Naval Fires Network

Joint Fires Network
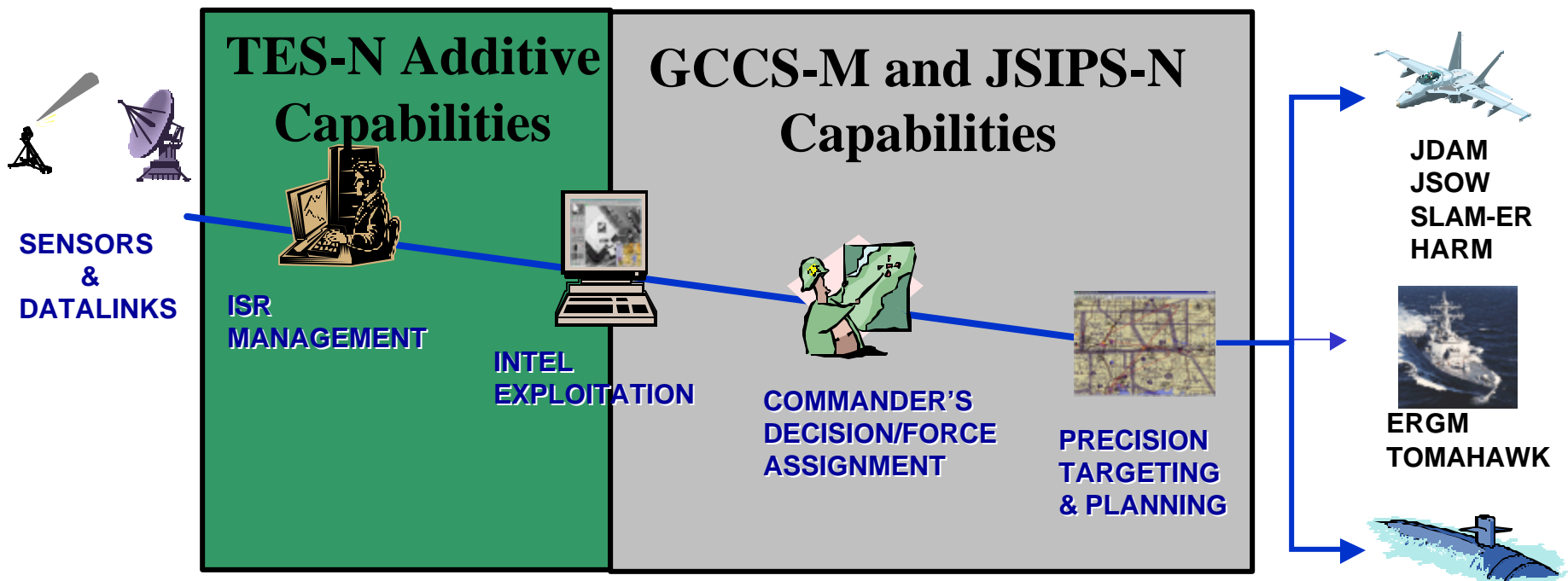
It Is Warheads On Foreheads!

Quicker Is Better!

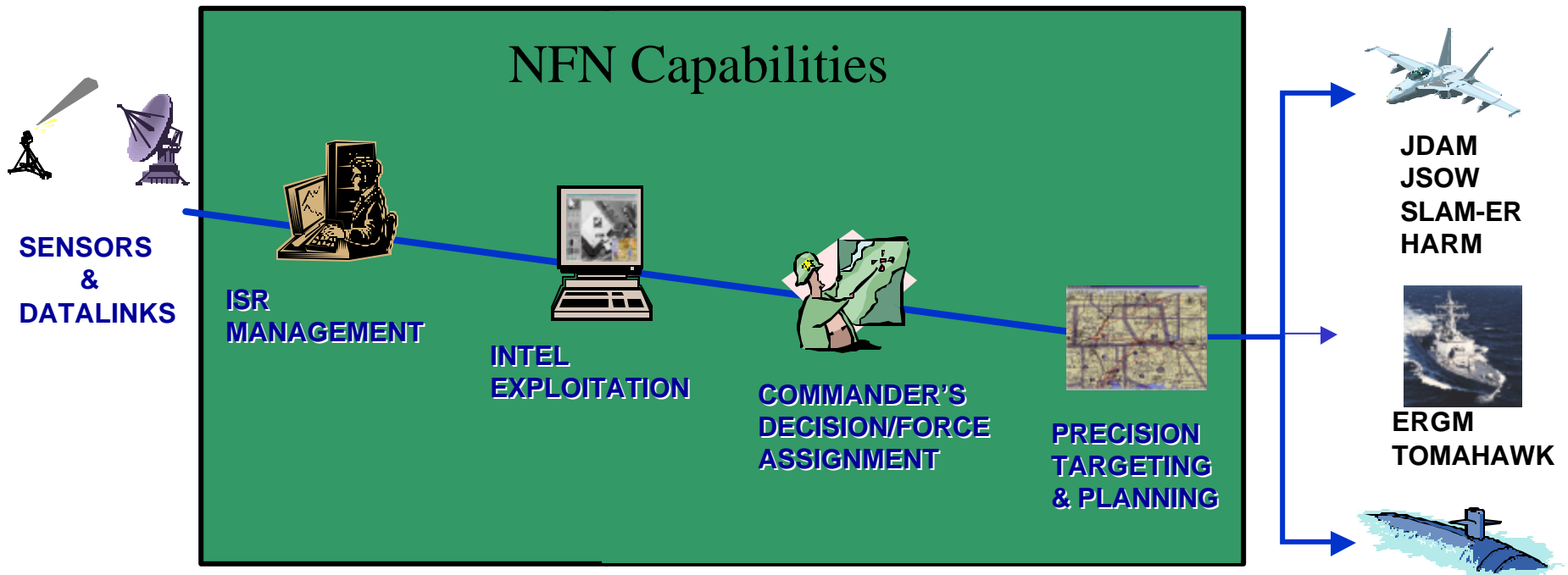**Wrong Foreheads Is Bad!**

CAPT Stretch Phillips

N-764N

Interface Existing Systems

TES-N Additive Capabilities

GCCS-M and JSIPS-N Capabilities

SENSORS & DATALINKS

ISR MANAGEMENT

INTEL EXPLOITATION

COMMANDER'S DECISION/FORCE ASSIGNMENT

PRECISION TARGETING & PLANNING

JDAM
JSOW
SLAM-ER
HARM

ERGM
TOMAHAWK

TOMAHAWK

WEAPON CONTROL

- UNPRECEDENTED AFLOAT ISR MANAGEMENT TOOLS
  - USE EXISTING SENSORS MORE EFFECTIVELY
  - ADDITIONAL CUEING INFORMATION
- DIRECT IMPROVEMENT TO COMMANDER'S SITUATIONAL AWARENESS AND DECISION-MAKING
- ADDITIONAL THEATER IMAGERY AVAILABLE TO SUPPORT PRECISION TARGETING AND STRIKE PLANNING

