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

- 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

- 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

**Requirement:**
2.5 min from “Call For Fire”
15 min for TST

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

**NFN:**
JSIPS-N, GCCS-M, TES-N

**USS ABRAHAM LINCOLN**

**Demonstrate Navy Leadership**

**WEAPON CONTROL**

**JFACC**

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

**THEATER AND TACTICAL SENSORS**

**NATIONAL MULTI-INT**

**JDAM, JSOW, SLAM-ER, HARM, ERGM, TOMAHAWK**
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

Joint Fires Network in SWA

USS ESSEX
RTC
(SCI & GEN-GENSER)

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

USS BELLEAU WOOD
RTC
(SCI & GEN-GENSER)

64 deg E Intelsat (C)

60 deg E DSCS (X)

SIPRNET to all Except TES-F
Via 60 Deg E DSCS (X)
All Naval Fires can be conducted via voice/manual use.

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

**Programs:**
- NFN 2003
- NFCS 2004
- TTWCS 2004
- TACTOM 2004
- TLDHS 2004
- ERGM 2006

**USMC Requirements:**
- 2.5 min “Call to Shot”
- 10 min “Call to Fall”

Non-Moving Targets

All Naval Fires can be conducted via voice/manual use.
Naval Fires Capability 2003

All Naval Fires can be conducted via voice/manual

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

Issues:
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SEA POWER 21 and Naval/Joint Fires Network

Sea Strike

Sea Shield

FORCEnet

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

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

### Sea Strike

#### Core Programs
- **F/A-18E/F**
- **JDAM**
- **LHD-8**
- **LPD-17**
- **Multi-Mission Aircraft (MMA)**
- **SSN-774**

#### Transformational 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**

### Representative Programs

<table>
<thead>
<tr>
<th>Time Sensitive Strike</th>
<th>Expeditionary Maneuver Warfare</th>
<th>Persistent ISR</th>
<th>EW / IO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F/A-18E/F</strong></td>
<td><strong>LHD-8</strong></td>
<td><strong>Multi-Mission Aircraft (MMA)</strong></td>
<td><strong>Improved Capability EA-6B (ICAP III)</strong></td>
</tr>
<tr>
<td><strong>JDAM</strong></td>
<td><strong>LPD-17</strong></td>
<td><strong>SSN-774</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Transformational Programs

- **Joint Fires Network** 2003
  - Near-Term Goal:
    - Sensor to Shooter from Hours to Minutes
    - Coastal Maneuver
    - Responsive ISR

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

- **Naval Fires Network** 2008
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**

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

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

### REPRESENTATIVE PROGRAMS

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

**Sea Basing**

**Core**
- Transformational
Areas of Concern

- Airspace Deconfliction
- Chat Room Decisions
- Decision Tools
Terminal Fury-03 Operational Concept

I CORPS

C7F/USS BLUE RIDGE (FULL NFN SUITE)

CCG5/USS Kitty Hawk (ISR-M)

LHA/LHD (RTC) (ISR-M)

INDIGO/MDU

TDM

NFCS

PAOC Hickam AFB NFN RTC (ISR-M)
Backup Slides
FIELDED NFN/TES SYSTEMS
JOINT MULTI-INT ARCHITECTURE

JCS   LIN   BW   ESX   KHK   SIA   TR   ENT   COR   BLUE RIDGE
JUN 02 JUN 02 SEP 02 TBD  TBD  JUL 02

Hairy Buffalo  LSS

RTC  RTC  RTC
EXERCISE  CHINA LAKE  LITE

17 UNITS

10 UNITS

TES-MAIN  TES-MAIN  TES-MAIN
JFCOM  USEUCOM  USCENTCOM

TES-FWD  TES-FWD  TES-FWD

TES-FWD  TEG-1  TEG-2  TEG-3
JMEF  II MEF  III MEF

US NAVY
US ARMY
USMC
US AIR FORCE

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  FITCPAC
SEP 02 SEP 02

CSMA  CSMA  NIMTC
LANT  PAC  SEP 02
DEC 02 DEC 02 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

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