



2010 ONR Naval S&T Partnership Conference

Next Generation Technologies for Today's Warfighter

Information Dominance

Bobby Junker

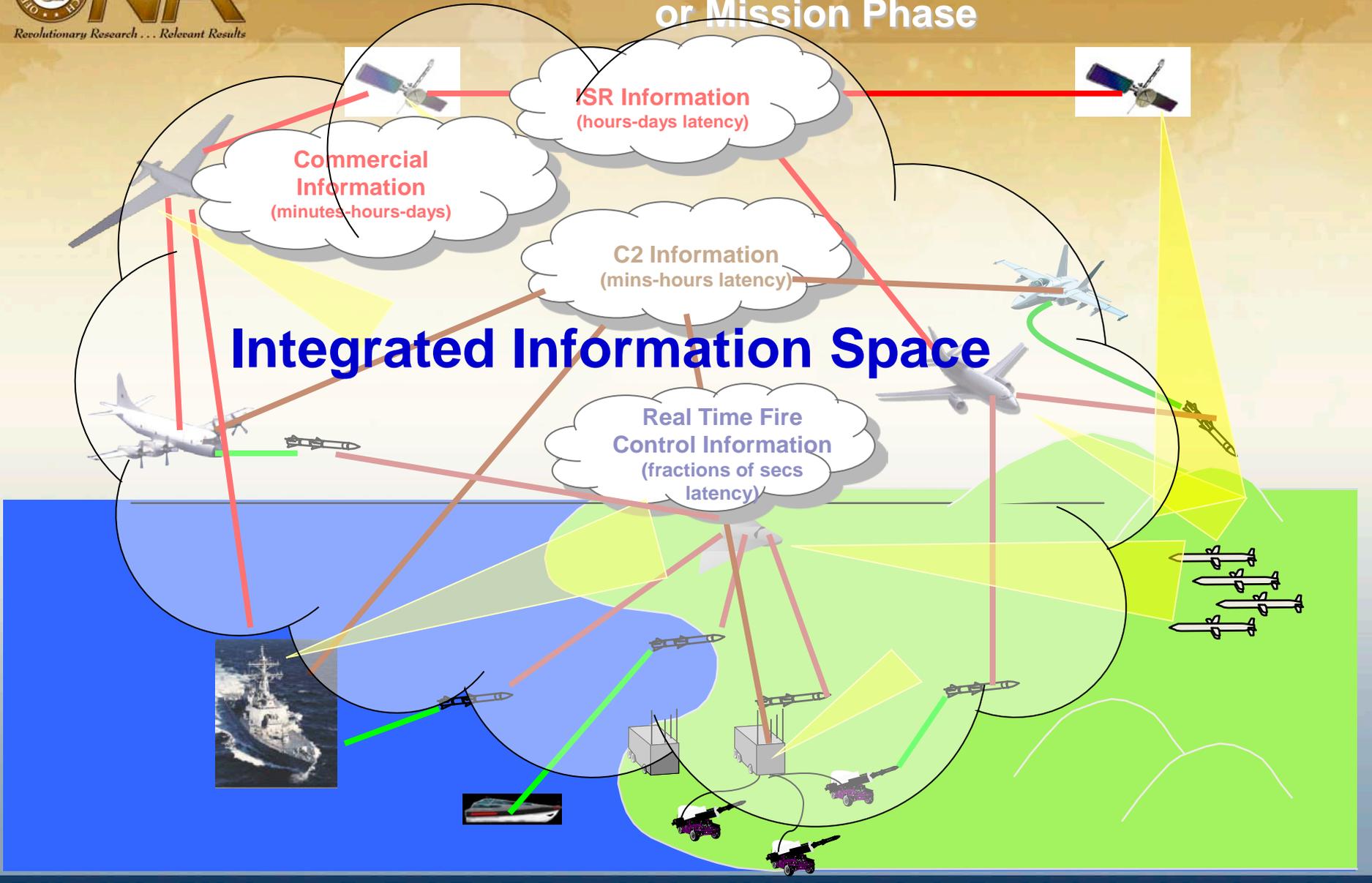
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Revolutionary Research . . . Relevant Results