Converge Architectures

NFN Capabilities

SENSORS & DATALINKS

ISR MANAGEMENT

INTEL EXPLOITATION

COMMANDER'S DECISION/FORCE ASSIGNMENT

PRECISION TARGETING & PLANNING

JDAM
JSOW
SLAM-ER
HARM

ERGM
TOMAHAWK

TOMAHAWK

WEAPON CONTROL

- KEEP THE UNIQUE CAPABILITIES, REDUCE THE OVERLAP
  - E.G., IMAGERY, TRACK AND ELINT ARCHIVES
- STREAMLINE CAPABILITIES SUPPORTING AN END-END TARGETING PROCESS
  - REDUCE TRAINING BURDEN AND OPERATIONAL TASKS
- MAINTAIN JOINT INTEROPERABILITY (TES, JSIPS, GCCS)

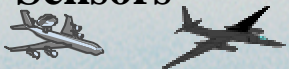# Find, Fix, Track, Target, Engage, Assess

NATIONAL MULTI-INT

Requirement:

2.5 min fm "Call For Fire"

15 min for TST

Theater and Tactical Sensors

U-2, Global Hawk, P-3C AIP, SHARP,JSTARS

NFN:
JSIPS-N
GCCS-M
TES-N

JFACC

JDAM
JSOW
SLAM-ER
HARM

ERGM
TOMAHAWK

TOMAHAWK

WEAPON CONTROL

USS ABRAHAM LINCOLN

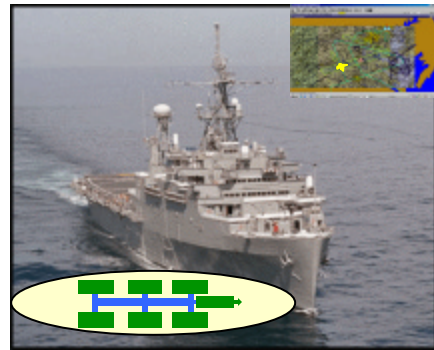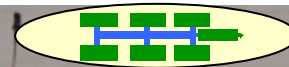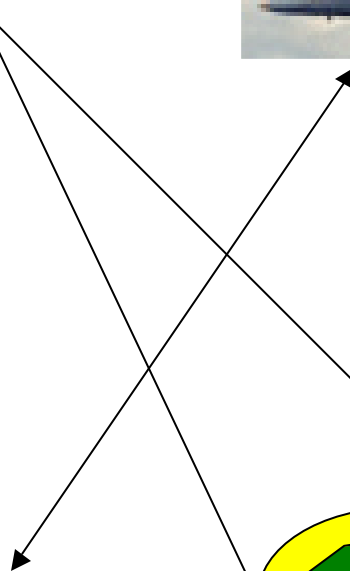**ARMY TES, USAF ISR-M, USMC TEG**

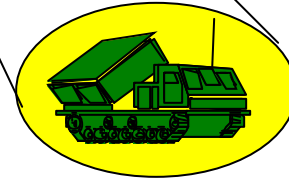# Demonstrate Navy Leadership

Process Improvement Demonstrated at FBE INDIA
26 June 2001...In 20 Minutes

- **Tipper**
- **Sensor Restasking**
- **Collection**
- **Exploitation**
- **Network to TES-A**
- **Uplink to F/A-18**
- **Strike w/JDAM**
- **BDA**
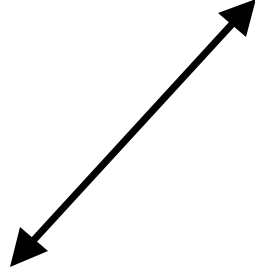
**SOCAL –
USS Coronado
NFN/TES-N**

**China Lake
TES-A**

Naval Fires Network

Naval Fires Network

Joint Fires Network in SWA

TES-F
(SCI)

GCCS

JWICS

ISR M
(GENSER)
GCCS

Reachback

C5F
TES-C
(SCI-GENSER)

GCCS

USS ESSEX
RTC
(SCI-GENSER)

SIPRNET to all Except TES-F
Via 60 Deg E DSCS (X)

USS ABRAHAM LINCOLN
Full NFN (TES-N/JSIPS/GCCS)
(SCI & GENSER)

USS BELLEAU WOOD
RTC
(SCI-GENSER)

64 deg E Intelsat (C)

