Achieving Multi-Service Interoperability

2002 DoD INTEROPERABILITY CONFERENCE

PHIL ANSELMO

NORTHROP GRUMMAN

Achieving Multi-Service Interoperability

- Goal
  - Process imagery and data from multiple intelligence, surveillance, and reconnaissance sources
    - Correlate and/or fuse imagery and other data
    - Disseminate Products to Operators in Near Real Time
    - Multi-Service; Multi-Environment
- Method
  - Common Architecture
    - Focus on Performance
    - Standards Based
    - Spiral Software Development
    - Best of Breed Hardware and Software
- Fielding
  - Multiple Interoperable Configuration

Example Flexible Common Architecture

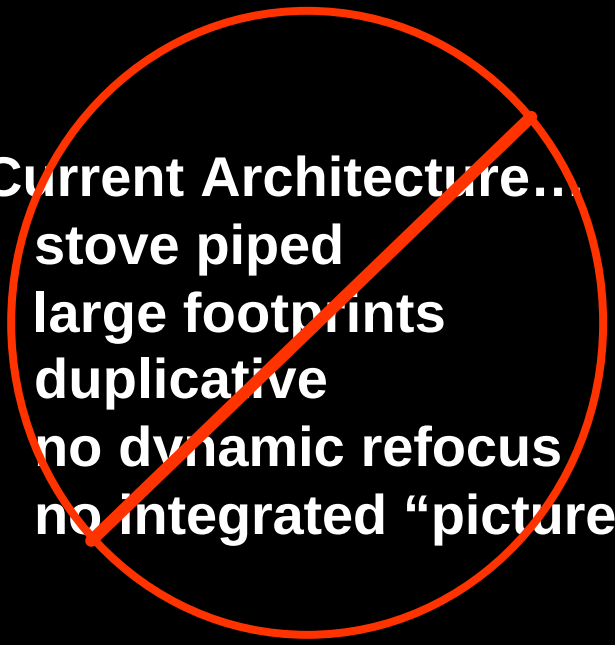
Enables Interoperability and Leverages the Services Investment

- Open Architecture
- Joint interoperability
- Common software baseline

- Upgrades available for all services
  - MTI/MTE
  - Precision targeting
  - New sensors
  - New capabilities

Marine Corps TEG

Standards-Based Multi-INT Architecture Is The Foundation



Current Architecture…

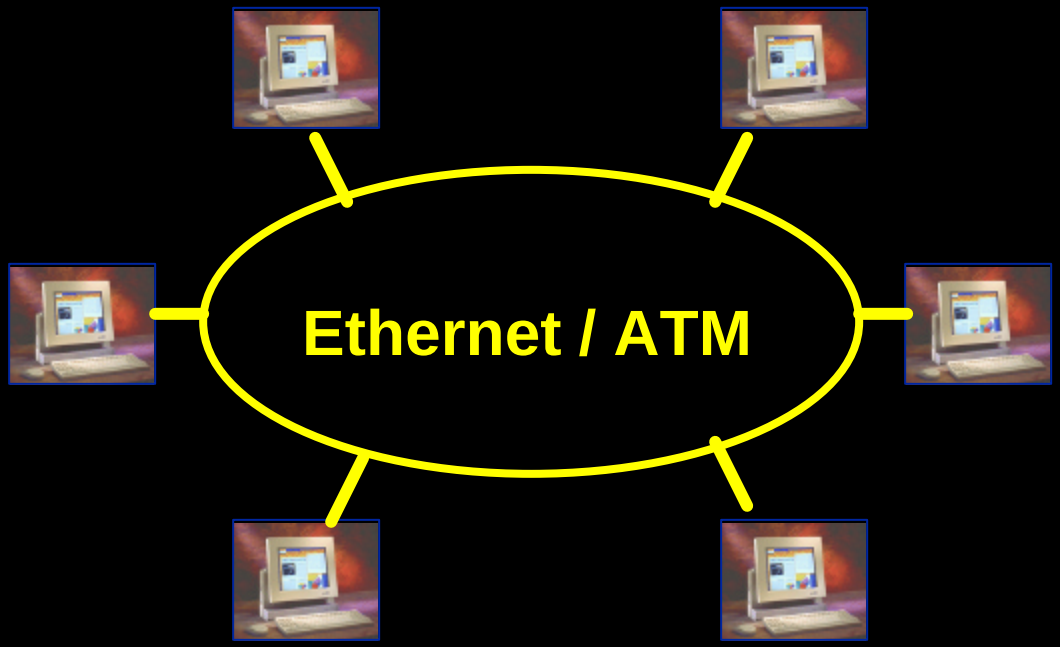
- stove piped
- large footprints
- duplicative
- no dynamic refocus
- no integrated “picture”

Proven Multi-Int ISR Integration . . .

- Demonstrated Open Architecture
- Compact, Configurable Packaging
- Eliminates Redundant Hardware
- Fielded Level 4 Dynamic Tasking
- Integrated Real Time Sensor Display

. . . And Real Time Performance

The Myth: Network Connectivity Alone Forms An Integrated ISR System



The Problem:

- Messages Only
- No Interactive Control
- Not Dynamic
- Not Real Time
- Manual Intervention
- No Shared FD/FI
- Unique Interfaces

The Result: Co-Located Stovepipes

The Reality - Infrastructure Must Be Designed Up Front . . .

