



Enabling Multinational Communications with CENTRIXS

Track 2: Networks and Networking

Mr. Frank Bantell
Mr. José Carreño
Mr. George Galdorisi
Mr. Russell Grall

“Maritime forces will be employed to **build confidence and trust** among nations **through collective security efforts** that focus on common threats and mutual interests in an open, multi-polar world. To do so **will require an unprecedented level of integration among our maritime forces** and enhanced cooperation with the other instruments of national power, as well as the capabilities of our international partners. Seapower will be a unifying force for building a better tomorrow.”

A Cooperative Strategy for 21st Century Seapower
October 2007



Outline

- ▼ The Importance of the Global Maritime Partnership
- ▼ Networking the GMP Today: CENTRIXS State-of-the-Art 2010
- ▼ DESI as One Example of What CENTRIXS Delivers
- ▼ Beyond CENTRIXS: Networking the GMP Tomorrow

The Importance of the Global Maritime Partnership

“In our efforts [to ensure the rule of law on the global commons] we cannot forget that while we are an independent and powerful Navy, we are not alone in our intentions or goals. **Global Maritime Partnerships are setting the standard for international cooperation**, in our globalized world and **they are an important element to achieving stability** in the global commons upon which we all rely.”

Chief of Naval Operations Admiral Gary Roughead
Remarks delivered at the
Surface Navy Association Symposium
January 14, 2010



The Importance of the Global Maritime Partnership

- ▼ The 1000-Ship Navy Morphed into the GMP
- ▼ Operation Enduring Freedom – 91 Ship/30 U.S.
- ▼ The U.S. National Security Strategy
- ▼ One Example – Piracy Today – a Coalition Effort

Networking the GMP Today: CENTRIXS State-of-the-Art 2010

“In today’s world, nothing significant can get done outside of a coalition context, but we have been humbled by the challenges of devising effective coalition communications.”

Dr. David Alberts, Director of Research
Assistant Secretary of Defense for
Networks Information Integration
U.S. Department of Defense
7th International Command and Control
Research and Technology Symposium
September 2002



Networking the GMP Today: CENTRIXS State-of-the-Art 2010

▼ CWAN => COWAN => CENTRIXS

▼ CHALLENGES

- Policy
- Requirements
- Footprints
- Technologies

▼ State-of-the Art Networking with Coalition Partners

- Platform-agnostic, cost -effective, and deployable



CENTRIXS State-of-the-Art 2010

- ▼ Program of Record (POR)
- ▼ Communications Kits
- ▼ Bandwidth
- ▼ Equipment
- ▼ Software

Diesel-Electric Submarine Initiative (DESI): One Example of what CENTRIXS Delivers

“DESI stands as an example of viable cooperation in the Americas. Expanding participation to other nations can broaden the span of cooperation and provide U.S. forces with a more diverse set of submarines for honing their skills.”

“Detecting Conventionally Powered
Submarines in the Maritime Strategy”

CHIPS

July-September 2009

DESI as One Example of what CENTRIXS Delivers

▼ CENTRIXS provided secure communication

- 2008: First South American submarine connected
- 2009: First partner nation submarine headquarters connected

▼ Allowed exchange of operational communications

- Secure chat, email and common operational picture
- Water space management, Operation area assignments, real time reporting
- Primary means of communication between partner nations





CENTRIXS In Action: Enabling DESI

- ▼ Portable Communications Kit
 - CENTRIXS Portable Operations Kit (CPOK)
 - US, CENTRIXS-Maritime POR supported

- ▼ Low bandwidth data link
 - 2.4 kbs data link via the Iridium Satellite System, others