60 deg E DSCS (X)
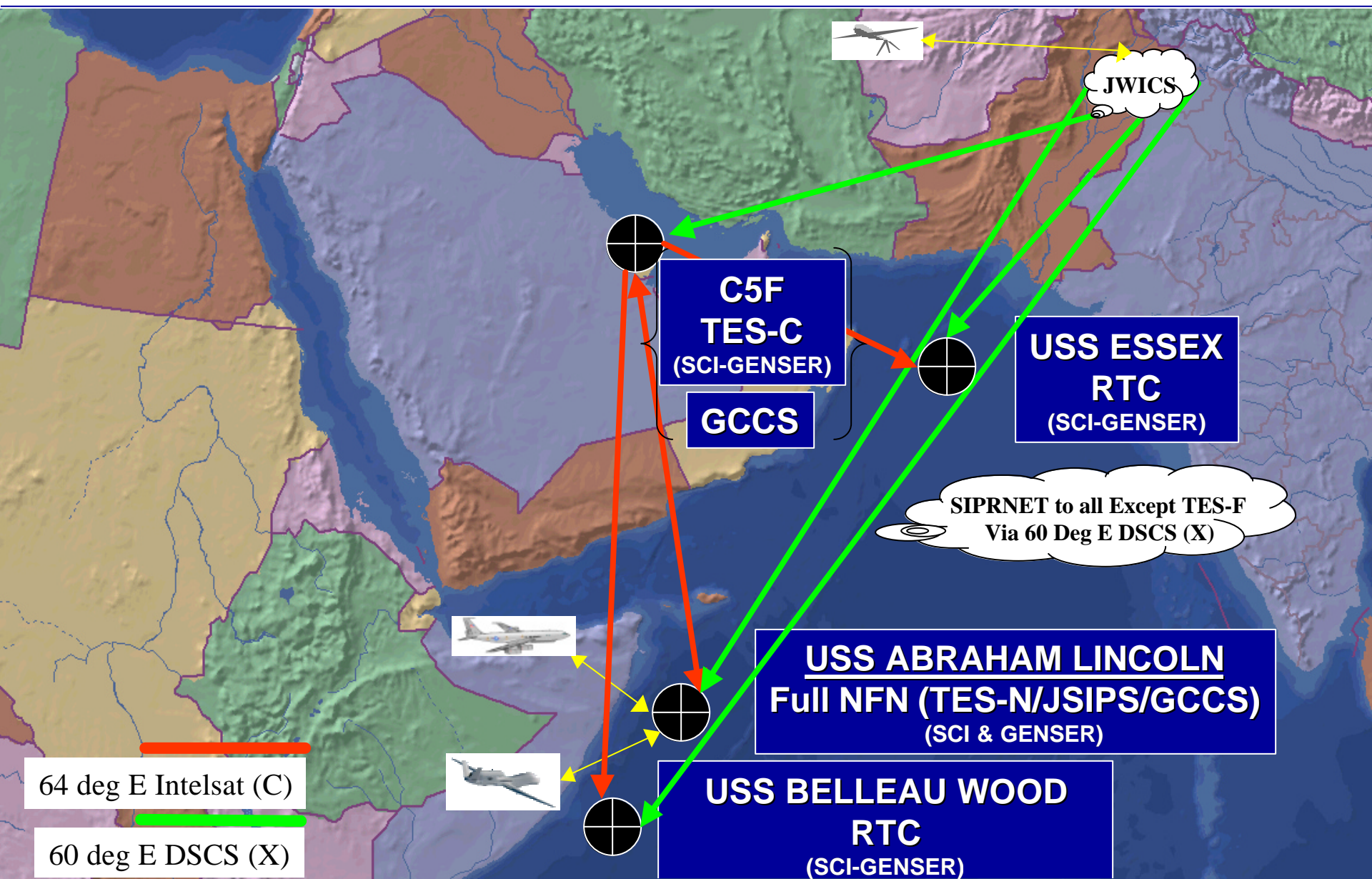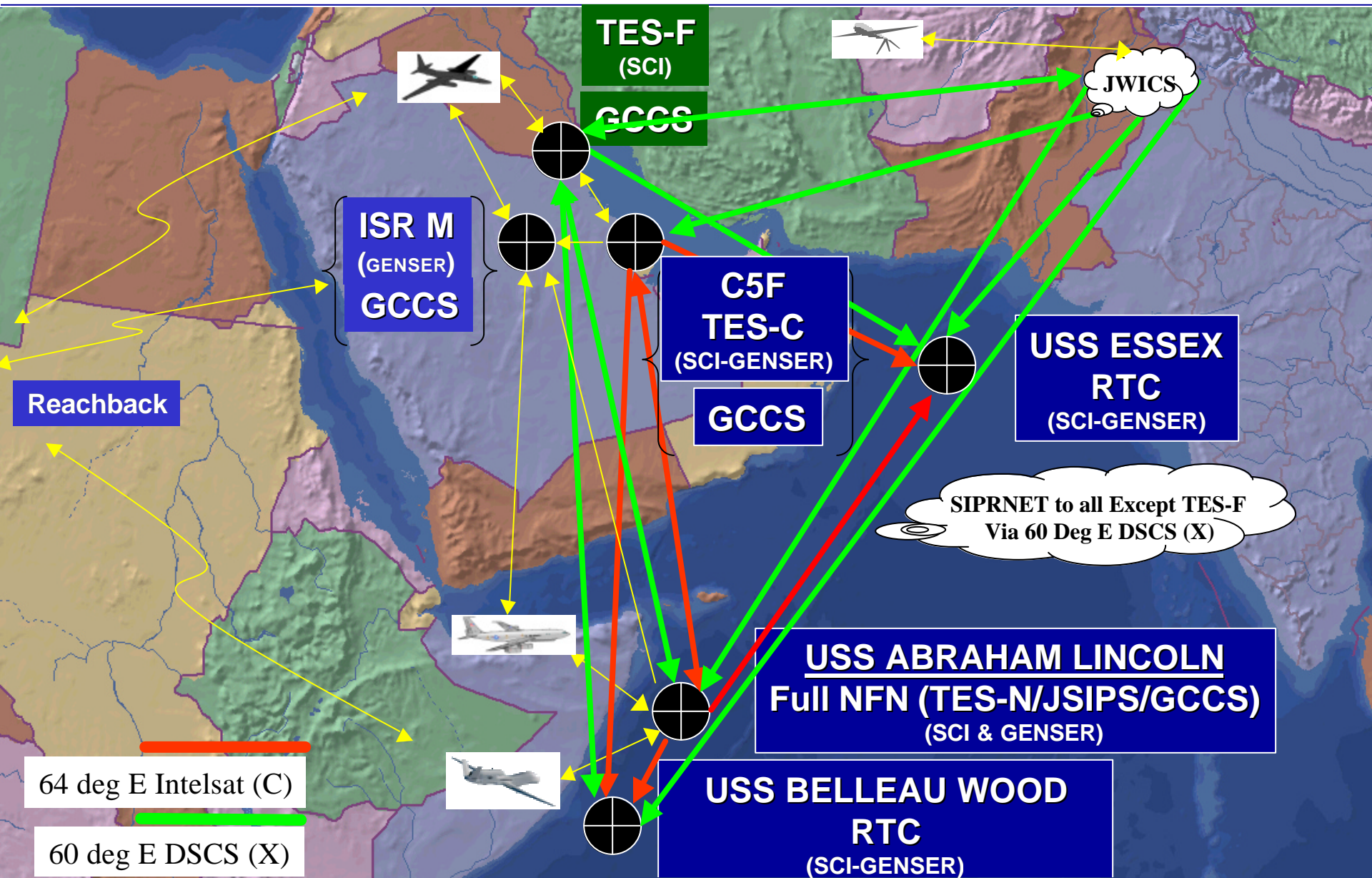
Naval Fires Capability 2002

