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Technical Services Company LLC

DoD Perspective Real Time Weather in the Cockpit

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Agenda

- Introduction
- DoD Aviation Weather Status
- DoD Aviation Weather Desires
- Life Cycle Costs Options
- EFB for DoD
- NextGen Data Flow
- Summary

DoD Weather Aviation Status

- Current SOP; Pre-Mission Paper METOC brief
- No POR Real Time Delivery of DoD Pedigreed Weather into aircraft. Requires Type A mod to aircraft to add datalink and establish a broadcast network.
- Need
  - Pedigreed, Real-Time and Secure
  - Weather To Avoid, Forecasts and Impacts

DoD Weather Aviation Desires

Desired end game… Large bandwidth GIG access to DoD 4D Weather Cube Service providing current conditions and impacts to specific missions, including alerts and applicable re-routing information

End Game is technically feasible, but difficult to achieve due to:

- ❑ Limited Funding
- ❑ Limited Bandwidth for existing datalinks
- ❑ Interagency Coordination

Notional Weather Delivery Life Cycle Cost (LCC) Estimate

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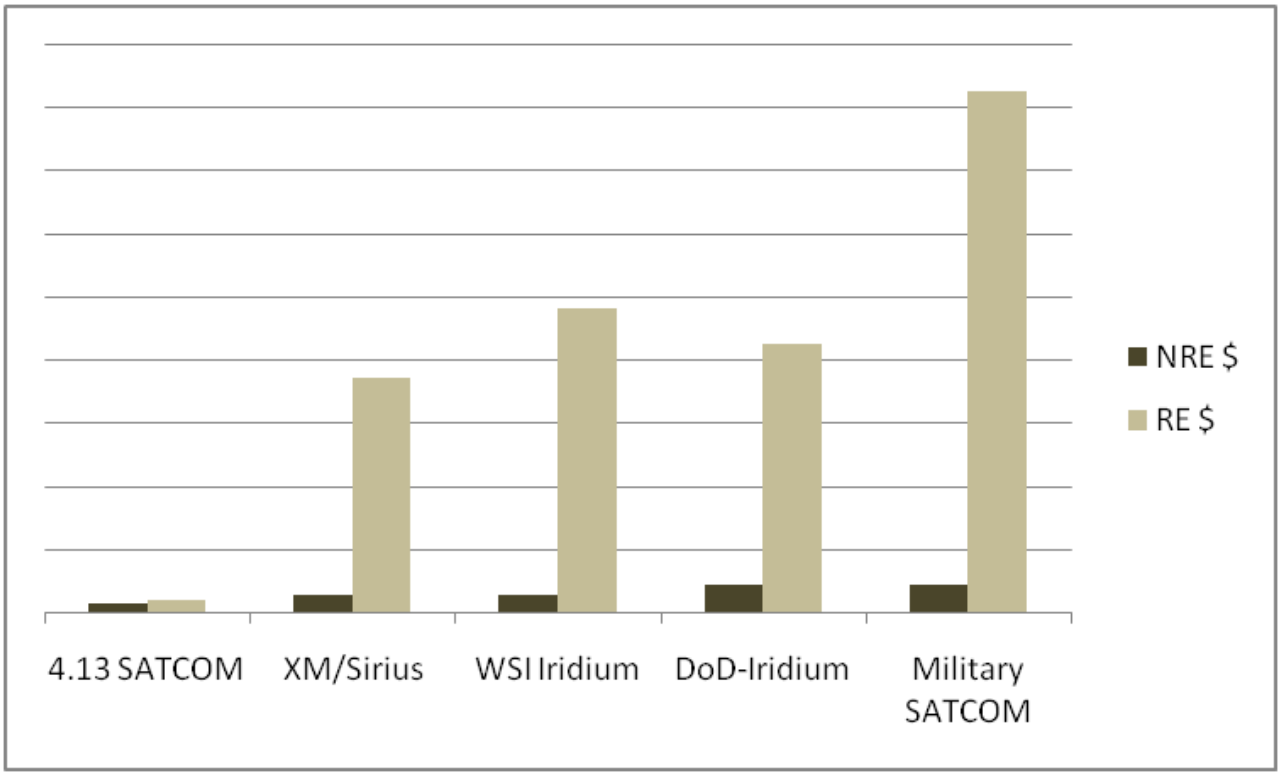

