



NET-CENTRIC OPERATIONS

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Overview

- **Military transformation**
- **Implications of transformation for other venues**
- **Industry role as enabler/partner in transformation**
 - **Role of architectures**
 - **Importance of global systems of systems**

No Soldier Should be Alone



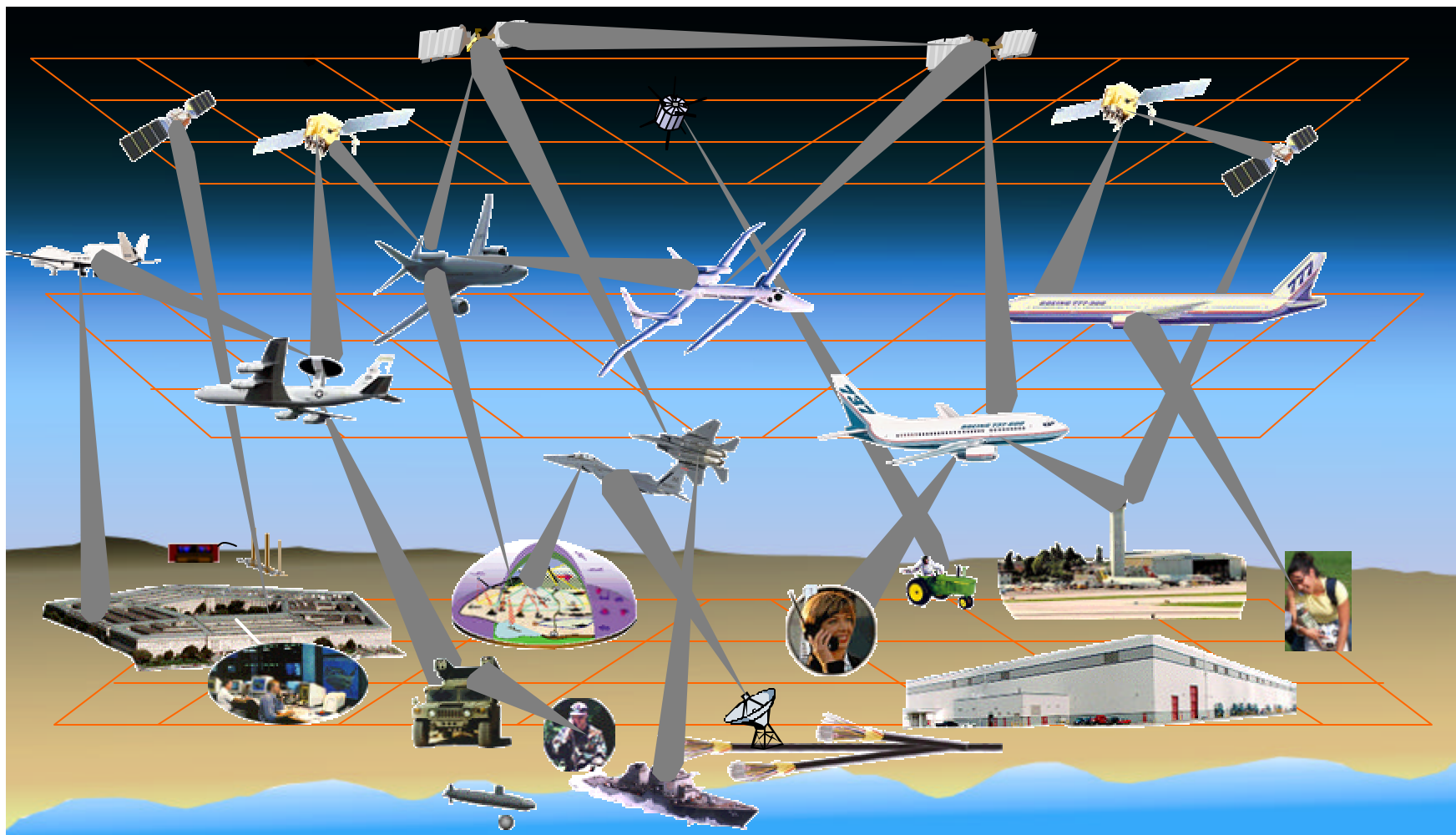
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WHAT IF A SINGLE WARFIGHTER SHARED THE KNOWLEDGE OF MILLIONS?