All Naval Fires can be conducted via voice/manual

Green – Digital Capability Exists
Yellow – Manual Intervention
Red – No Digital Capability

USMC Requirements
2.5 min "Call to Shot"
10 min "Call to Fall"

Reach Back

Comms

National Intel Sensors

TSN (2004)

CAS

TBMCS--// //--GCCS-M

NFN (CDL) (2003)

Tactical/Theater Sensors

CV

NFN (2003)

TBMCS

TBMCS (2004)

JFACC

TBMCS (2004)

NFN (CDL) (2003)

TLDHS (2004)

Issues:
- TTP / C2 / CONOPs
- Grid Correlation
- Airspace Deconfliction
- OTH Communications
- Bandwidth
- Joint Fires Coordination

SACC

AFATDS

Non-Moving Targets

NFCS/PCMDS (2004)

FSCC

SINCGARS/DCT

NFCS (2004)

TLDHS (2004)

TLDHS (2004)

TTWCS Firing Unit

NFCS (2004)

FO

Programs:
• NFN	2003
• NFCS	2004
• TTWCS	2004
• TACTOM	2004
• TLDHS	2004
• ERGM	2006

NFCS --// //-- TTWCS
GCCS-M --// (CSI) //-- AWS

NFCS Firing Unit

SINCGARS/DCT (2004)

No Moving Targets
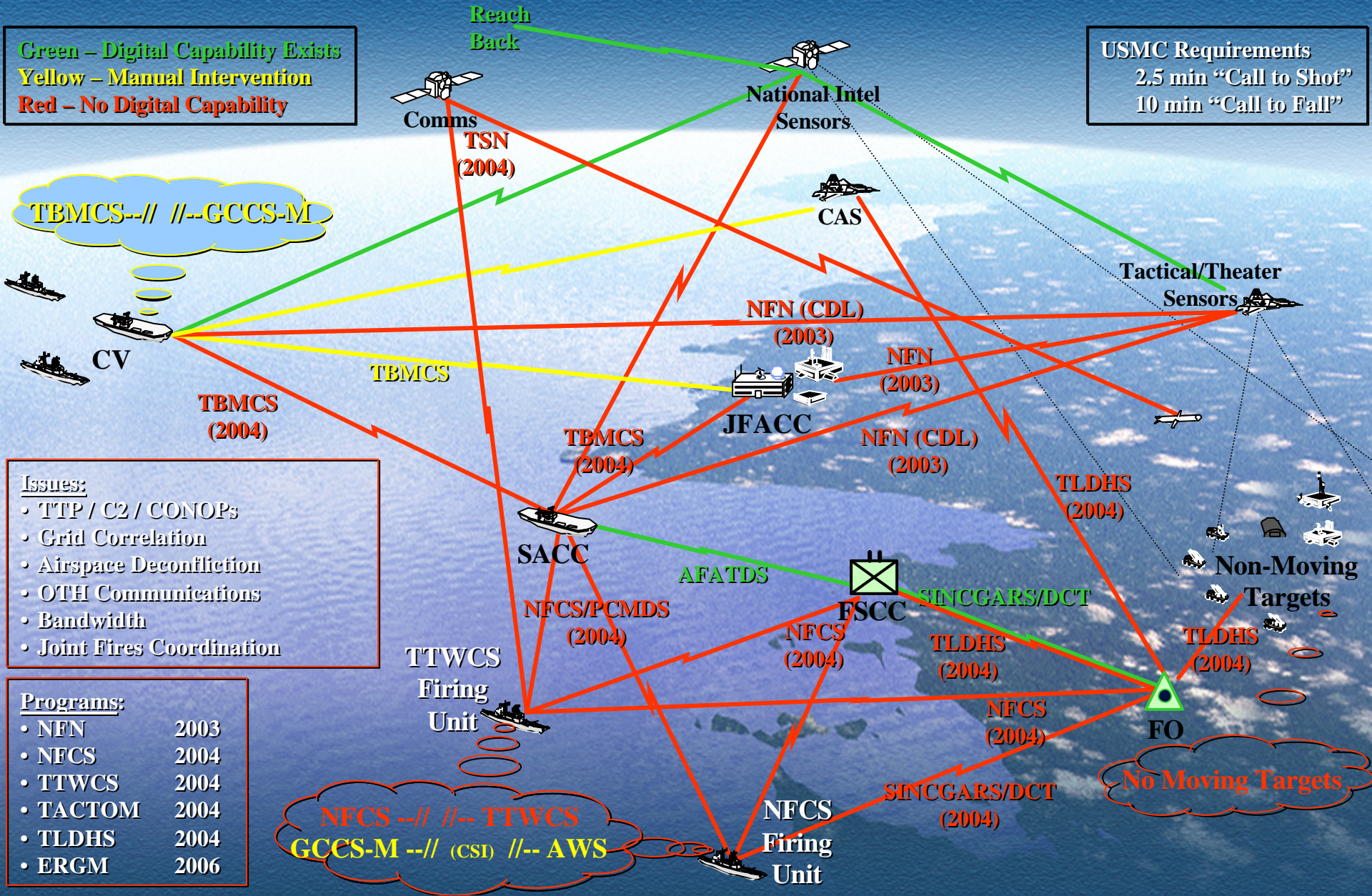
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TLDHS (2004)

NFCS (2004)

TLDHS (2004)

TTWCS Firing Unit

NFCS (2004)

FO

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- TTWCS   2004
- TACTOM   2004
- TLDHS   2004
- ERGM   2006

NFCS --// //-- TTWCS
GCCS-M --// (CSI) //-- AWS

NFCS Firing Unit

SINCGARS/DCT (2004)