- Relative estimate for 2,000 aircraft for 10 yrs
  - Brown NRE
    - Software mods, aircraft mods, establishment of METOC service
  - Tan Recurring
    - Aircraft kits, subscriptions, air time, software and aircraft maintenance

EDM System

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Electronic Data Manager

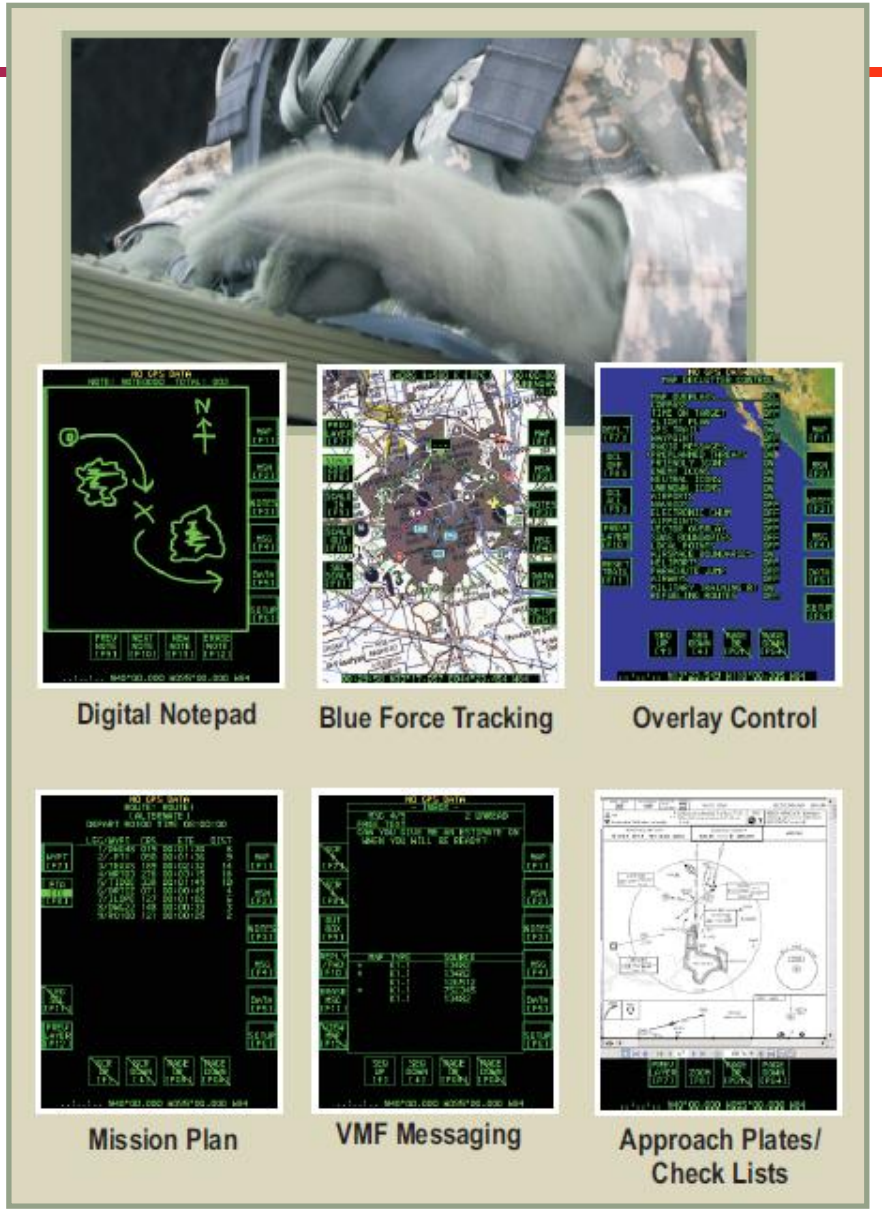
Digital Kneeboard with Enhanced Situational Awareness

Battlefield situational awareness and mission planning unite in a digital kneeboard form with the **Electronic Data Manager**.