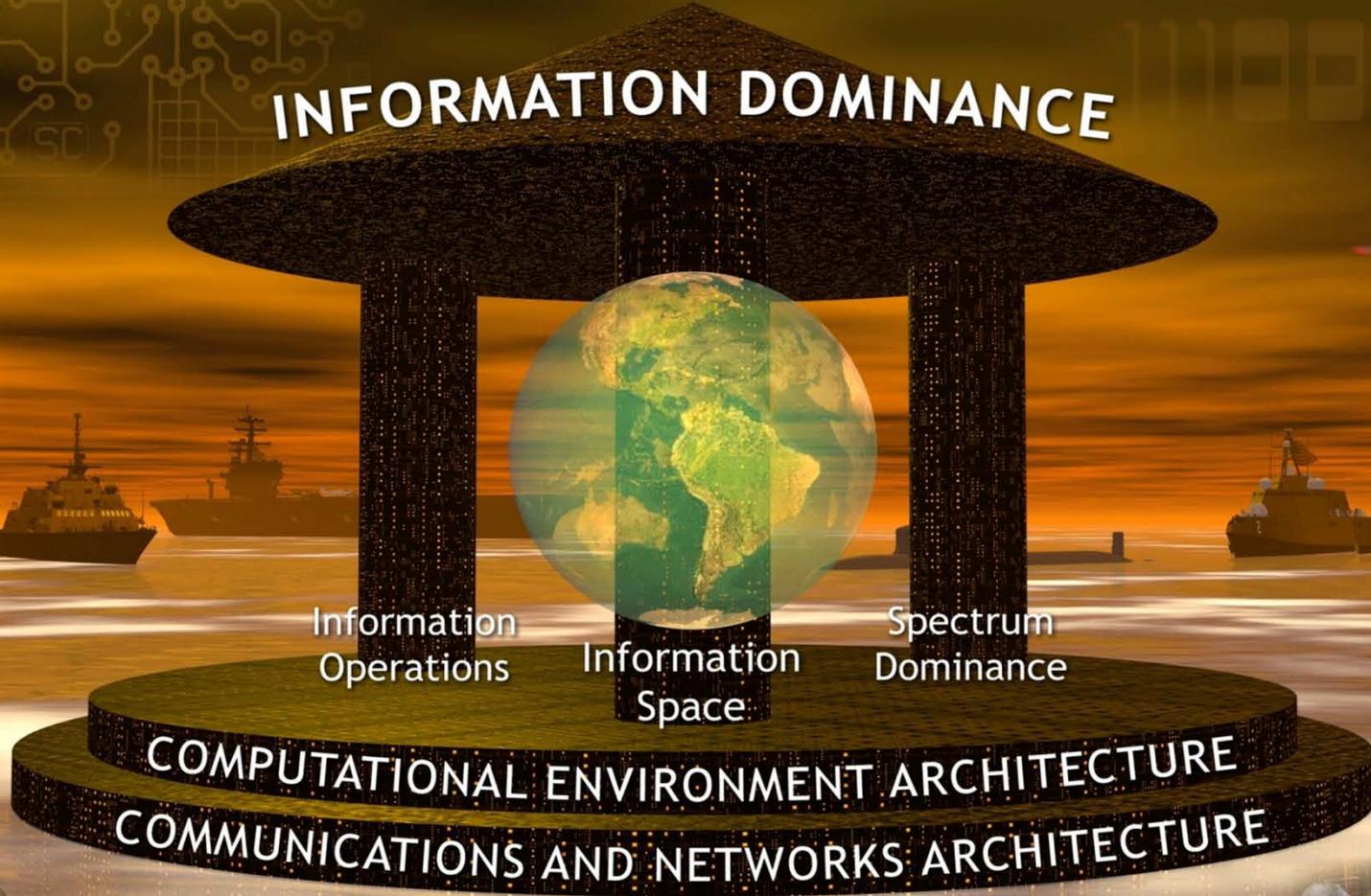
O F F I C E O F N A V A L R E S E A R C H