No Moving Targets
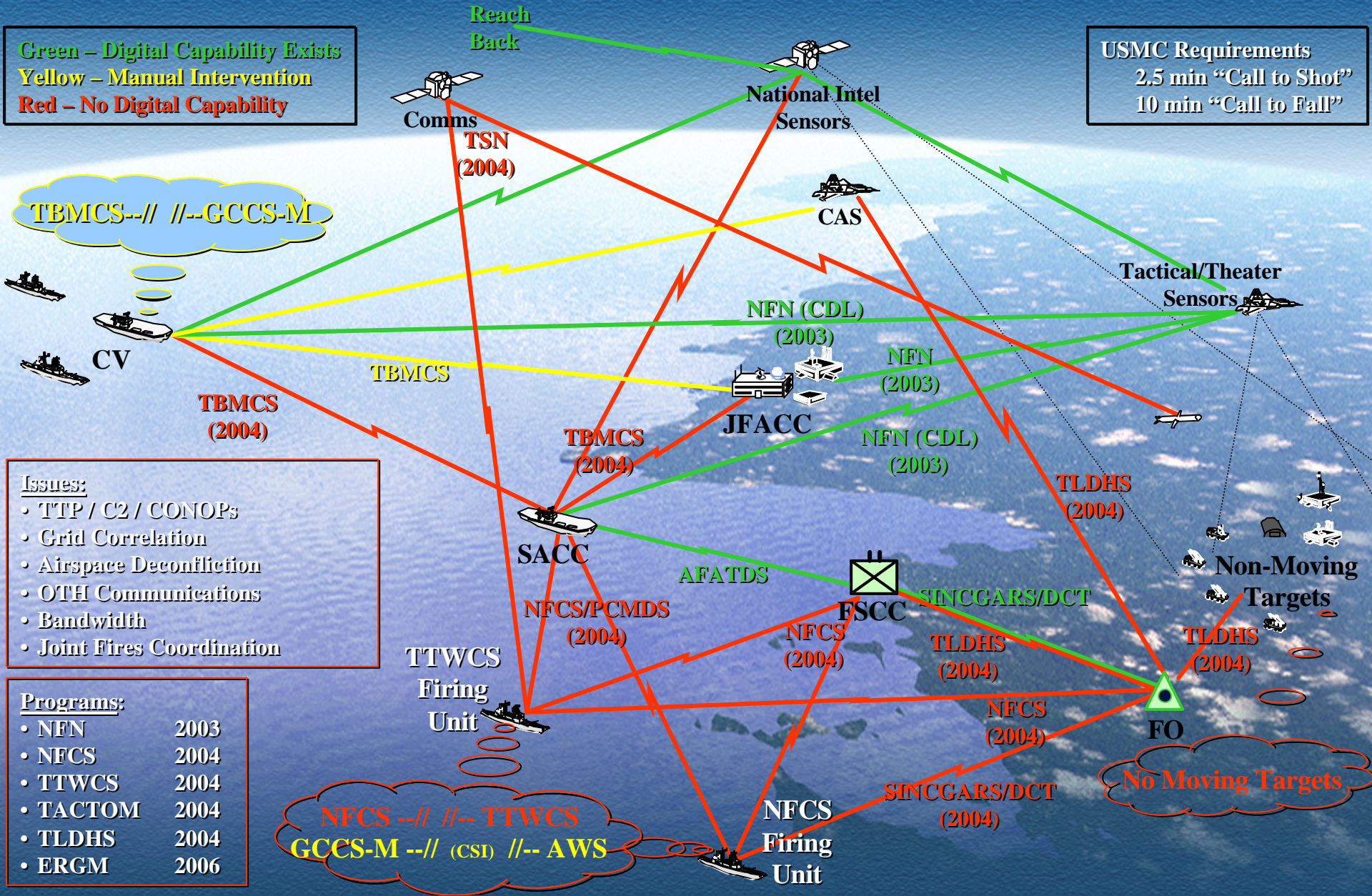
Naval Fires Capability 2004

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Reach Back

Comms

National Intel Sensors

TSN (2004)

TBMCS--// //--GCCS-M

CAS

CV

NFN (CDL) (2003)

NFN (2003)

Tactical/Theater Sensors

TBMCS

JFACC

TBMCS (2004)

TBMCS (2004)

NFN (CDL) (2003)

TLDHS (2004)

**Issues:**
• TTP / C2 / CONOPs
• Grid Correlation
• Airspace Deconfliction
• OTH Communications
• Bandwidth
• Joint Fires Coordination

SACC

AFATDS

FSCC

SINCGARS/DCT

Non-Moving Targets

NFCS/PCMDS (2004)

NFCS (2004)

TLDHS (2004)

TLDHS (2004)

TTWCS Firing Unit

NFCS (2004)

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NFCS --// //-- TTWCS
GCCS-M --// (CSI) //-- AWS

NFCS Firing Unit

SINCGARS/DCT (2004)

