What Do Others Call It?

Net-Centric Warfare – U.S.A.

Network-Centric Warfare – U.S.A.

Network-Centric Operations & Warfare – U.S.A.

Network-Centric Capability - NATO

Network-Enabled Capability – United Kingdom

Info-Centric Warfare - France

Networked-Based Defense - Sweden
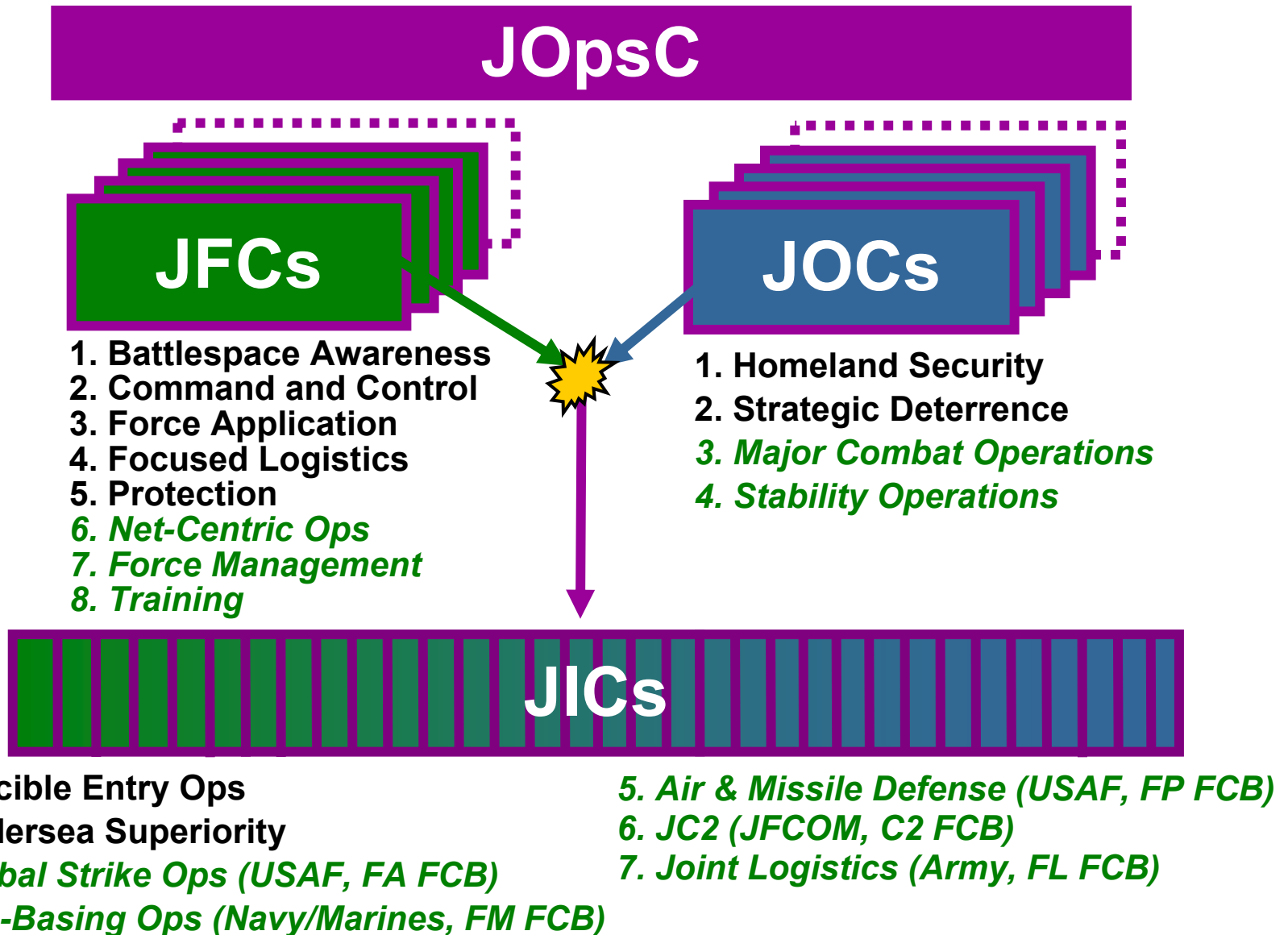
Knowledge-Based Command & Control – Singapore

Net-Work Centric Operations – Netherlands

Network-Enabled Warfare - Australia

Connectivity

is What It is All About!