. . . And Must Account For

- Connectivity / Tasking
- Distributed / Interactive Control
- Data Structures
- Performance Needs
- Common Interface Formats
- Level of Automation
- Hooks for Growth
- Standardized Data Access
- Common Data Management
- Consistent HMI
- More

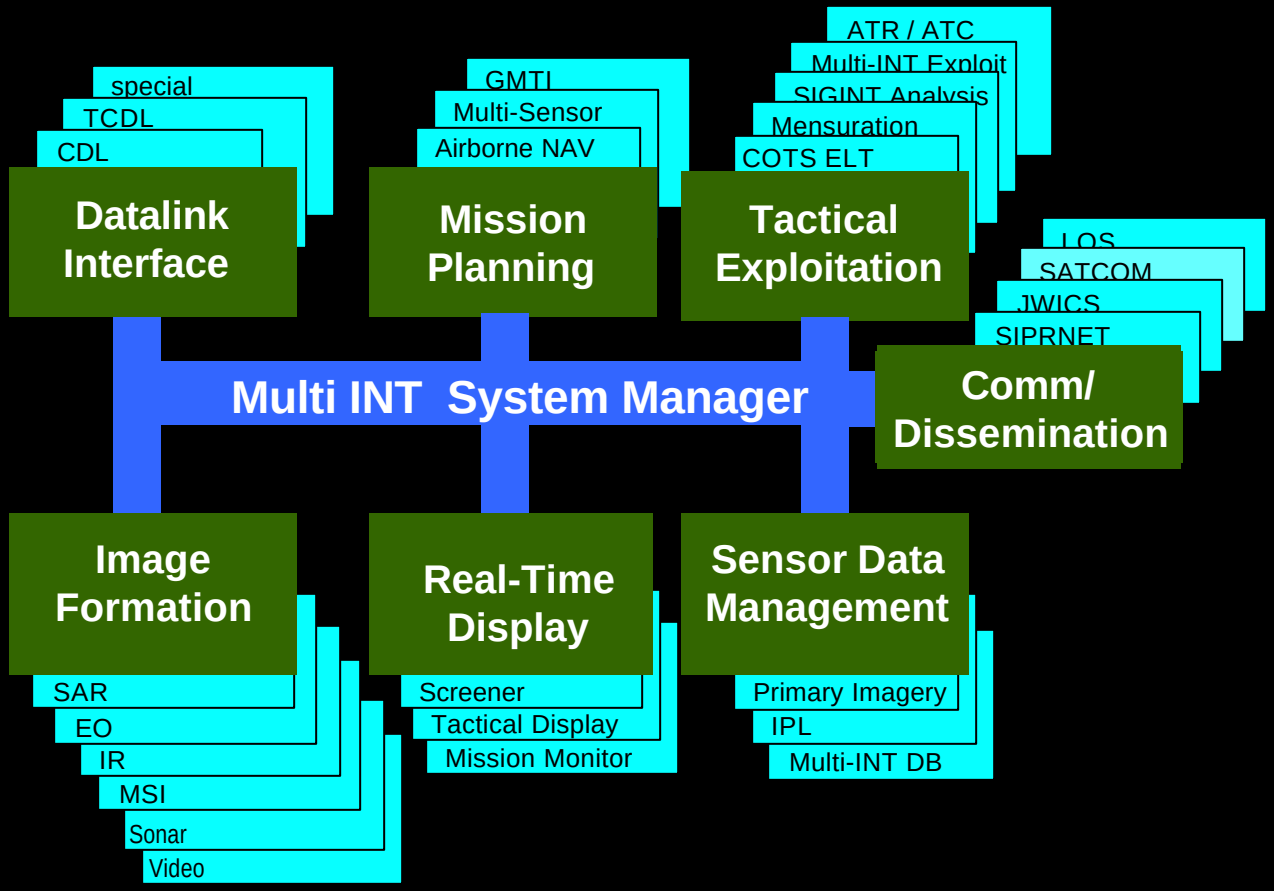
Example: The Internet

- HTML / XML
- Local / Primary / Proxy Servers
- Router Packets
- Browsers
- URL structure
- Domain Registration
- etc.

Multi-INT ISRT Architecture

. . . Interoperable Infrastructure For Real Time C4ISRT

- Open
- Standards-Based
- Fully COTS HW
- GOTS / COTS Apps
- Modular
- Distributed
- Scaleable
- Designed To Grow



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Example of Multi Service Interoperability

Shared Baseline Across All Services

US Navy

US Navy

ISR Manager (ISR M)

USAF

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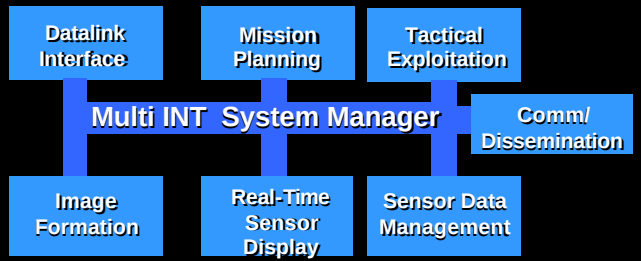
Multi-INT ISR Architecture



USMC

US Navy

US Army

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Bottom Line: Army, Navy, USMC and USAF Benefit From Mutual Investment and Combat ISR Interoperability

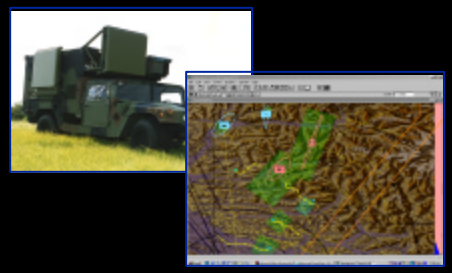
All Services
Can Receive Any Sensor




ASPO
ARMY SPACE PROGRAM OFFICE

TES

LSS



Army, Navy , USMC and
USAF Collaborative ISRT



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Electronic Systems

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Common Multi-INT System Currently Providing Joint Interoperability

Navy

Naval Reserve

USMC

Army

Air Force

Northrop Grumman Multi-INT Architecture