- ▼ Unique equipment applications
 - Encryption, Iridium handset

- ▼ Software
 - Chat, email, Common Operational Picture

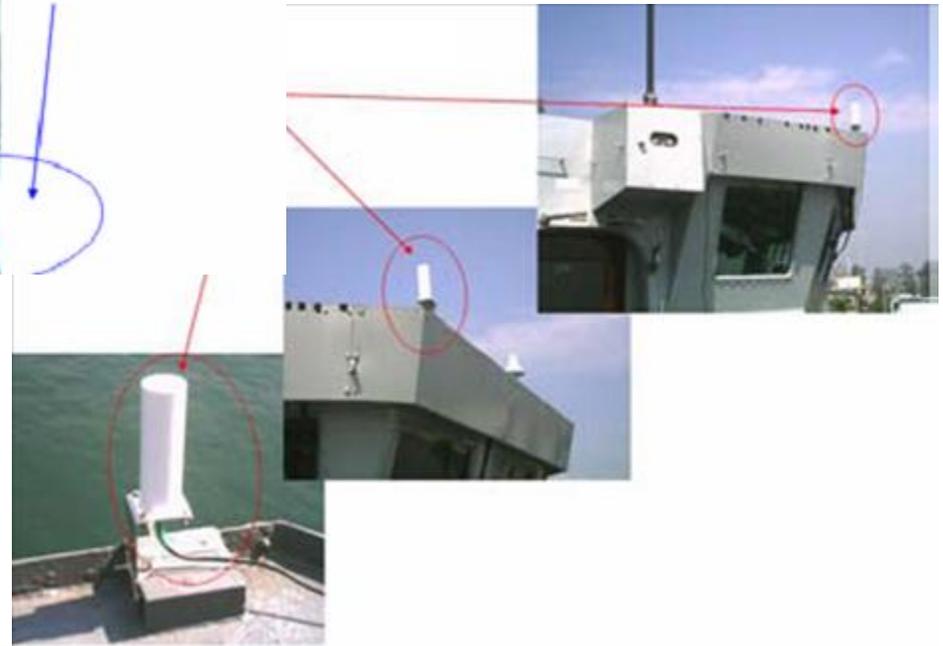
CENTRIXS Portable Operations Kit

Sectera Wireline Type 1 Cryptographic Device
(with connections to PC/Laptop and IRIDIUM)



IRIDIUM Satellite Telephone

External Antenna Connection



Beyond CENTRIXS: Networking the GMP Tomorrow

“We must move beyond limited approaches to link a few secure common systems with software applications like CENTRIXS, and get to a fully integrated regional picture from ports to harbors and into the commons.”

Captain Gordan Van Hook

“How to Kill a Good Idea”

U.S. Naval Institute Proceedings

October 2007



Beyond CENTRIXS: Networking the GMP Tomorrow

- ▼ CENTRIXS has proven itself over the last decade
 - ▼ The “Next” partner nation communications system will leverage CENTRIXS successes
 - ▼ Continued engagement and opportunity for partner nations to “take the lead”
 - ▼ Use of new technologies key to continued success and increased adoption of partner nation communications
- 

