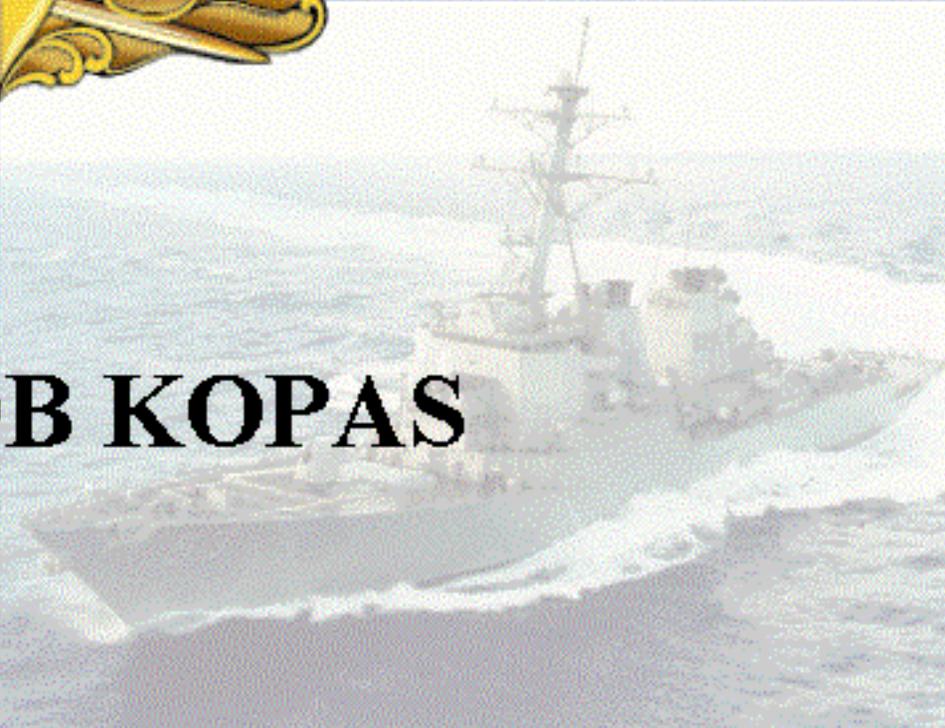
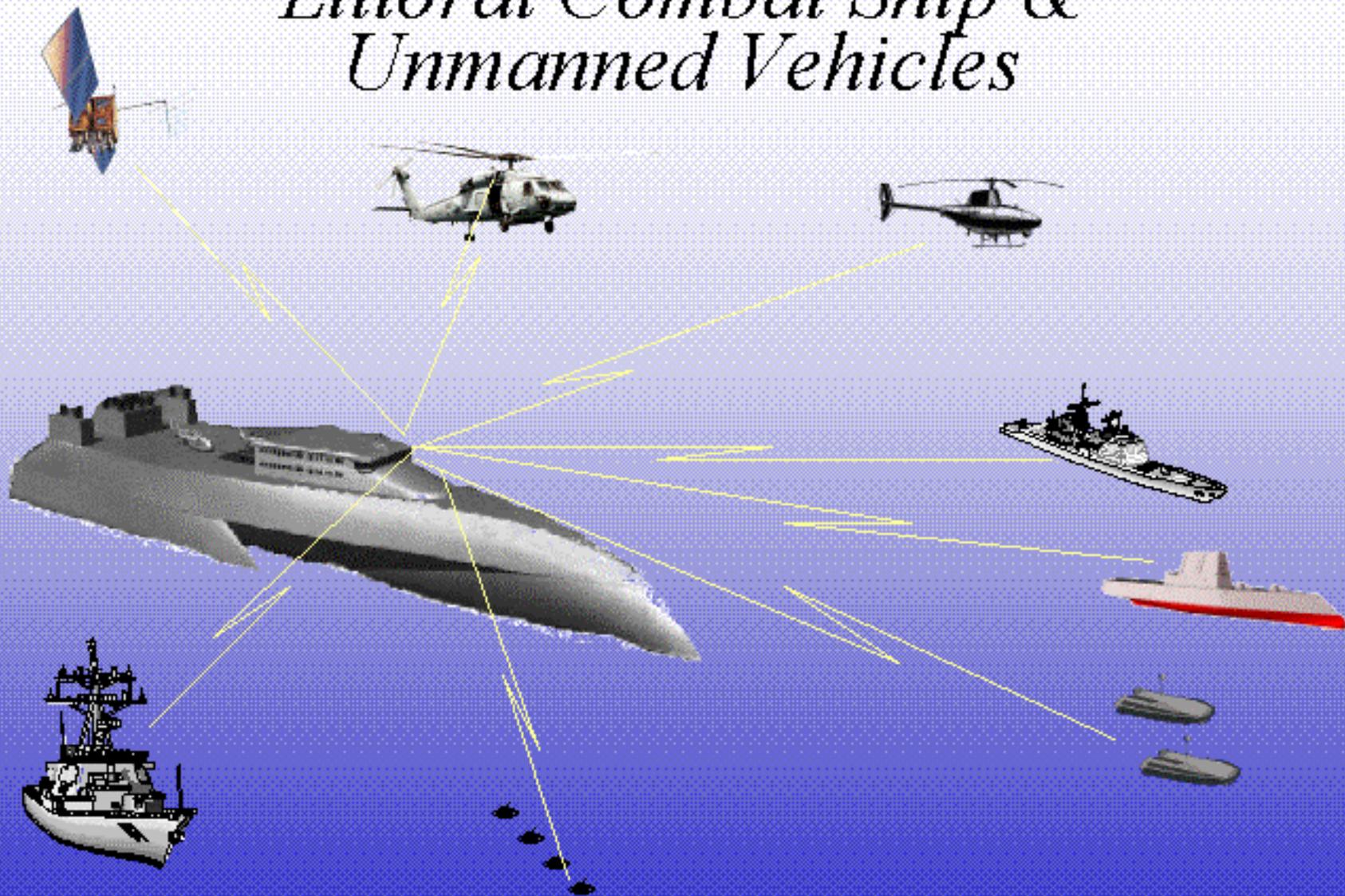