Today -- Data resides in Mission Specific Networks Sensors and Information Requirements tied to "a" Mission or Mission Phase



Information for prosecution is generated and held for each mission in separate networks

INFORMATION DOMINANCE



INFORMATION DOMINANCE

Communications and Networks Architecture

- Thrusts
 - Dynamic Scalable Tactical Communication Networks
 - Communication Enhancements for Tactical UxS
 - Communications for Disadvantaged Users
 - High Bandwidth, Free Space Optical Communications
 - Underwater Networks
 - High Performance, Low Cost Communication Solutions
 - SATCOM Jamming Mitigation
 - Information Assurance Architectures
 - Proactive Computer Network Defense
 - Alternative Robust Network Architectures

Computational Environment Architecture

- Thrusts
 - Open Source, Open Architecture Service Oriented Architecture
 - C2 /CS Integration
 - Autonomous Networked Sensors Control Architecture
 - Machine Reasoning and Intelligence Architectures
 - Assured Data Authentication and Integrity

• Thrusts

- Rapid Accurate Decision Making for C2/CS/ISR
 - Automated Sensor/Data Understanding
 - Autonomous Information Integration
 - Autonomous Assessment
 - Machine Reasoning and Intelligence
 - Resource Optimization
- Distributed Mission-Focused Autonomy for Control of Large Information Networks
 - Multi-objective Optimization
- Data Error Management
 - Imprecision
 - Contradictory
 - Incomplete
 - Uncertain

Spectrum Dominance

Sensors, EW, and Electronics

- Thrusts

- Understanding the environment through sensing
 - Radar
 - EO/IR
 - ES
- Control of the opponent's battlespace picture through control of the spectrum
 - EA
 - Distributed Networked Electromagnetics including Networked Cooperative Radar, Distributed-Coordinated EW, and JCREW
- Electronic Protection via Networking and Robust Sensors

Information Operations

Computer Network Attack / Computer Network Exploitation



- Thrusts
 - CNA
 - CNE



Other Program Officers You Should Meet

Name	Program	ONR Code	Room
Betsy DeLong	Integrated Topside INP	31	Fairfax
Stan Chincheck	Information Assurance	311	Fairfax
Behzad Kamgar-Parsi	Intelligent Systems	311	Fairfax
Rabinder Madan	Systems Theory	311	Fairfax
Reza Malek-Madani	Applied Analysis	311	Not Attending
Sukarno Mertoguno	Information Science for C4ISR	311	Fairfax
Allen Moshfegh	Mission-Focused Autonomous Control	311	Fairfax
Wayne Perras	Combat system / C2 Experimentation	311	Not Attending
Gary Toth	C2 and C2RPC	311	Fairfax
Ralph Wachter	Software & Computer Systems Research	311	Fairfax
Donald Wagner	Resource Optimization	311	Fairfax



Other Program Officers You Should Meet

Name	Program	ONR Code	Room
Chagaan Baatar	Nanoelectronics	312	Fairfax
Charles Clark	Precision Time and Measurement Programs	312	Fairfax
Peter Craig	Electronic Combat	312	Fairfax
Douglas Crowder	Antennas and Apertures	312	Not Attending
Santanu Das	Communications & Networking	312	Fairfax
Harry Dietrich	Team Lead, Electronics	312	Not Attending
Michael Duncan	EO/IR Sensors	312	Fairfax
Michael Garcia	Electronic Combat	312	Fairfax
Daniel Green	Solid State Materials	312	Fairfax
Robert Hintz	EO/IR Sensors	312	Fairfax
John Kim	Precision Navigation & Time Keeping	312	Fairfax



Other Program Officers You Should Meet

Name	Program	ONR Code	Room
Paul Maki	Electronic Devices	312	Fairfax
Stephen Pappert	Digital Electronic Devices	312	Fairfax
Michael Pollock	Surface / Aerospace Surveillance	312	Fairfax
Daniel Purdy	Digital Electronic	312	Not Attending
Craig Selcher	ELF Communications	312	Not Attending
David Tremper	Electronic Combat	312	Fairfax
Deborah Van Vechten	Superconductors Electronics	312	Fairfax

Questions?