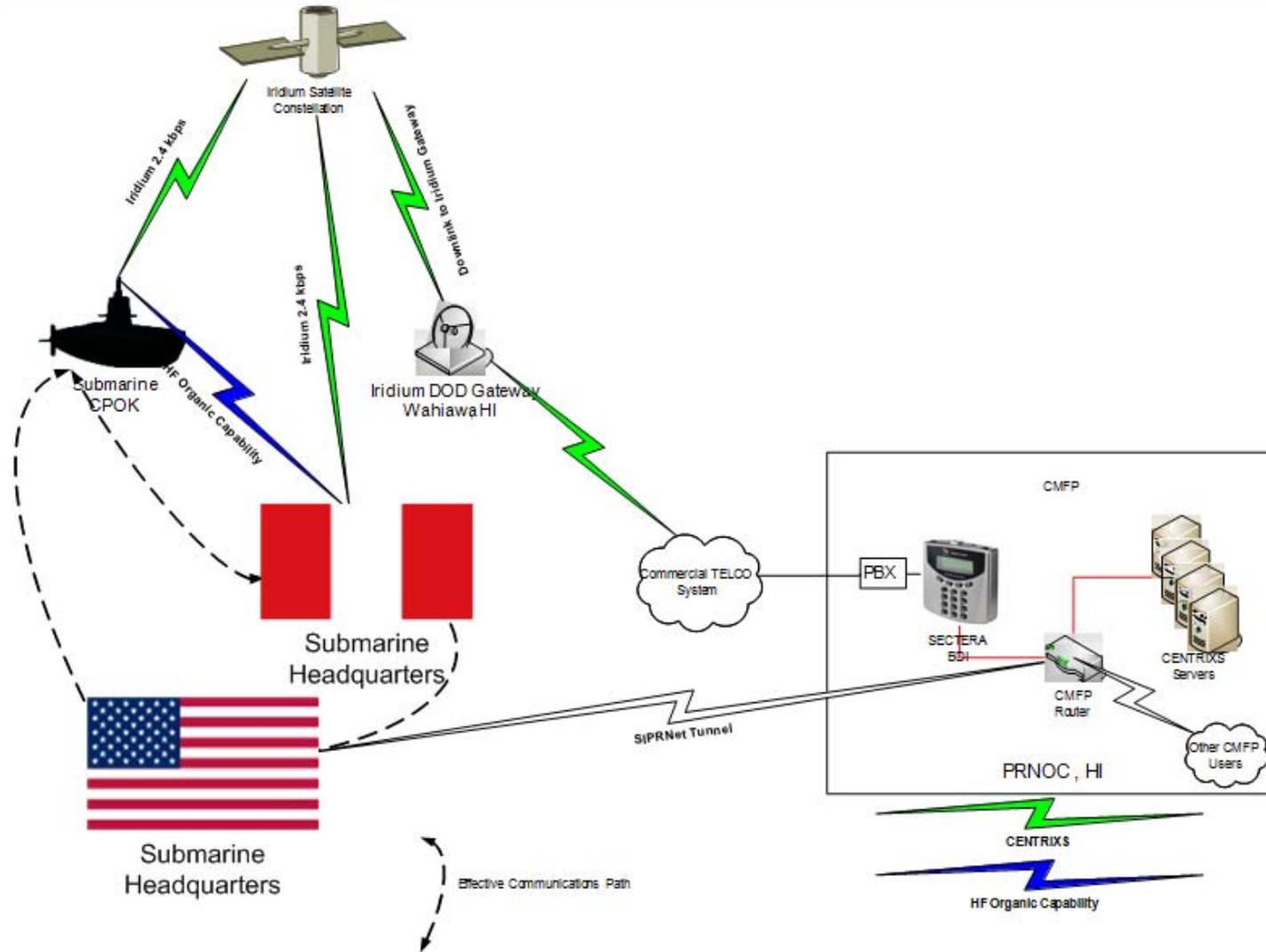
“We will win – or lose – the next series of wars in our nation’s laboratories.”

Admiral James Stavridis
EUCOM Commander
“Deconstructing War”
U.S. Naval Institute Proceedings
December 2005

