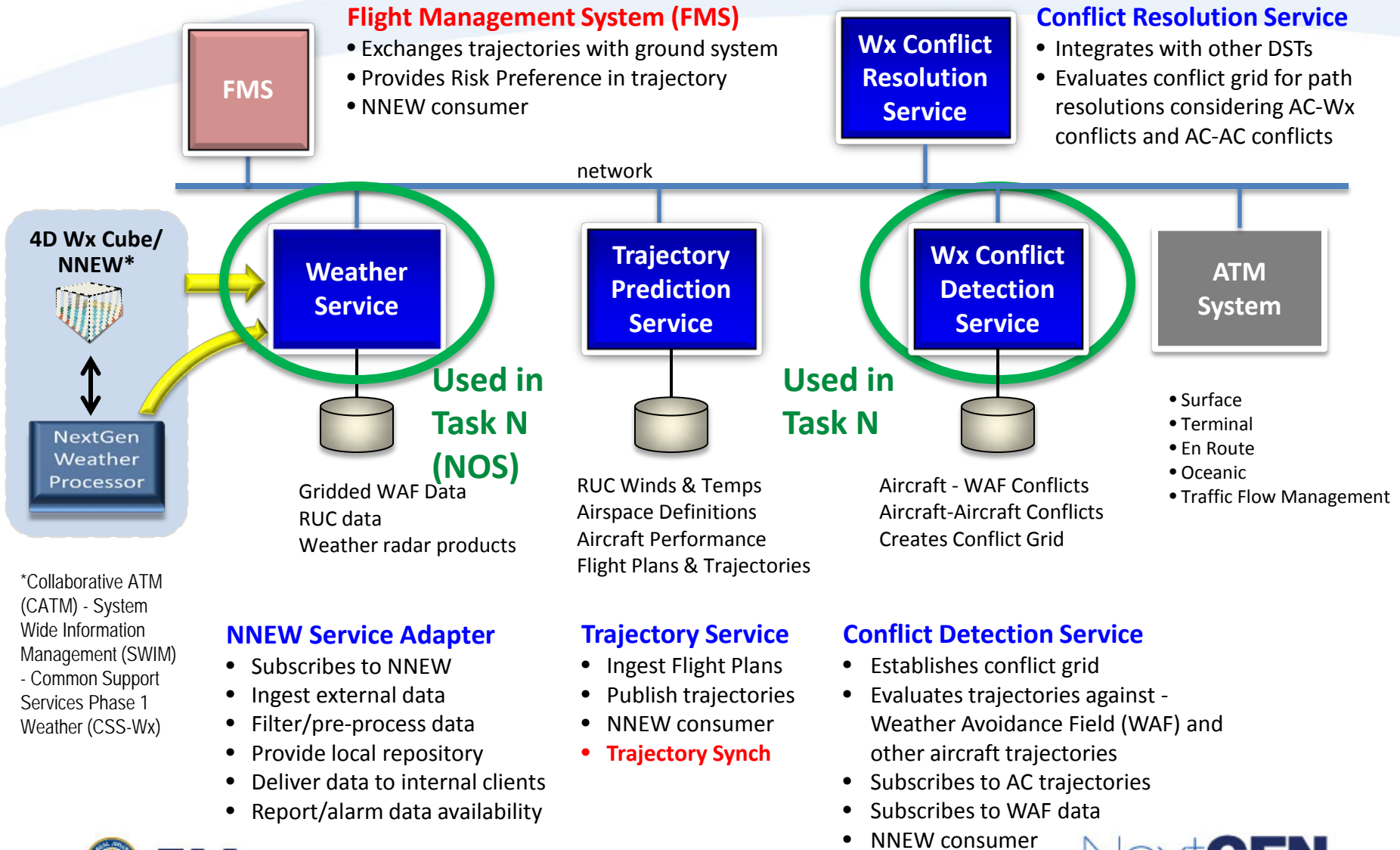
Frozen Scheduled Time of Arrival (STA) – STA for a flight that has crossed the **Freeze Horizon**

Freeze Horizon (FH) - Defined for a stream class of aircraft, the FH is the distance from the meter fix at which the STAs will no longer be subject to automatic updates

Delay – Center Absorbable Delay – total delay to be absorbed that has been allocated to Center Airspace

Estimated Time of Arrival (ETA) - ETA for a flight that has crossed the **Freeze Horizon**

LM Trajectory-Based, Grid-oriented Weather Integration Framework



*Collaborative ATM (CATM) - System Wide Information Management (SWIM) - Common Support Services Phase 1 Weather (CSS-Wx)



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