



AFOTEC Cybersecurity Challenges

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Overview



- **AFOTEC Mission...Background**
- **Cybersecurity challenges**
 - 5th Gen system of systems terrain
 - Model and Simulation
 - Cybersecurity testing
- **Closing Thoughts & Discussion**





Mission



**Test and Evaluate
New Capabilities in
Operationally
Realistic
Environments to
Inform Warfighters
and Influence
National Resource
Decisions**





Today's AFOTEC





F-35 & F-22 as a System-of-Systems



EOTS



Low Profile Window
Optimized for Visibility & Configuration Integration

Radar



Half the Weight,
Half the Cost Goal
Being Realized

ICP



COTS Technology Refresh
Demonstrated

Common Components



Economy of Scale Savings

Cockpit



Projection
Display Technology for
Enlarged Screen Area
and Availability

Open Architecture / Software

Standard Interfaces, Loose
Coupling, Object Oriented
Design, Commercial Tools
for Simpler Integration

EW



More Capability at
1/2 the Cost -
Digital Modules,
Production Processes,
Apertures

DAS



Demonstrated
Significant Contributions
to Situation Awareness

CNI



Critical H/W Elements and
S/W Reuse Demonstrated

Weapons



Finalized Carriage Concepts
Support All Weapons

Mission Support



Finalized Carriage Concepts
Support All Weapons

Fusion and SOS Integration



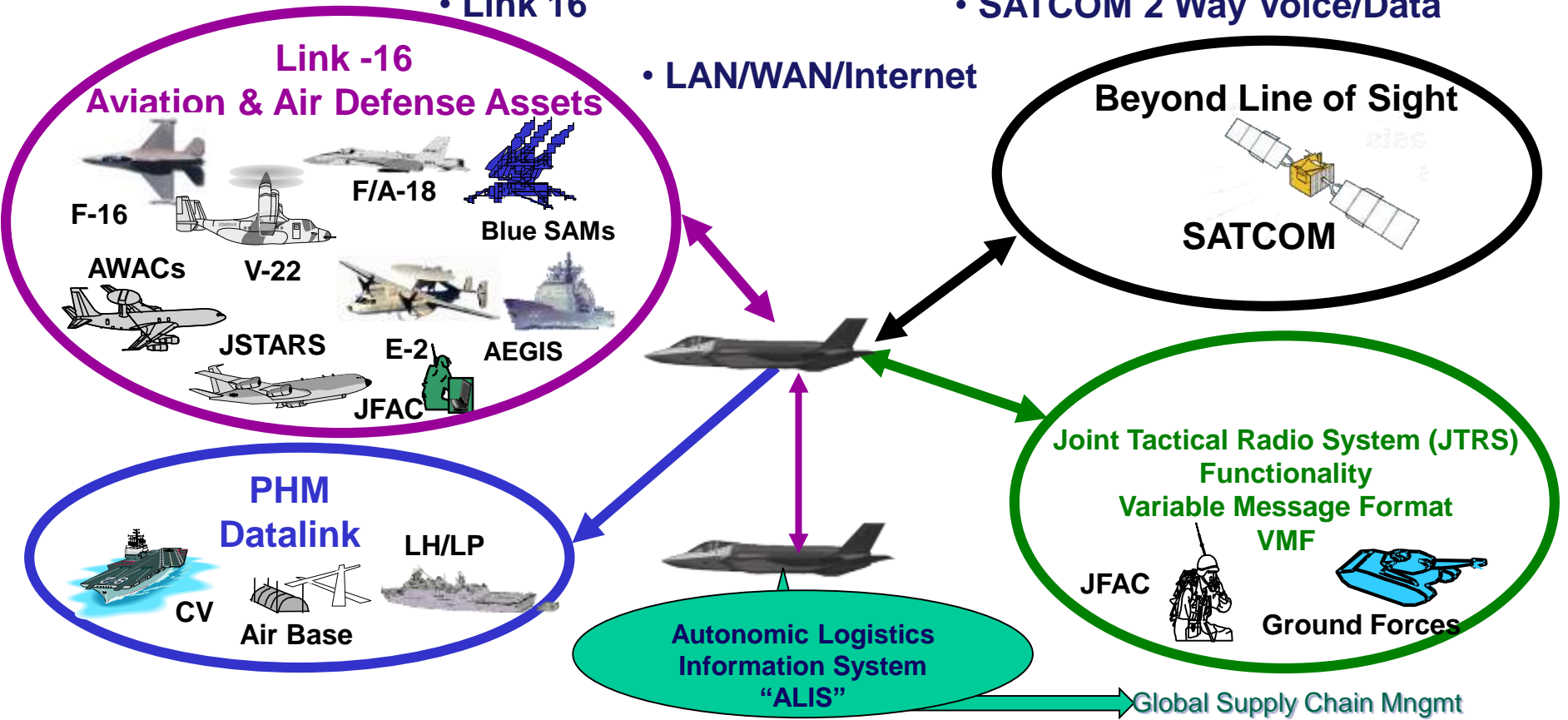
“A System-of-Systems-of-Systems”



- Link 4/ACLS, ICLS
- Link 16

- UHF/VHF Voice/Data
- SATCOM 2 Way Voice/Data

• LAN/WAN/Internet



94 Information Exchange Requirements to Ensure Interoperability Across US and Coalition Forces



Cyber testing



- **Complex task to define “cyber boundaries”**
 - **Must take a system-of-systems approach**
 - **Information assurance & Risk Management good for IA but what about Mission Assurance?**
 - **Cyber testing is life cycle testing**
- **Cyber warriors are “HD/LD” assets**
 - **Can’t grow them fast enough to meet demand signal**
 - **Need to grow weapons and platform experts and space expertise**
 - **Need to educate everyone in this area**
- **AFOTEC is reaching out for assistance:**
 - **To the Total Force for assistance**
 - **To AFRL--bringing a “STEM” analytical approach to security**
 - **To AF Test Center to partner on assessment teams**
 - **Taking advantage of intern programs**



Questions & Comments

