Airborne Data Communication System

Near Real Time Data Conduit

Real Time Visual Sighting

Timely On-Scene Prosecution

CDR Rick Christoffersen
History

• 2003 - MBP (Team of 5)
• 2004 - COMDT Authorizes Project
• 2007 - Contract with Navy & LM Technology Services

Scope

• Near-Real-Time exchange of Vessel Sighting Data.
• Automated Asset Tracking
Great Idea, Great Process, Great Success

- Alignment with Organizational Goals
- Process Analysis
- Cost Driver Analysis
- Stakeholder Alignment
- Tangible Results - ROI
Cost Driver Analysis - 2003

- $20M in lost sightings and duplicate data entry
- $127M of LE/MDA aircraft resource hours sub-optimized.
CG-Mission Planning System

MISLE Lite & FalconView
ADCS “Comms” Architecture
Proof of Concept

• Airborne Test – 22 Sep 2004
• Passed EMI Soft-test
• Maintained comms link in forward flight –
  • 120kts
  • 30 degrees angle of bank
• Transmitted data to MISLE & COP
• ~Time to displayed on COP: 57 seconds
## Return On Investment

<table>
<thead>
<tr>
<th>Note: 2003/2004 stats</th>
<th>Before</th>
<th>After</th>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asset Status</strong></td>
<td></td>
<td></td>
<td><strong>Timeliness</strong></td>
</tr>
<tr>
<td>(Asset Position Reports)</td>
<td>Voice 15/30min (Radio &amp; Paper)</td>
<td>Automated into COP (SPS 3.3.x Information Exchange)</td>
<td><strong>Accuracy</strong></td>
</tr>
<tr>
<td><strong>Process Steps</strong></td>
<td></td>
<td></td>
<td><strong>Safety</strong></td>
</tr>
<tr>
<td>(VSL ID to data entry)</td>
<td>34</td>
<td>13</td>
<td>21 Less Steps</td>
</tr>
<tr>
<td><strong>Cycle Time</strong></td>
<td></td>
<td></td>
<td>98%</td>
</tr>
<tr>
<td>(Data Transfer)</td>
<td>210 Minutes (3.5 hours)</td>
<td>&lt; 5 Minutes</td>
<td>Faster Cycle Time</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td><strong>ROI</strong></td>
</tr>
<tr>
<td>(Latency &amp; Lost Data)</td>
<td>$146.7 M (Waste)</td>
<td>$8.5 M (Project Cost)</td>
<td>83:1</td>
</tr>
</tbody>
</table>
• MISLE Lite Pgm Mature
• Comms Pathway Dev’l
• MISLE data feeds COP
• COTS products
• Common Avionics System
• ADCS C-130 contract

CDR Rick Christoffersen
Aircrew “IDs” vessel

Crew logs vsl data on paper form (2 min.)

Aircrew continues mission (2-6 Hrs)

Aircrew RTBs

Aircrew completes Post-flt maint. Logs (~10 min)

Pilot begins transposing text

Text Clear & Correct?

Y

Use MISLE?

N

Y

N

Inaccurate Data Vsl Form/Intel discarded

Message Generated (1-4 Hrs) Data lost

Data Entered Into MISLE (1-4 Hrs)
Linkages

**Project Goals**
- Near-Real Time Data Exchange
- Connectivity
- Data Integrity

**Organizational Goals**
- Mission Effectiveness
- Operational Excellence
- Enhanced MDA
  - ALCOAST 160/04
    (Est. MDA Office)
  - CG COP/MISLE
Aircrew “IDs” vessel

Crew logs vessel data on PMPS/MISLE (2 min.)

Data transmitted when sighting is logged

Satellite relays data through CGDN + data backbone direct to MISLE & CG COP databases

MISLE & CG COP databases updated for operational use

Vessel ID/MISLE process

PMPS w/ Connectivity