EDM Features

Benefits

- Reliability proven in-theater
- Lightweight – under 2½ lbs.
- GPS-driven moving map with ability to integrate with BFT network
- Uses standard mission-planning products (AMPS/PFPS/Falconview)
- Readable in sunlight & ANVIS/NVG-compatible
- Two-way situational awareness
- Extended temperature range



Raytheon NextGen Weather

- Raytheon developing NextGen DoD Weather Capability
  - Working to develop NextGen weather value chain
    - Meteorological Data collection
    - Data Assimilation
    - 4D Weather Modeling and Forecasting
    - Airframe, Route, Corridor Impact Generation and Dissemination
    - Process Automation

Integrate NextGen Weather into NextGen Automation

Raytheon NextGen Weather Focus: End-to-End Impact/Alert Data Flow

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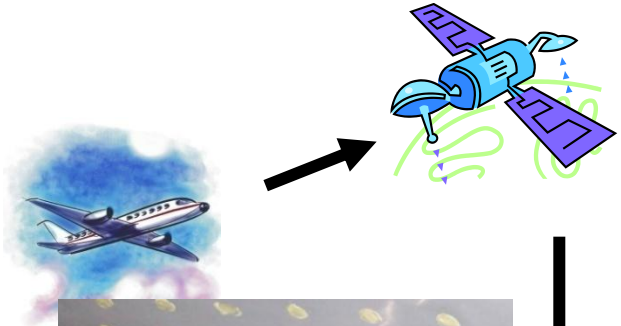
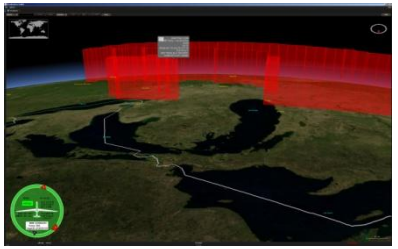