No Moving Targets
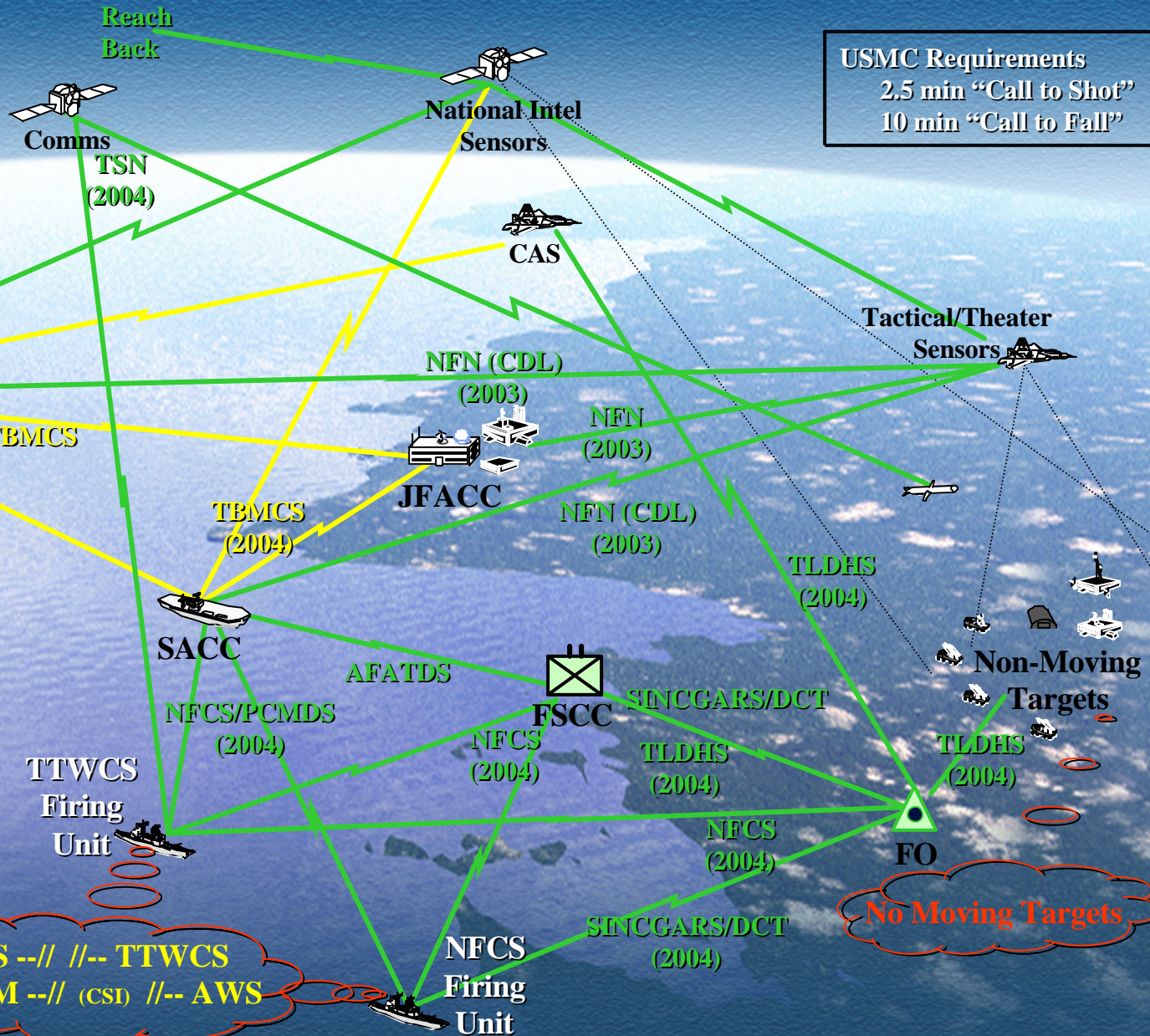
SEA POWER 21 and Naval/Joint Fires Network
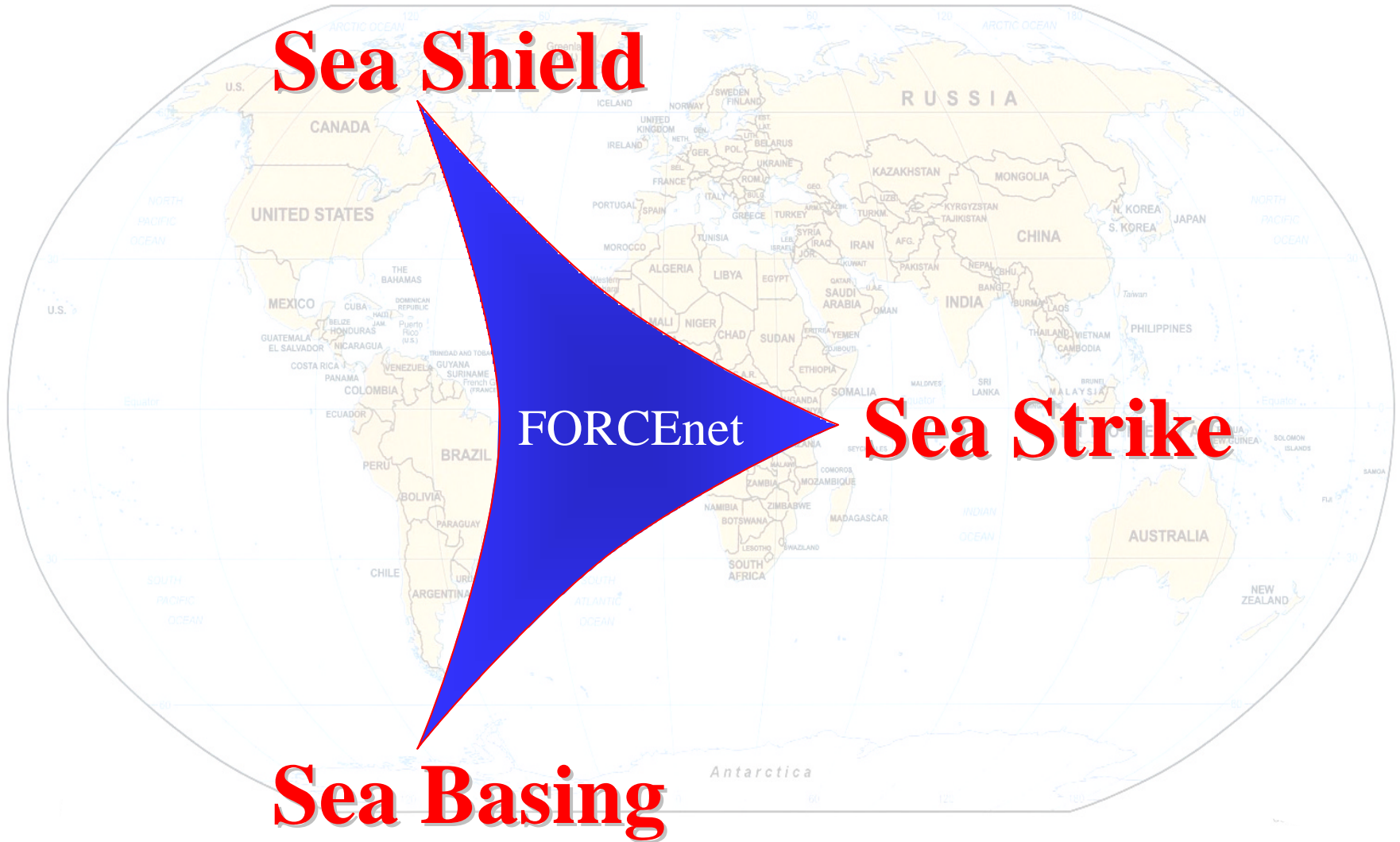
SEA STRIKE