Current Joint Concepts*

JOpsC

JFCs

JOCs

1. Battlespace Awareness
2. Command and Control
3. Force Application
4. Focused Logistics
5. Protection
6. *Net-Centric Ops*
7. *Force Management*
8. *Training*

1. Homeland Security
2. Strategic Deterrence
3. *Major Combat Operations*
4. *Stability Operations*

JICs

1. Forcible Entry Ops
2. Undersea Superiority
3. *Global Strike Ops (USAF, FA FCB)*
4. *Sea-Basing Ops (Navy/Marines, FM FCB)*

5. *Air & Missile Defense (USAF, FP FCB)*
6. *JC2 (JFCOM, C2 FCB)*
7. Joint Logistics (Army, FL FCB)

*Joint Staff J-7, CDR. Todd Kiefer, September, 2004

The Tenets of NCW

| A Robustly Networked Force | **Improves** → | Information Sharing |

| Information Sharing and Collaboration | **Enhances** → | Quality of Information and Shared Situational Awareness |

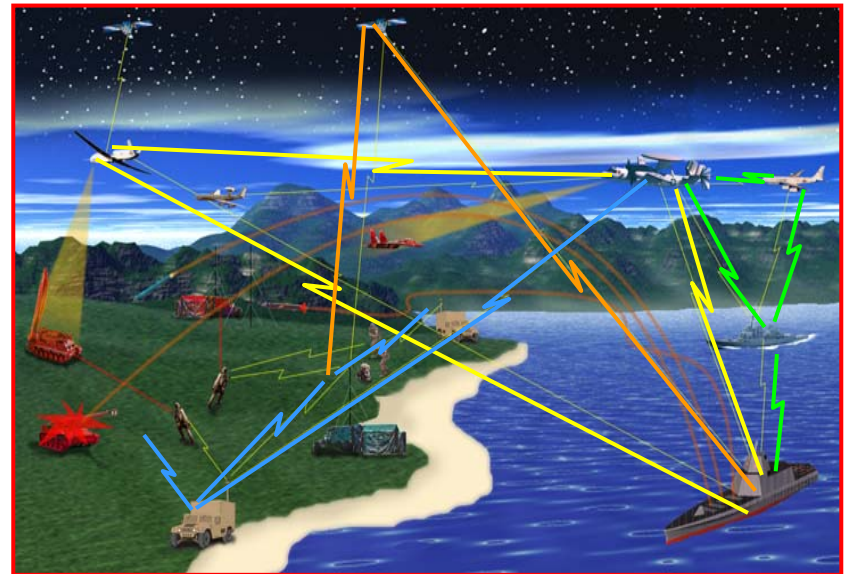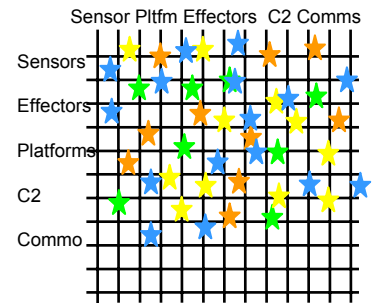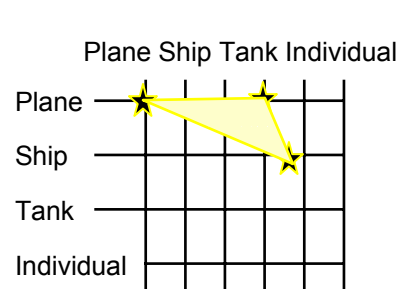| Shared Situational Awareness | **Enables** → | Collaboration and Self-synchronization |