**FORCENET:
COMNAVSURFOR VISION**



CAPT BOB KOPAS

Littoral Combat Ship & Unmanned Vehicles

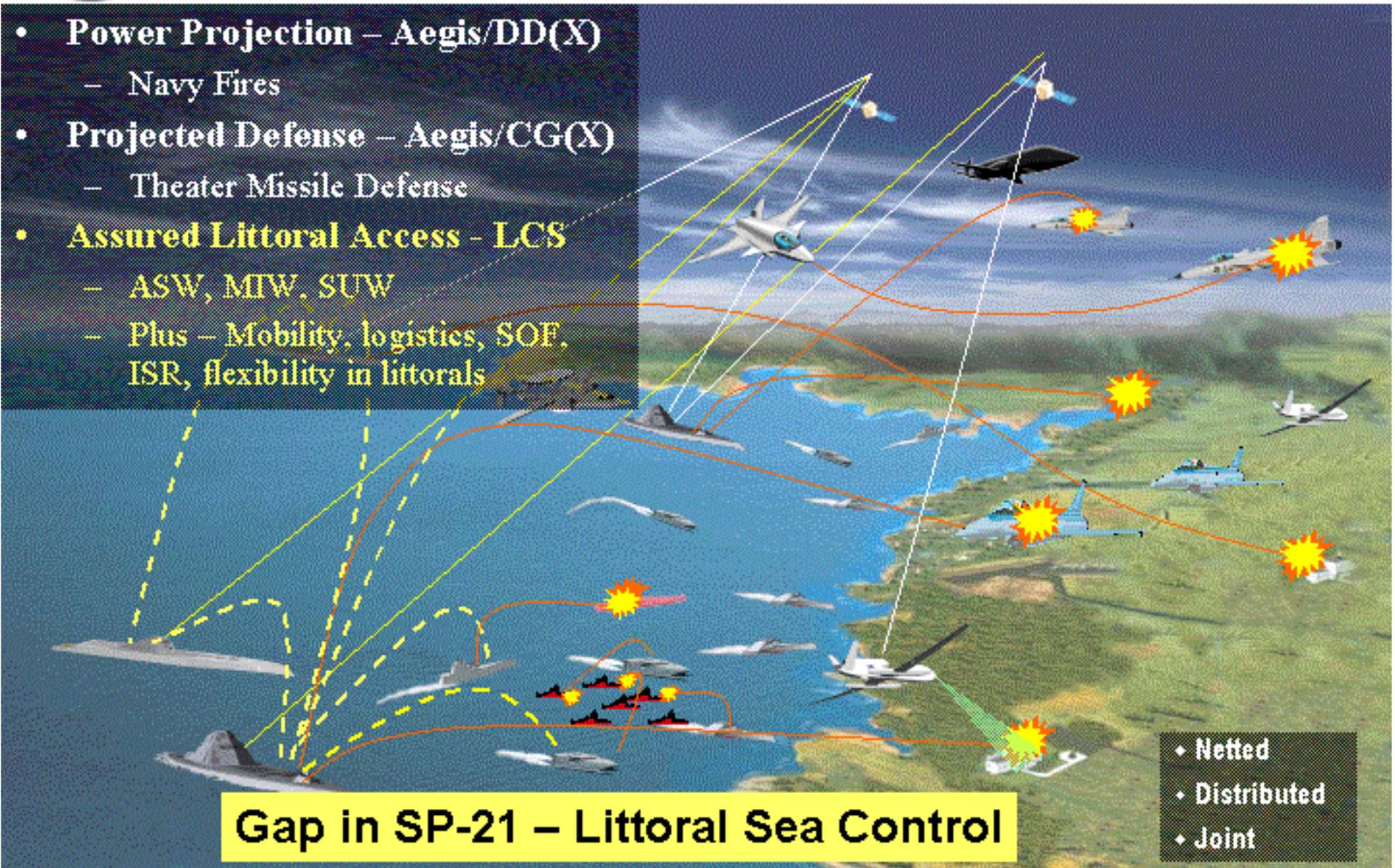


Transformation for the Surface Navy



Future Family of Surface Combatants

- **Power Projection – Aegis/DD(X)**
 - Navy Fires
- **Projected Defense – Aegis/CG(X)**
 - Theater Missile Defense
- **Assured Littoral Access - LCS**
 - ASW, MIW, SUW
 - Plus – Mobility, logistics, SOF, ISR, flexibility in littorals



Gap in SP-21 – Littoral Sea Control

- ◆ Netted
- ◆ Distributed
- ◆ Joint



Future Operations

Exploiting the power of netted/distributed offboard systems





Admin Applications

Pay &
Personnel
Ashore

Distance
Support

VTC

IP

e-Mail

Tele-med

BFTT

and
more...



Information Flow Management: As easy as



or





FORCENET Characteristics

BANDWIDTH

MANAGEMENT

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<ul style="list-style-type: none">• Throughput to Desktop• All IP• Flexible / Adaptable<ul style="list-style-type: none">– Wireless Option	<ul style="list-style-type: none">• ITSN Manageable (GUI)• Throttle-able Info Streams<ul style="list-style-type: none">– Phones (VOIP), Email, Web, Chat• Automated Security• Automated Metrics• Smart Applications<ul style="list-style-type: none">– Replication Technology
<ul style="list-style-type: none">• High Bandwidth Capacity• Multi-path<ul style="list-style-type: none">– Efficiency / Ship to Ship• Multi-tiered<ul style="list-style-type: none">– Horizon & Satellite• Globally Accessible/Joint	<ul style="list-style-type: none">• Controllable by NOC<ul style="list-style-type: none">– Load Balancing / Priority Override• Dynamic Bandwidth Allocation<ul style="list-style-type: none">– Globally & Intra-Theater• Rapid Response / ITSN Manageable• Automated Metrics

Survivable

Affordable

Installable



FORCENET Current Structure

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BANDWIDTH

MANAGEMENT

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<ul style="list-style-type: none">•CFCP LAN (few ships)•ISNS LAN (most ships)•GIG-E LAN (in progress)	<ul style="list-style-type: none">•ADNS•Network Manager
<ul style="list-style-type: none">•Challenge Athena (command ships)•SHF (more ships)•EHF (more ships)•INMARSAT (all ships)•DWTS (some ships; LOS only)	<ul style="list-style-type: none">•Human Intervention –Ashore