Projecting Offense…
responsive, precise, and persistent

- *Dominant & decisive power* **from the international domain**

- *Focused Effects*: **Precision strike, information operations, special forces, and Marines**

- *Networked* **Intelligence, Surveillance & Reconnaissance (ISR) for knowledge superiority**

- *Seize the initiative*
    - **Disrupt enemy timelines**
        - **Preempt adversary options**
   - **Ensure operational success**

Sea Strike

SEA STRIKE

REPRESENTATIVE PROGRAMS			
• JSF • CVN(X) • DD(X) • SSGN • Tactical Tomahawk	•Expeditionary Strike Group •MV-22	•Global Hawk •Unmanned Underwater Vehicle (UUV) •E-2 Radar Modernization Program	• Airborne Electronic Attack (AEA) Aircraft
•F/A-18E/F •JDAM	•LHD-8 •LPD-17	• Multi-Mission Aircraft (MMA) • SSN-774	• Improved Capability EA-6B (ICAP III)
Time Sensitive Strike	Expeditionary Maneuver Warfare	Persistent ISR	EW / IO

Transformational — *Core* (vertical axis labels)

Joint Fires Network 2008

Long-Term Goal:
- Sensor to Shooter from Minutes to Seconds
- Deep Inland Maneuver
- Continuous ISR

Sea Strike
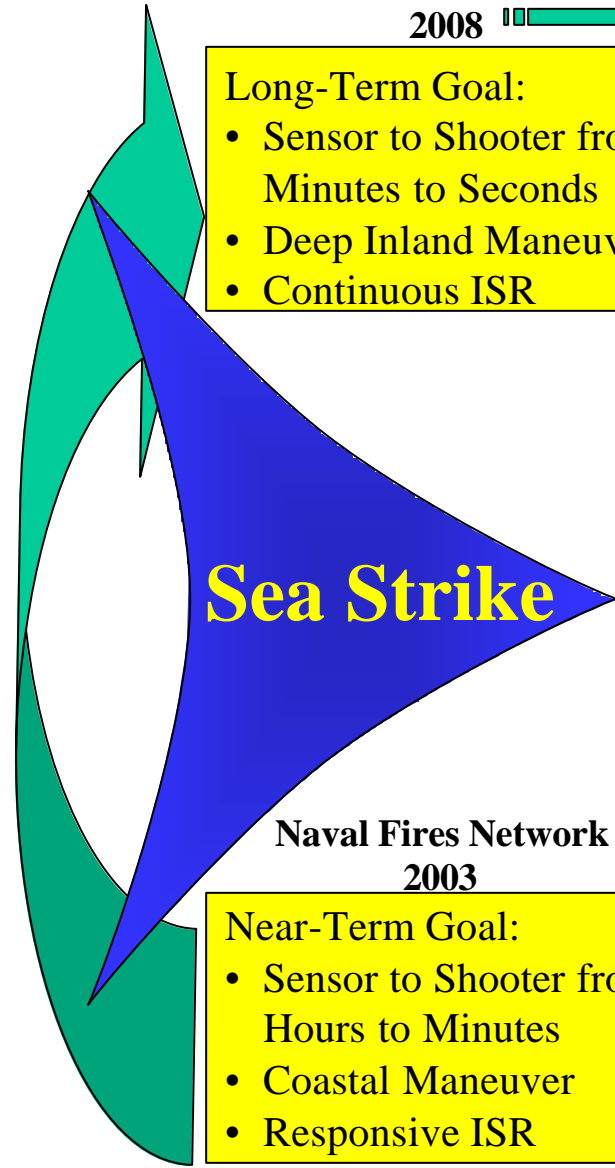
Naval Fires Network 2003

Near-Term Goal:
- Sensor to Shooter from Hours to Minutes
- Coastal Maneuver
- Responsive ISR

SEA BASING

Projecting Sovereignty…
joint power from the sea

- *Sea-bases key warfighting capabilities*
  - **Command & control**
  - **Fire support**
  - **Logistics**

- *Extends naval advantages to the joint team*
  - **Freedom of operations**
  - **Immediate employability**
  - **Increased security**

- *70% of the earth's surface as joint maneuver space*

Sea Basing

SEA BASING

REPRESENTATIVE PROGRAMS		
•FORCEnet Concept •Cooperative Engagement Capability (CEC)	•JSF •DD(X) –Naval/Joint Fires Network (NFN/JFN) •Tactical Tomahawk	•Maritime Pre-positioned Force (Future) MPF(F)
•NMCI / IT-21 •Global Command & Control System-Maritime (GCCS-M) •Mobile User Objective System (MUOS)	•F/A-18E/F •JDAM •Tomahawk	•MH-60S •T-AOE(X) •T-AKE
Command and Control	**Fire Support**	**Logistics**

Transformational — *Core* (vertical axis labels)

Sea Basing

Long-Term Goal:
• Years on Station
• ***Deep Fire Support***
• Heavy Sea Transfer
• ***Seamless C3***

Near-Term Goal:
• Months on Station
• ***Coastal Fire Support***
• Light Sea Transfer
• ***Enhanced C3***