The U.S. military and Boeing Integrated Defense Systems are making this happen. Creating a global integrated battlespace network to give U.S. forces and allies the right information at the right time, so they can act before the enemy can think. From the Future Combat Systems program and next-generation communication satellites to world-class fighters, transports and intelligence systems, Boeing brings the best of industry, people and technology to the task. So no warfighter is ever alone.

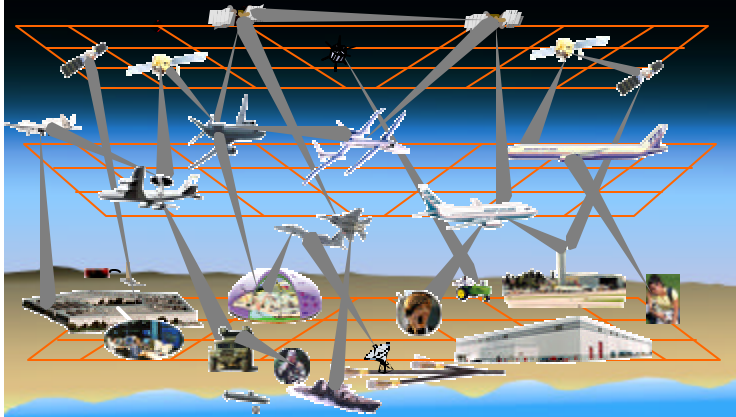
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Forever New Frontiers

Net-Enabled Operations



Common Needs Supported by One Architecture

Operational View



Identifies Customer Operations and Information Needs

Technical View

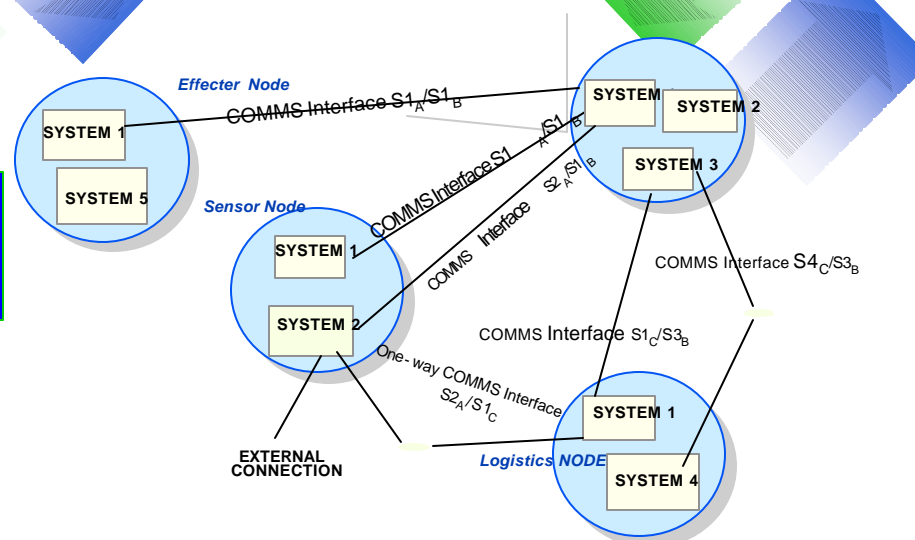


Prescribes Standards and Conventions



System View

Relates Capabilities and Characteristics to Operational Requirements



The Need for Information is Universal

- Knowledge Learning
- Comfort, Pleasure
- Decision Support
- Situational Control
- Situational Awareness
- Safety/Protection



Where am I?
Where are my friends?
Where is the enemy?
What is the enemy's intent?



Where am I?
Where are the airplanes?
What is the weather enroute?
What is the best route?



Where am I?
Where are the dangers?
Where are my compatriots?
What are the hazards?

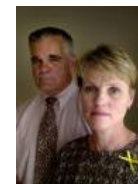


Where am I?
When will I arrive?
What is my schedule?



Where am I?
What is the weather?
What should I apply to my crops?
How are the fields?

Where are we?
Where are the kids?