These, in turn, Dramatically Increase *Mission Effectiveness*
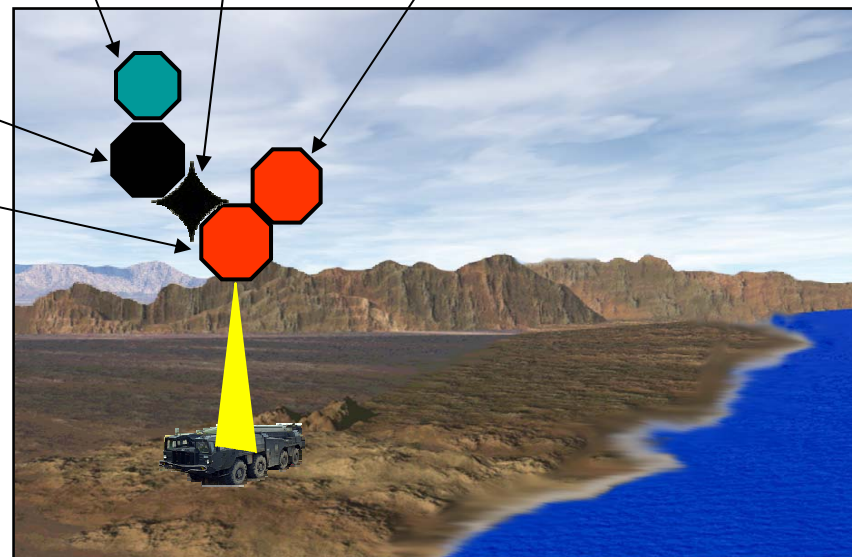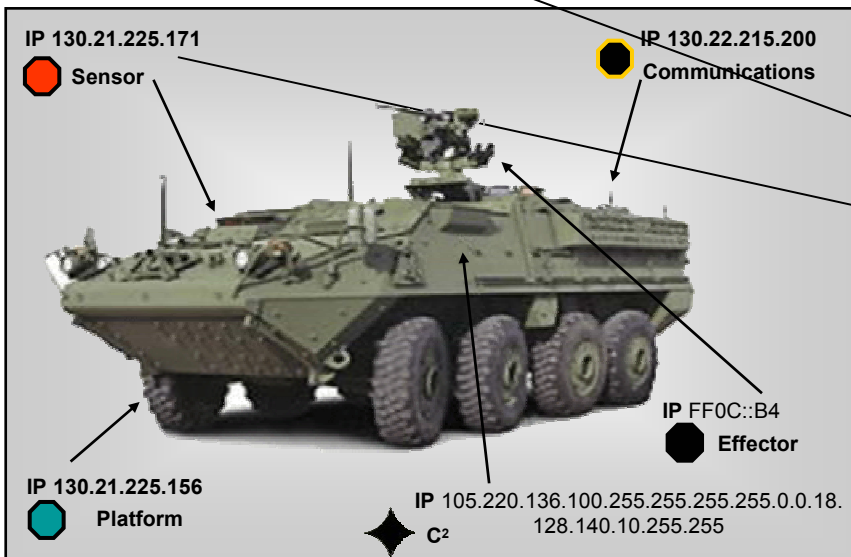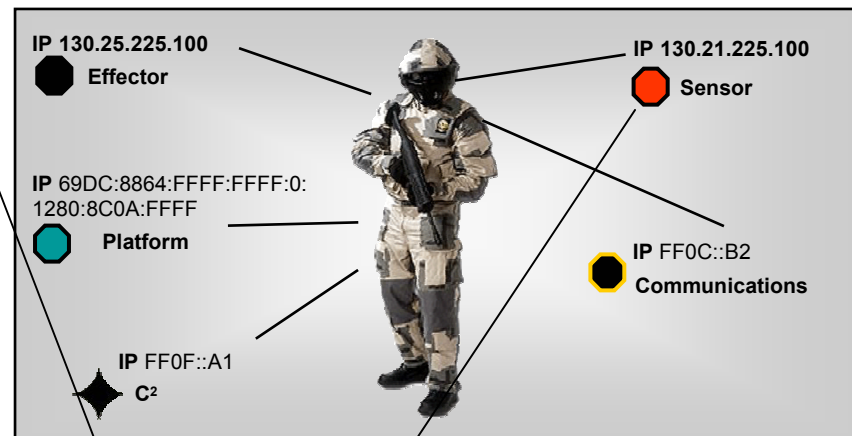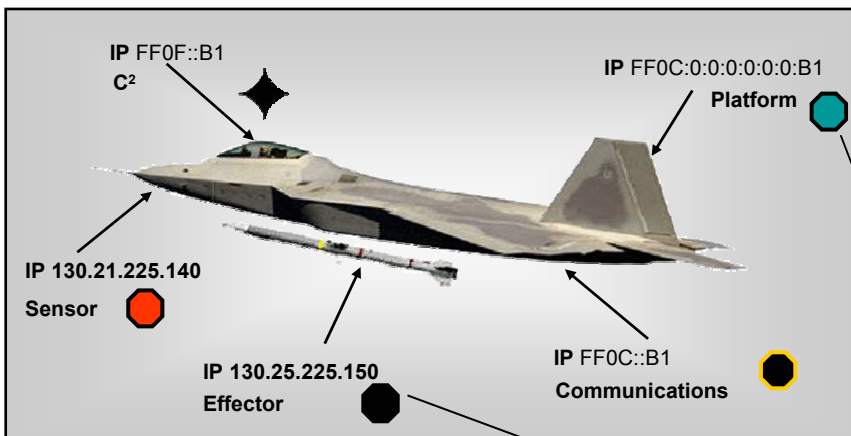
Creating Actionable Information

- **Complexity**
  - **Expanding number of "netted" systems on an unprecedented scale**
  - **Multiple architectures**
  - **Scaling**
  - **Effects-based capabilities**
  - **Complex resource allocation**

- **Compliance**
  - **Joint capabilities processes**
  - **Systems engineering and requirements flow-down**
  - **Distributed development**
  - **Modeling & simulation**
  - **Testing complexity**
  - **Account for unexpected behavior**

- **Acquisition challenges**
  - **Co-evolution & convergence**
  - **Current system assimilation**
  - **Asynchronous programmatics**
  - **Budget pressure**

Tying It All Together – Net Centric Operations

IP FF0F::B1
C²

IP FF0C:0:0:0:0:0:0:B1
Platform

IP 130.21.225.140
Sensor

IP 130.25.225.150
Effector

IP FF0C::B1
Communications

IP 130.25.225.100
Effector

IP 130.21.225.100
Sensor

IP 69DC:8864:FFFF:FFFF:0:
1280:8C0A:FFFF
Platform

IP FF0C::B2
Communications

IP FF0F::A1
C²

IP 130.21.225.171
Sensor

IP 130.22.215.200
Communications

IP FF0C::B4
Effector

IP 130.21.225.156
Platform

IP 105.220.136.100.255.255.255.255.0.0.18.
128.140.10.255.255
C²

Internet analogy – every weapon, sensor & platform has an IP address

Some Take Aways

- **NCW is more about networking than networks**

- **NCW is the military's adaptation to the Information Age**

- **NCW involves the redefinition of command and control**

- **A new vocabulary and a new set of criteria are needed**