SeaSpace, SPAWAR, & NPOESS

1. Overview

2. General strategies

3. NPOESS

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Overview

- SeaSpace founded in 1982
- Customer base both research and operationally oriented
- Provided U.S. Navy support since 1988
- Acquired by Allied Defense 2002
- Formed antenna segment in 2003
- Acquired by Acetopia in 2007

General Strategies

- Continue to sell field terminals – business as usual – with a twist

- Increased leverage of customer talent pool

- Move toward data exploitation

Field Terminals

- AXYOM models 20 and 50
    - 3-axis – low accelerations and velocities
    - No keyhole – full hemispheric coverage
    - High precision and performance
    - Low cost
    - Originally designed specifically for NPOESS

Field Terminals

- AXYOM technology opens new business areas beyond remote sensing and expands remote sensing capabilities

  - Bigelow Aerospace* – (3+) 6.1m S/X LEO antenna
  - Lockheed-Martin* – (2+) 2.4m Multi-Band antenna positoner
  - MDA* – Ka-band LEO WB Data link POC terminal
  - Chile** – 6.1m X-Band Multi-Mission RSS

  * Significant multi-year follow-on potential
  ** Order pending for similar system in Europe

Customer Talent Pool

- Customer pool of skill sets exceeds SeaSpace's internal skill sets
  - Jeff Hawkins, et. al. (NRL Monterey)
  - Joe Piskor (NEMOC)
  - Bruce Mckenzie (NAVO)
  - Bob Arnonne (NRL Stennis)
  - Liam Gumley (U.W. SSEC)
  - Rutgers, LSU, Johns Hopkins, U.T. Austin, U.A. Fairbanks, etc.

Customer Talent Pool

- Cooperative research and development
- Small grants for exclusive development
- SeaSpace becomes an integrator and clearing house for a large resource pool
- Community benefit

Data Exploitation

- Add value to the data
  - New products
  - New services – increase SeaSpace's internal skill sets in the environmental (MetOc) sciences

Data Exploitation

- New products
  - IDL
    - Designed for scientific data processing
    - Compatible with NRL, FNMOC & U.W. SSEC
    - Widely in use by existing customers along with ENVI
  - Open Source
    - SeaSpace is considering open sourcing some software
    - SeaSpace will take additional advantage of existing open source technologies for integration into TeraScan
      - Google Earth
      - NASA World Wind
      - Ossim toolkit
      - Etc.

Data Exploitation

- New products
  - BEYOND EDRs
    - Level 2 and 3 products
    - Multi-mission/sensor fused products
    - Integration of various obs with satellite data (eg. NDBC, NOAAport etc.)
    - The science is in the numbers (eg. Steve Miller; dust)
    - The interpretation is in the viewing (visual and analytical – someone still views)

NPOESS

- Leverage existing relationships
  - NOAA IPO
  - NASA Direct Readout Lab
  - U.W. SSEC
  - Raytheon Technical Services
- These agencies represent efforts to field practical and affordable field processing software and hardware architecture from which all vendors will benefit
- Centrals' too expensive and complex – serve a different set of customers who are typically well connected to the net and are often government agencies with additional customer layers

NPOESS

- Two focii
  - Mission Application Segment
    - EDR's available from the centrals
    - Level 2 and 3 products
    - Multi-sensor fused products
  - Business as usual for field terminals; L0-L3

NPOESS

- Let's talk about architecture; storage
  - HRPT approx 100MB + 200MB = 300MB
  - MODIS approx 1.0GB + 5.0GB = 6.0GB
  - NPOESS ???
    - More sensors
    - More EDR's and L2-L3 products
    - Broader coverage via centrals

NPOESS

- Let's talk about architecture; computation
  - Current technology allows 150 MODIS products to be computed in <15 minutes
  - Future NPOESS development will be highly focused on a combined and balanced hardware / software architecture that allows
    - Fast product computation
    - Useful organization of data
    - Ease of *customer* use of the data

NPOESS - Summary

- SeaSpace will, in addition to earlier named agencies, stay in close contact with the SPAWAR PMW-170/180 offices as well as Raytheon Technical Services to anticipate and be prepared for the deployment of NPP/NPOESS.

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Thank you.

Questions?