Sensing

Analysis

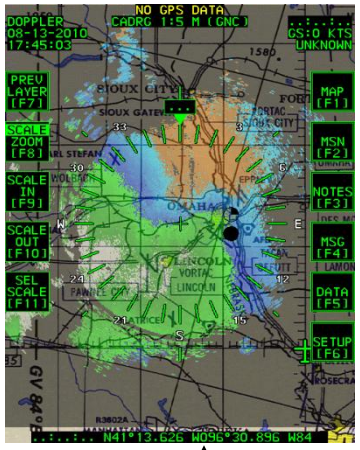
Modeling & Impacts



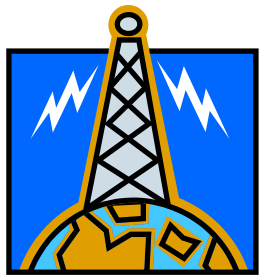
Alerts & Visualization

AVOI

Cap Alert



Cockpit Display



EDM with Text and Graphic Overlays

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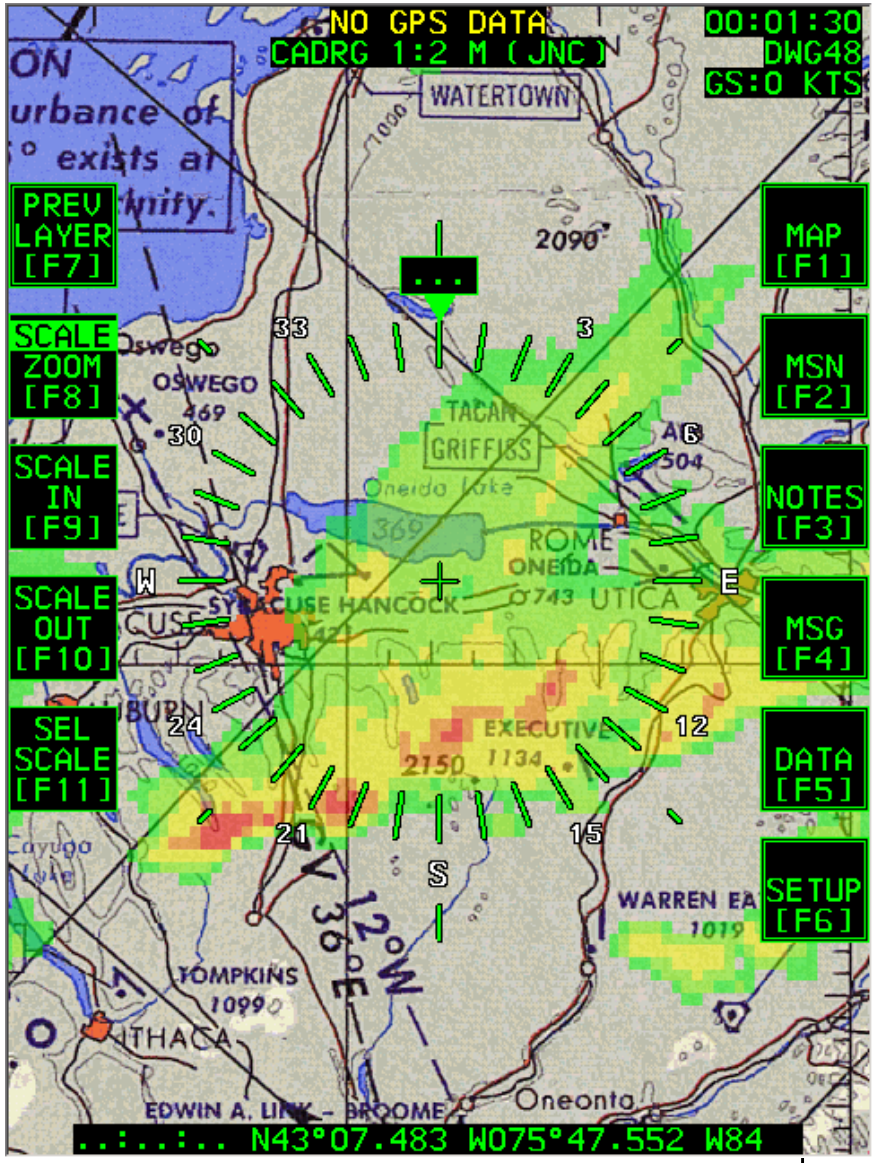
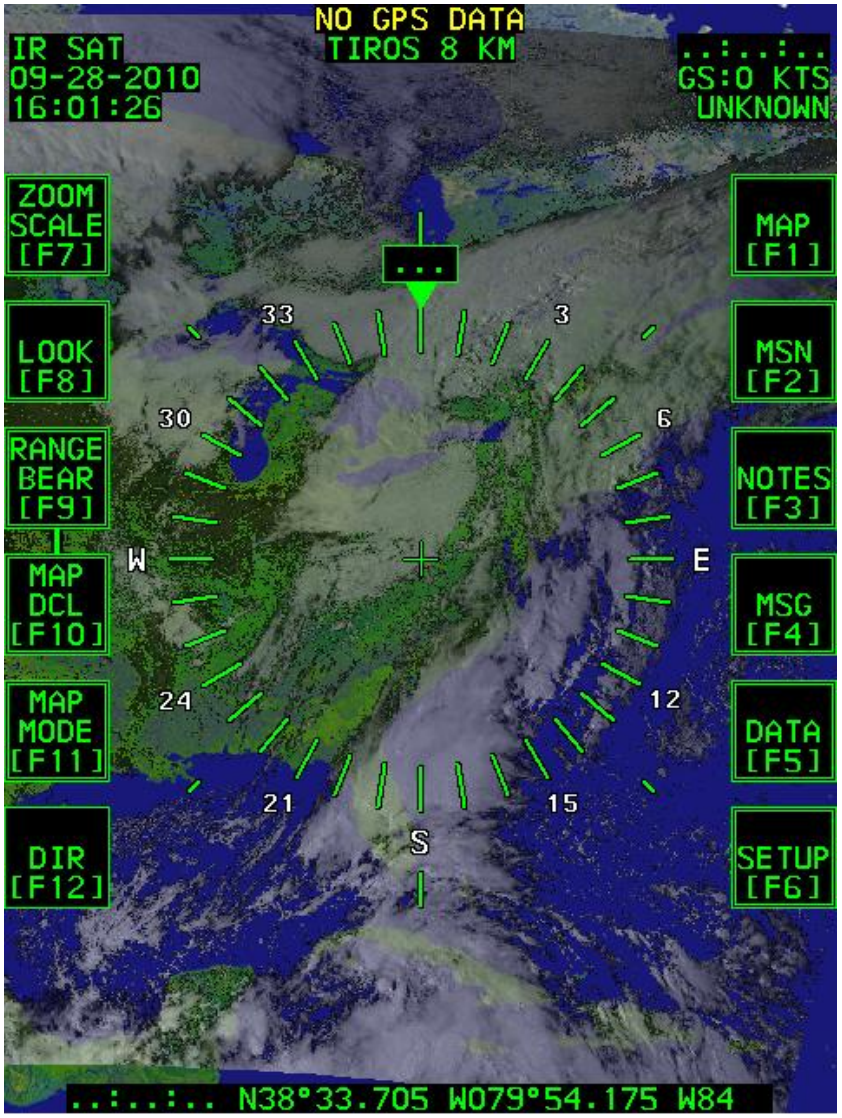
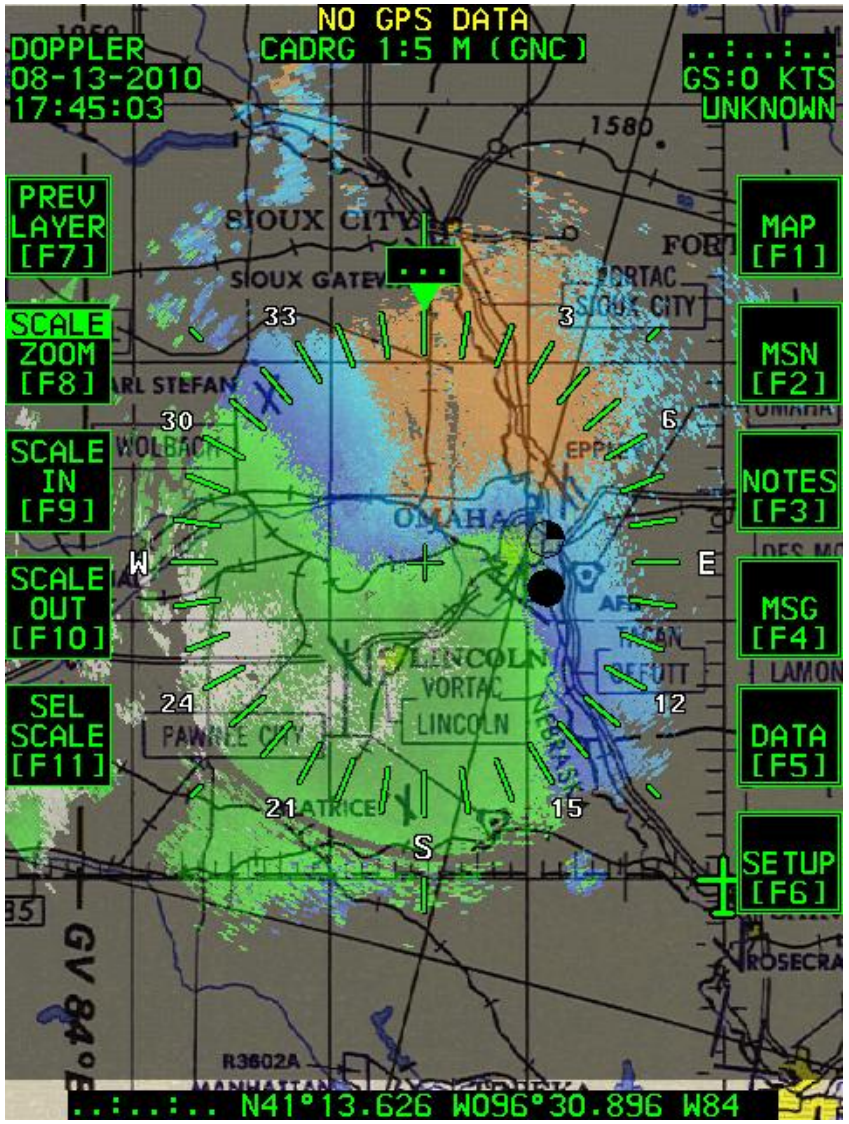


EDM with NextGen Overlays





Summary

- Utilizing the VMF K04.13 Basic Weather Report on the existing SA network provides a beneficial option for the basic weather in the cockpit requirements.
  - Is the least cost option
  - Utilizes minimal bandwidth
  - Continuing to work interagency coordination to achieve the end goal

- NextGen capabilities can be integrated into the cockpit via integrated displays or EFBs as additional bandwidth becomes available to provide graphics and other mission information