Basic Net-Centric Elements



The Way Ahead

Today



Communication



Launch



Bombers



Fighters



Helicopters

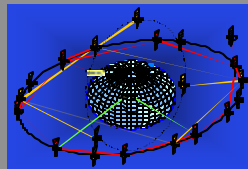


Weapons

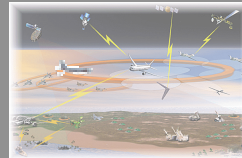


Command & Control

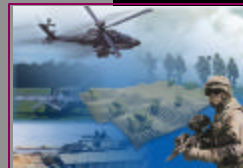
Transformational Programs



Transformational Communications



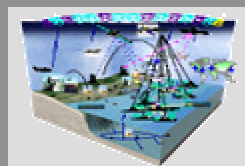
C2C



JTRS

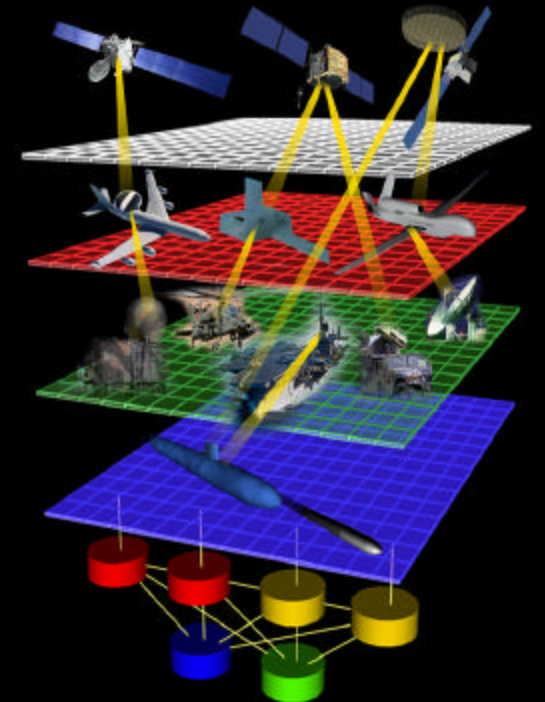


FCS



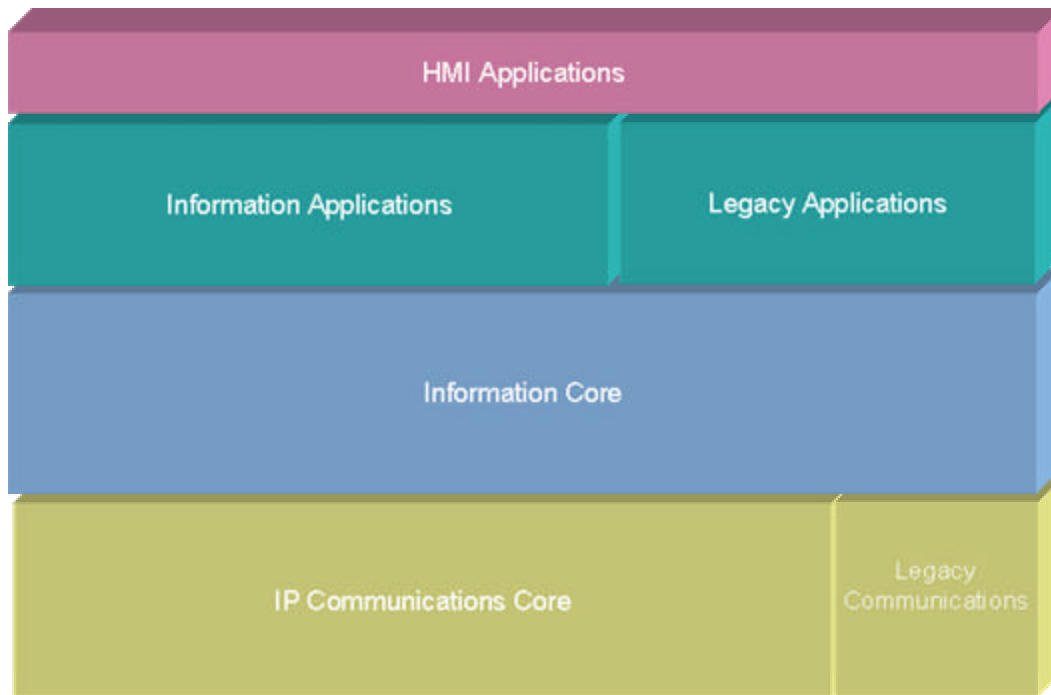
FORCEnet

Tomorrow



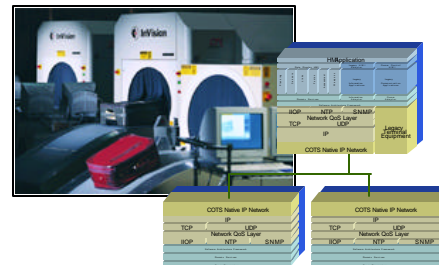
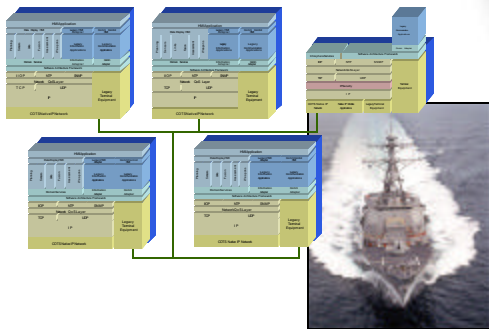
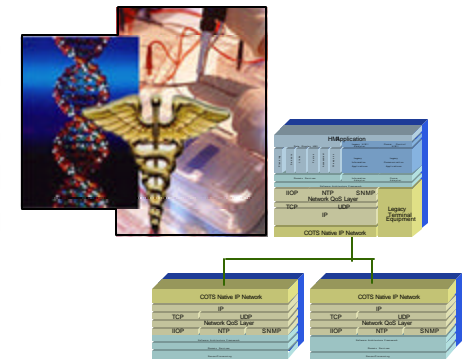
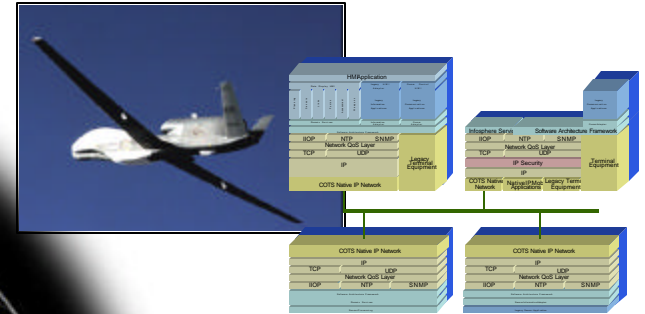
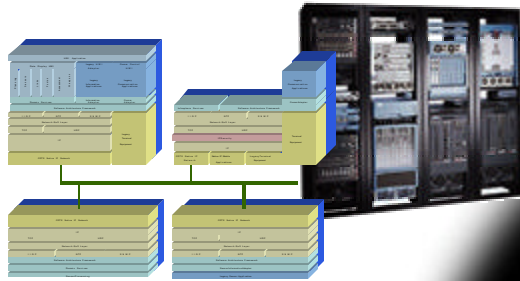
Integrated Battlespace of the Future (JV 2020)

The Common Denominator



- **Common, open architecture...**
 - **COTS standards and products**
 - **Based on an evolving reference model**
- **Reference model...**
 - **Interoperability resides in comm/info layers**
 - **Developers design from same foundation**
 - **Focused on mission effectiveness**

Creating Global Interoperability

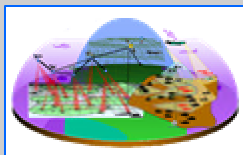


* Products/platforms are shown here for informational purposes only.

Examples of Net-Centric Enablers

- **Network-Centric Warfare**
 - **Changes nature of military operations.**
- **Homeland Security**
 - **Enables Federal, State, local capabilities to address threats while maintaining agency independence.**
- **Air Traffic Management**