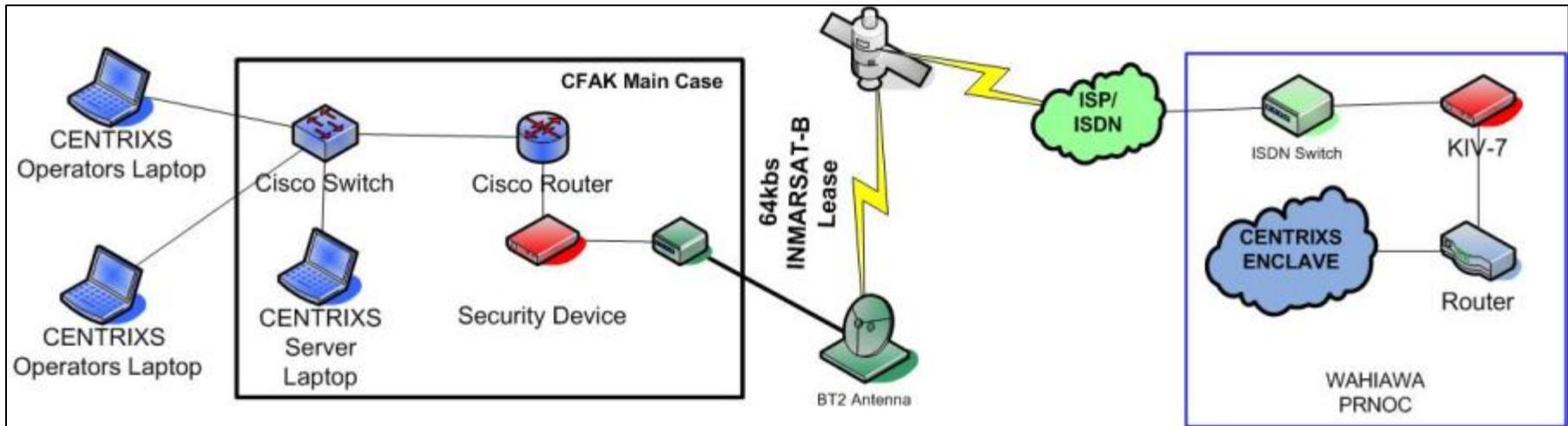


Backups

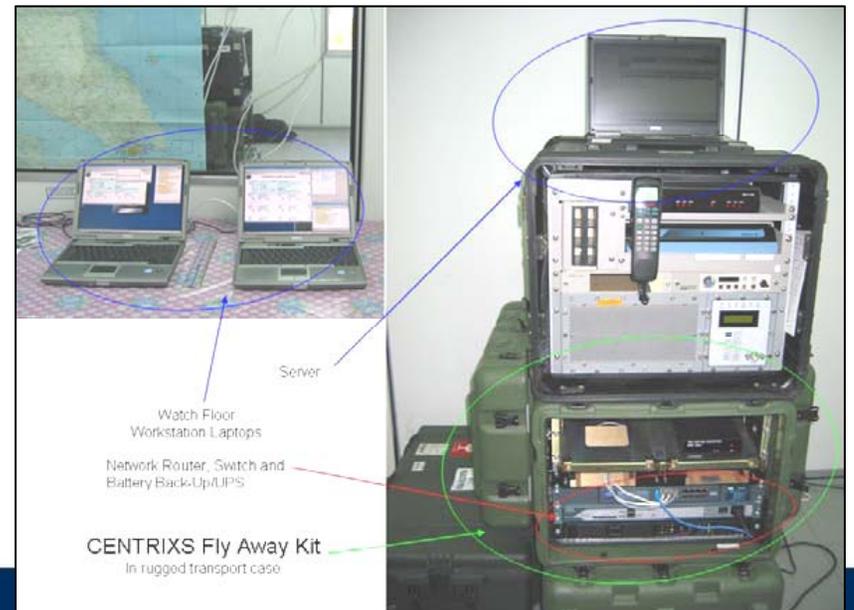
CENTRIXS DESI 2009 Overview



CENTRIXS Fly-Away Kits (CFAKs)



- ▼ Full Suite of CENTRIXS Services
- ▼ Deployed @ Partner Nations HQ & Command Ships
- ▼ Comms path & Information Security Device varies
 - Requires continuous configuration changes/engineering
 - Significantly improved size & weight challenges





