Company Presentation

AND

Marine Technology Society-Honolulu Chapter Meeting
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Mission Statement

“To apply accurate and specialized meteorological and oceanographic services for unique ventures anytime and anywhere in the world.”

Motto: PREDICT, PROVIDE, PROTECT
**Overview**

- Provides marine weather and oceanographic analysis, prediction, and interpretation services for:
  - Voyage planning consultations/climatology
  - Focused products for unique operations
  - Legal and expert witness testimony

- Founded in 1997 (part time operation)

- Formed partnership in 2000, Full time operations in 2002

- Specialized product development that saves time and operating costs at reduced risk

- Always keeping safety and asset protection first priority.
**Sortie Recommendations**

Superferry Sortie Position
21 15 N 156 00 W

Approaching Tropical Cyclone

[Map showing islands and directions]
Business Model

**The World Really is Flat**

- Business made possible by advances in communications technology:
  1) satellite/cellular telephone,
  2) HF radio email,
  3) SATCOM-internet email access at sea.

- High speed internet access to ingest data and produce products

- Maintain communication relevancy

- Low operating costs

- Can provide service from and to anywhere on the planet
Meteorological & Oceanographic Expertise

• 24 years of Naval Service
• 7 years of business operations post Navy career
• Analysis and prediction expertise in atmospheric and ocean sciences
• Commercial products parallel Navy operational products
• Degreed Meteorologist/Oceanographer, MS: Naval Post Graduate School BS: Penn State University
• Practical application, interpretation, and understanding: not just computer model output
Outreach

- Training Seminars
- Meteorology Classes
- High School Career Days
- Boy Scout Merit Badge
- Informational Presentations
- Initiated Safety at Sea Awareness Program in Hawaii
Company Start-up in May 2004:

Software development for DoD (U.S. Navy)

Presently transitioning CEROS R&D software application:
- PEO program of record
- CTF-34, Pearl Harbor
- NAVAIR Bartberger Modeling and Simulation Laboratory

Relationships/ Clients:
- Naval Air Systems Command
- CEROS/DARPA
- University of Washington, APL
- University of Hawaii- Hawaii Research Mapping Group (HRMG)
- Lockheed Martin
- BAE Systems
- TEC, Inc
Core Attributes

- Small business operating in Hawaii
- Qualified High Technology Business-QHTB
  - Beneficiary of ACT 221/215
- Disabled Veteran owned company
- HUBZone certified by SBA
- Maintain classified facilities clearance at the SECRET level
  - Employees hold U.S. Gov security clearances
Company Precepts

• Integrity
• Under promise, over deliver
• Develop long term relationships
• Maintain Navy contacts
• Familiar with Navy management, both administrative and operational
• Stay on knife’s edge of software technology
• Technology transition is a contact sport
R & D Talents

- Senior level software engineering development and programming for DoD
- Extensive expertise in design and engineering in developing large scale software packages integrating systems from a variety of sources
- 25+ years programming expertise in C, C++, SQL, Java, XML, JSP, and GUI development
- Analysis and prediction expertise in atmospheric and ocean sciences
- Integration expertise in web based applications that use SOAP and HTTP/HTML protocols to communicate between client and server
- Expertise in integrating systems that allow users to access a secure XML or object oriented database
- Parallel processing on multi-processors in cluster node hardware
- Systems administration expertise including operating system integration for Linux and Solaris, on Dell, Sun, and IBM systems
Feedback Planner

- “Feedback Planning” mission planning software application
  - Open Architecture, Web services, COTS
- Automation concept for hardware/software toolset that rapidly plans, re-plans, and reconstructs U.S. Navy anti-submarine acoustic search missions for multi-static active systems
- Seven year development effort (2003 – 2009)
- Funding to date ~ $1.4M
- Application receiving pull from PEO PM
Feedback Planner Concept

DATA EXTRACT
Aircraft
Mission
Environmental

TSC Secure File
Server

Client/Server/TDA/
Cluster Interface

ASW Cell
Multi-Processor
Blade Cluster

Smarter
Search

New mission plan with improved Pd

Input to TDA

Mission effectiveness data is fed to mission planners

Reach Back or Standalone

Rapidly generates TDA output
Single Probability of detection (PD) value not adequate to define search options
Ocean environment is complicated, highly variable, and under sensed.

Oceanographic Variability

Ambient Noise

Transmission Loss

Sound Speed
Product to Mission Planners come as suggestions in redefining pattern locations, spacings and depth settings or likelihood for success. Enhanced tactics for higher Pd.
Much Appreciated Support From .....

Commander Patrol & Reconnaissance Wing TWO

Naval Undersea Warfare Center Keyport

SPAWAR-TSC & 780
Questions?

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