 - **Enables efficient, safe control of evolving commercial, military and general aviation operations.**

Integrated Battlespace



Missile Defense



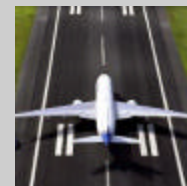
Global Connectivity



Homeland Security



ATM



Industry's Role as Principal Enabler



- Establish common approach
- Use best commercial technology
- Provide technical resources
- Collectively deploy and evolve the architecture

Industry as a Partner in Transformation

- **Customer:** defines operational requirements
- **Industry:**
 - Implements/integrates/complements operator requirements
 - Leverages evolving technology
 - Works with standards bodies
 - Fosters common understanding about NCO
 - Achieves “multiplier effect” to provide value to customer
 - Advances healthy competitive environment
 - Opens markets for new Net-Centric products

Velocity through industry collaboration

No Soldier Need Ever be Alone



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WHAT IF A SINGLE DEFENDER SHARED THE KNOWLEDGE OF MILLIONS?

Boeing Integrated Defense Systems and its partners around the world are making this happen. Creating a global integrated battlespace network to give international defence forces the right information at the right time, so they can act before the enemy can think. From world-class fighters, transports, tankers and missiles to next-generation intelligence systems, communication satellites and launch vehicles, Boeing brings the best of industry, people and technology to the task. So no defender is ever alone.

 **BOEING**
Partners Also Pioneers