Survivable

Affordable

Installable



Implementation Strategy

BANDWIDTH

MANAGEMENT

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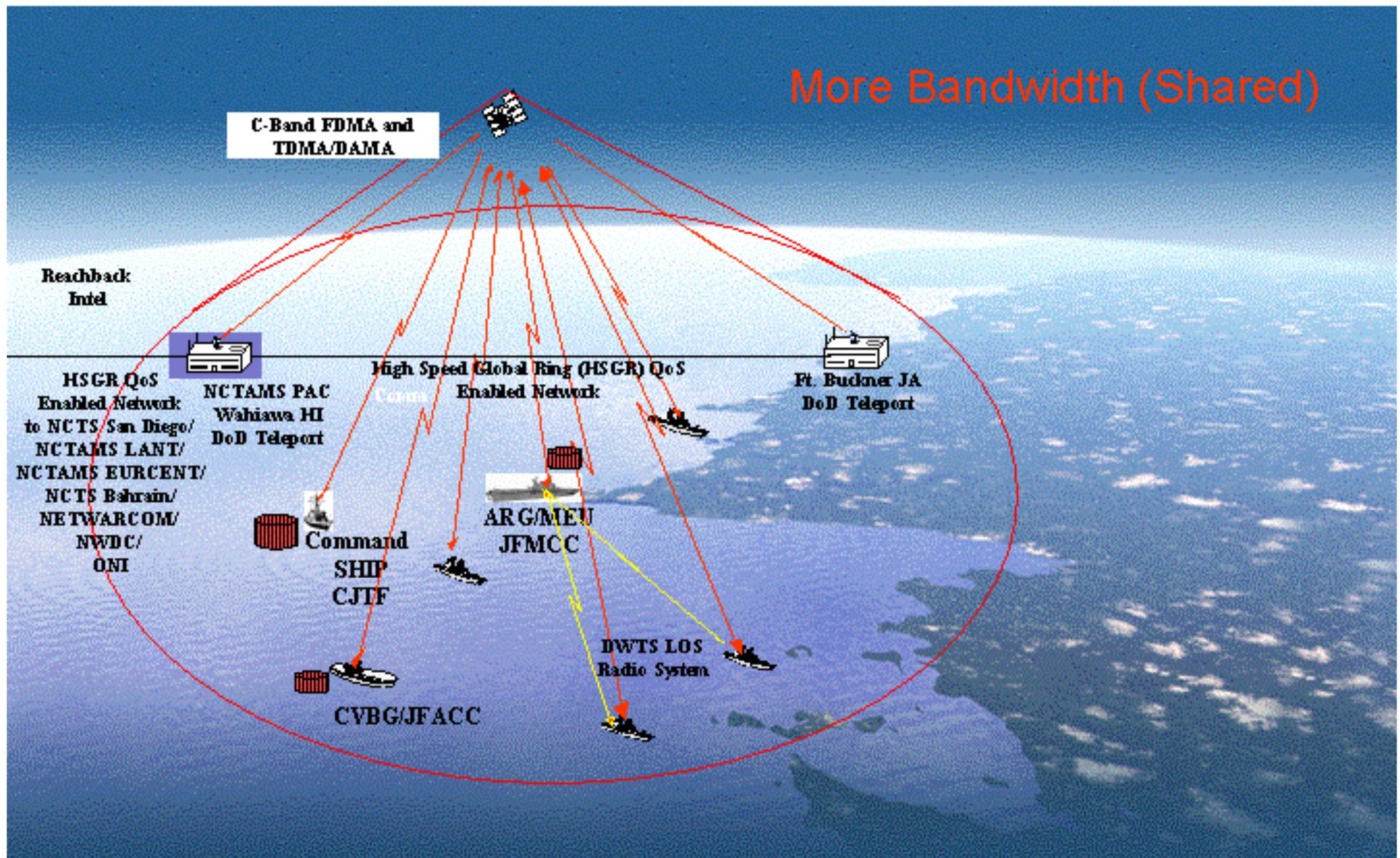
SEA Trial

Fielding

FRP

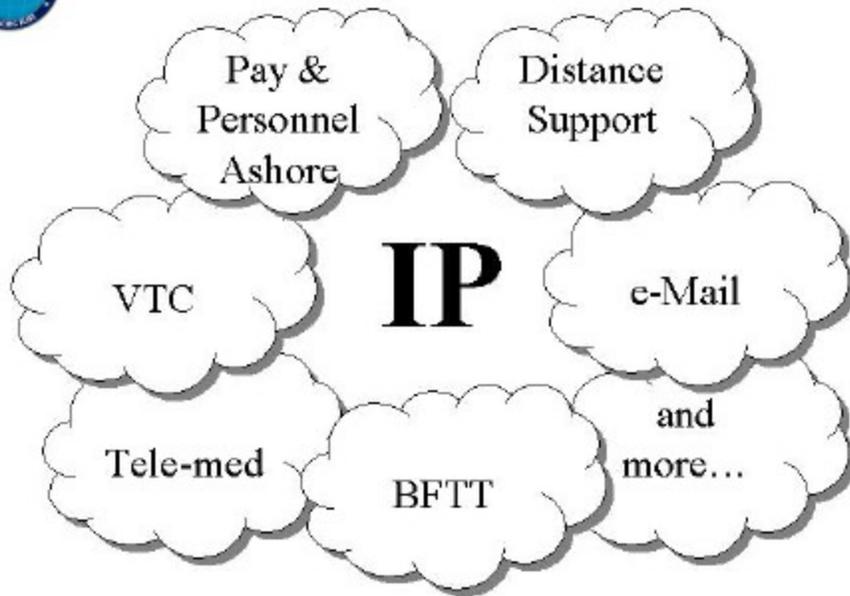


Proposed SATCOM/LOS Umbrella Network





Admin Applications



Questions?



Future Operations

Exploiting the power of netted/distributed offboard systems



FORCENET Characteristics

BANDWIDTH

MANAGEMENT

INTERNATIONAL EXTERNAL

- Throughput to Desktop
- All IP
- Flexible / Adaptable
 - Wireless Option
- High Bandwidth Capacity
- Multi-path
 - Efficiency / Ship to Ship
- Multi-tiered
 - Horizon & Satellite
- Globally Accessible/Joint

- ITSN Manageable (GUI)
- Throttle-able Info Streams
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FORCENET

Survivable

Affordable

Installable