Areas of Concern

- Airspace Deconfliction
- Chat Room Decisions
- Decision Tools

Terminal Fury-03 Operational Concept

I CORPS

CCG5/USS Kitty Hawk **(ISR-M)**

INDIGO/MDU

TDM

INDIGO/MDU

C7F/USS BLUE RIDGE (FULL NFN SUITE) **(Full ISR-M)**

LHA/LHD (RTC) **(ISR-M)**

NFCS

TDM

AFATDS

PAOC Hickam AFB NFN RTC **(ISR-M)**

Backup Slides

MC02/FBE-J
Live Sensor and Fires Network
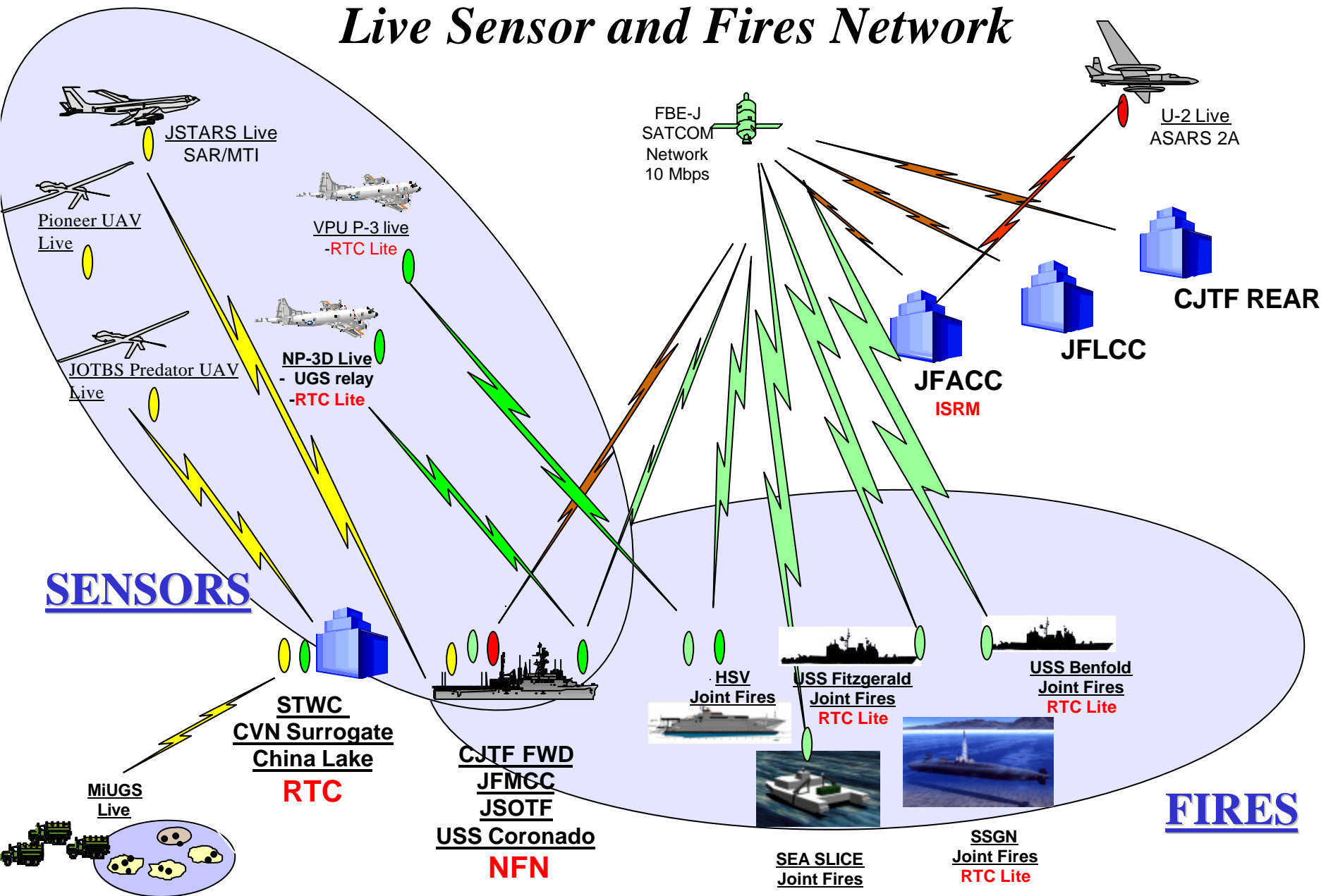
FIELDED NFN/TES SYSTEMS
JOINT MULTI-INT ARCHITECTURE

JCS

LIN

BW
JUN 02

ESX
JUN 02

KHK
SEP 02

SIA
TBD

TR
TBD

ENT
TBD

COR

BLUE RIDGE
JUL 02

Hairy Buffalo

LSS

RTC
EXERCISE

RTC
CHINA LAKE

RTC LITE
17 UNITS

US NAVY		
US ARMY		
USMC		
US AIR FORCE		

TES-MAIN

TES-MAIN

TES-MAIN

TEG-1

TEG-2

TEG-3

JFCOM

USEUCOM

USCENTCOM

I MEF

II MEF

III MEF

DTES
10 UNITS

TES-FWD

TES-FWD

TES-FWD

TES-FWD

TES-FWD

TES-FWD

TES-R

TES-J

ETP SITE

TES-C
C5F

HICKAM
JUN 02

ISR M-R
LANGLEY

ISR M-H
NELLIS

ISR M-R
SWA
JUL 02

FALLON
SEP 02

FITCPAC
SEP 02

CSMA
LANT
DEC 02

CSMA
PAC
DEC 02

NIMTC
SEP 02

RAMSTEIN H
JUL 02

BEALE
AUG 02

Paul Revere

USS Abraham Lincoln 2002 Deployment Objectives

- Deploy with NFN fully integrated in LINCOLN's strike process

- Support Navy RTC units in theater

- Establish an ISR network with C5F, Army, Air Force

- Control ISR Sensors both directly and via the network

- Develop and validate NFN CONOPS in Naval and Joint context

- Define deficiencies in operator skill sets or training

- Naval Postgraduate School Provide:
    - Data Collection and Analysis during deployment
    - CONOPS and TTP development support

- Define required system architecture improvements

Acronyms

AFATDS	**Advanced Field Artillery Tactical Data System**
AWS	**AEGIS Weapon System**
CAS	**Close Air Support**
CDL	**Common Data Link**
CSI	**Combat System Interface**
DCT	**Digital Communications Terminal**
ERGM	**Extended Range Guided Munition**
FO	**Forward Observer**
GCCS-M	**Global Command Control System - Maritime**
IOC	**Initial Operational Capability**
JFACC	**Joint Forces Air Component Commander**
NFCS	**Naval Fires Control System**
NFN	**Naval Fires Network**
PCMDS	**Personal Computer Mission Distribution System**
SACC	**Supporting Arms Coordination Center**
SINCGARS	**Single Channel Ground and Airborne Radio System**
TBMCS	**Theater Battle Management Core System**
TACTOM	**Tactical Tomahawk**
TLDHS	**Target Location Designation and Handoff System**
TSN	**Tomahawk Strike Network**
TTP	**Tactics, Techniques and Procedures**
TTWCS	**Tactical Tomahawk Weapons Control System**