SSC Hawaii Technical Facilities

Base for CENTRIXS Fleet Development

▼ Critical Assets and Teaming

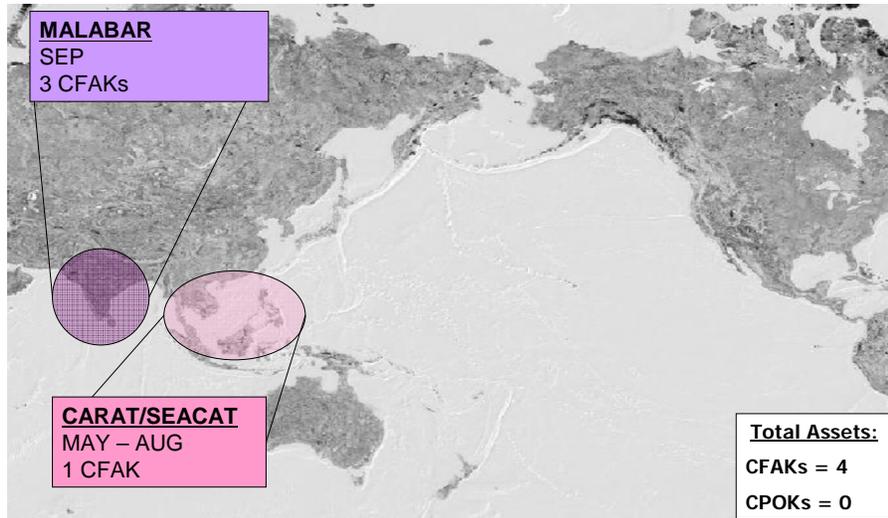
- SPAWAR Research & Development networks critical for development and field testing
 - Unclass SSC RDT&E used to develop CENTRIXS Internet capability
 - SSC Classified RDT&E will be used to connect with ships/shore sites
- Crypto Vault and local COMSEC custodian
- Utilize other Center and Department personnel
- Pearl City TDC Lab & Warehouse facility [30+ Kits]

▼ SSC Hawaii facilities allow us to

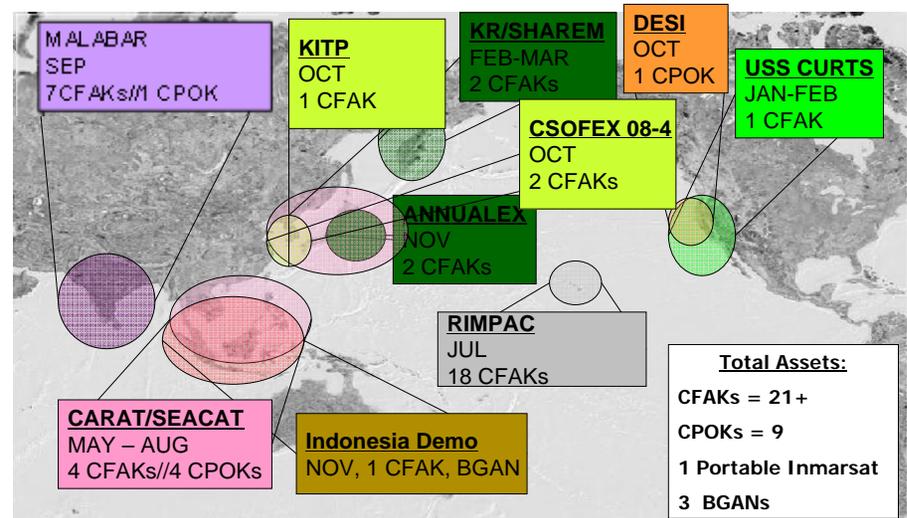
- Develop new systems & capabilities
- Respond quickly to validated CPF requirements and Fleet support needs
- Pre-configure and test equipment, cables, crypto, software loads
- Test and verify other shore sites and ship configurations

CENTRIXS at US Site and Partner Nation Sites Growing Rapidly – PACIFIC AOR

2005 – 8 installs



2008 – 55+ installs



- ▼ Support centered around deployable kits and innovative WAN solutions from ships and remote locations
- ▼ Installs from weeks down to hours
- ▼ Installs being transitioned to sailors
- ▼ Measure of success not just “getting the electrons flowing” but how the system is utilized