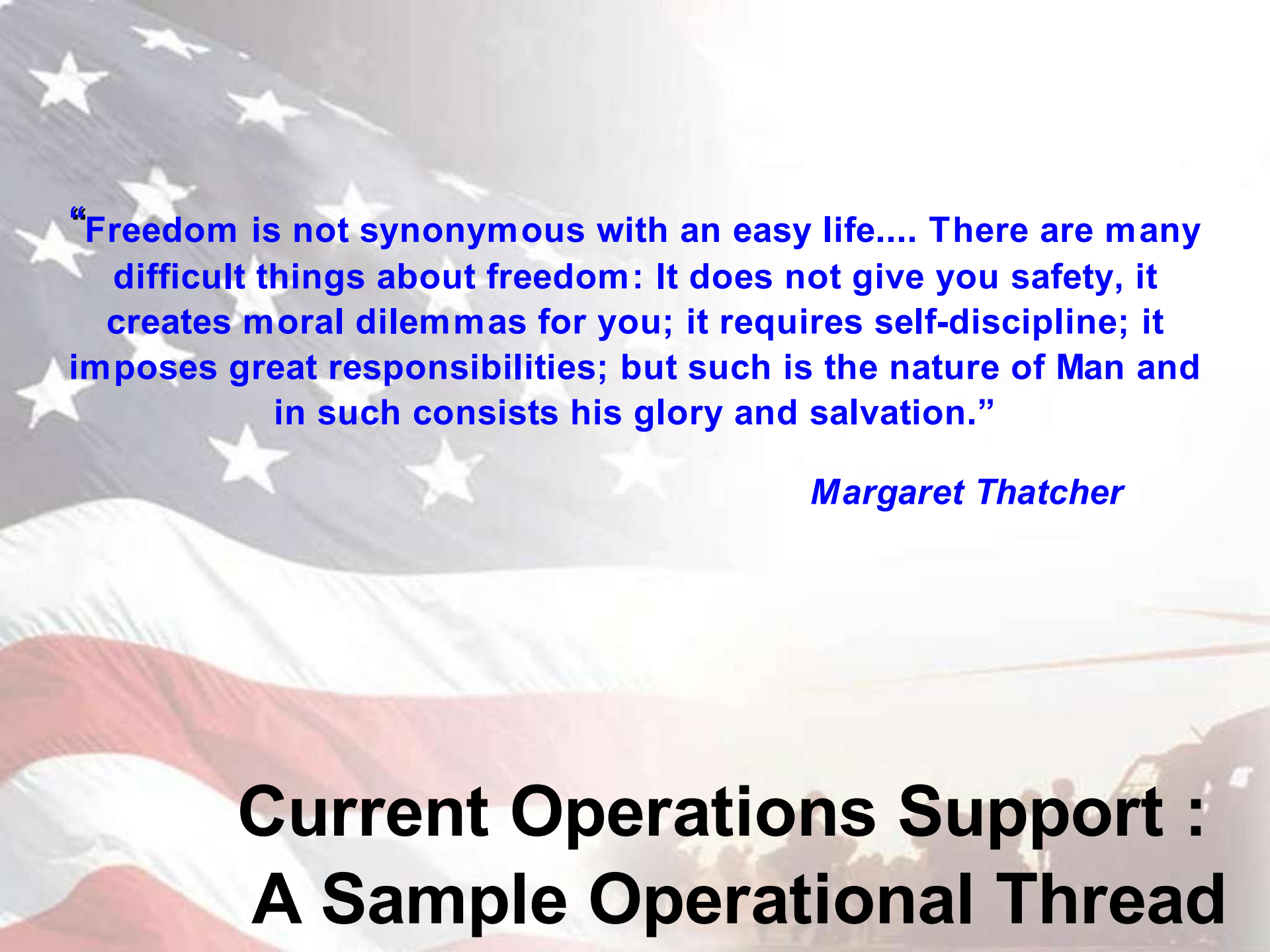




Mission Critical Computing: *Do Standards Matter?*

Dawn Meyerriecks
Principal Director, Global Information Grid Enterprise Services
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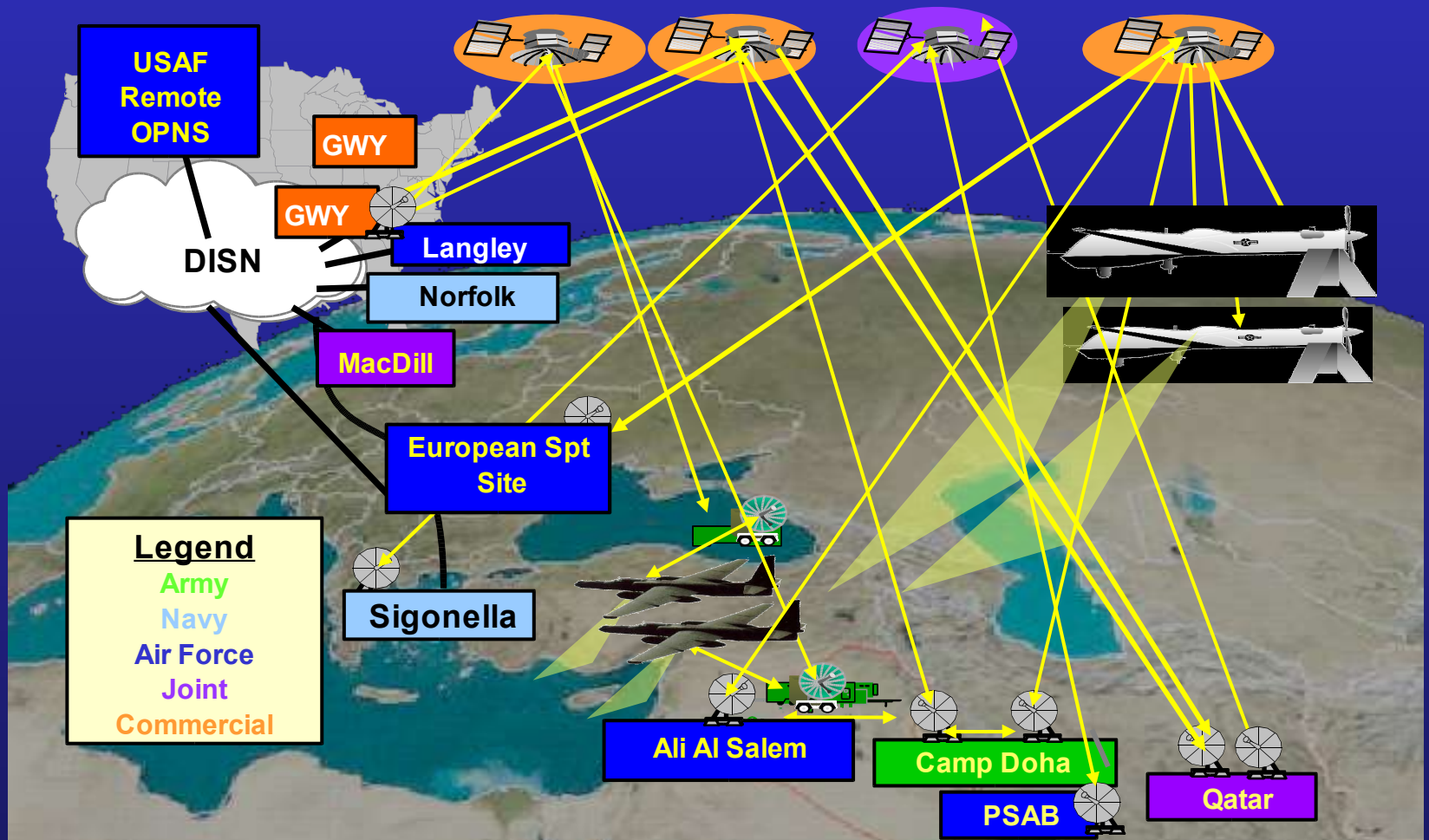
The background of the slide is a faded, semi-transparent image of the United States flag, showing the stars and stripes. The text is overlaid on this background.

“Freedom is not synonymous with an easy life.... There are many difficult things about freedom: It does not give you safety, it creates moral dilemmas for you; it requires self-discipline; it imposes great responsibilities; but such is the nature of Man and in such consists his glory and salvation.”

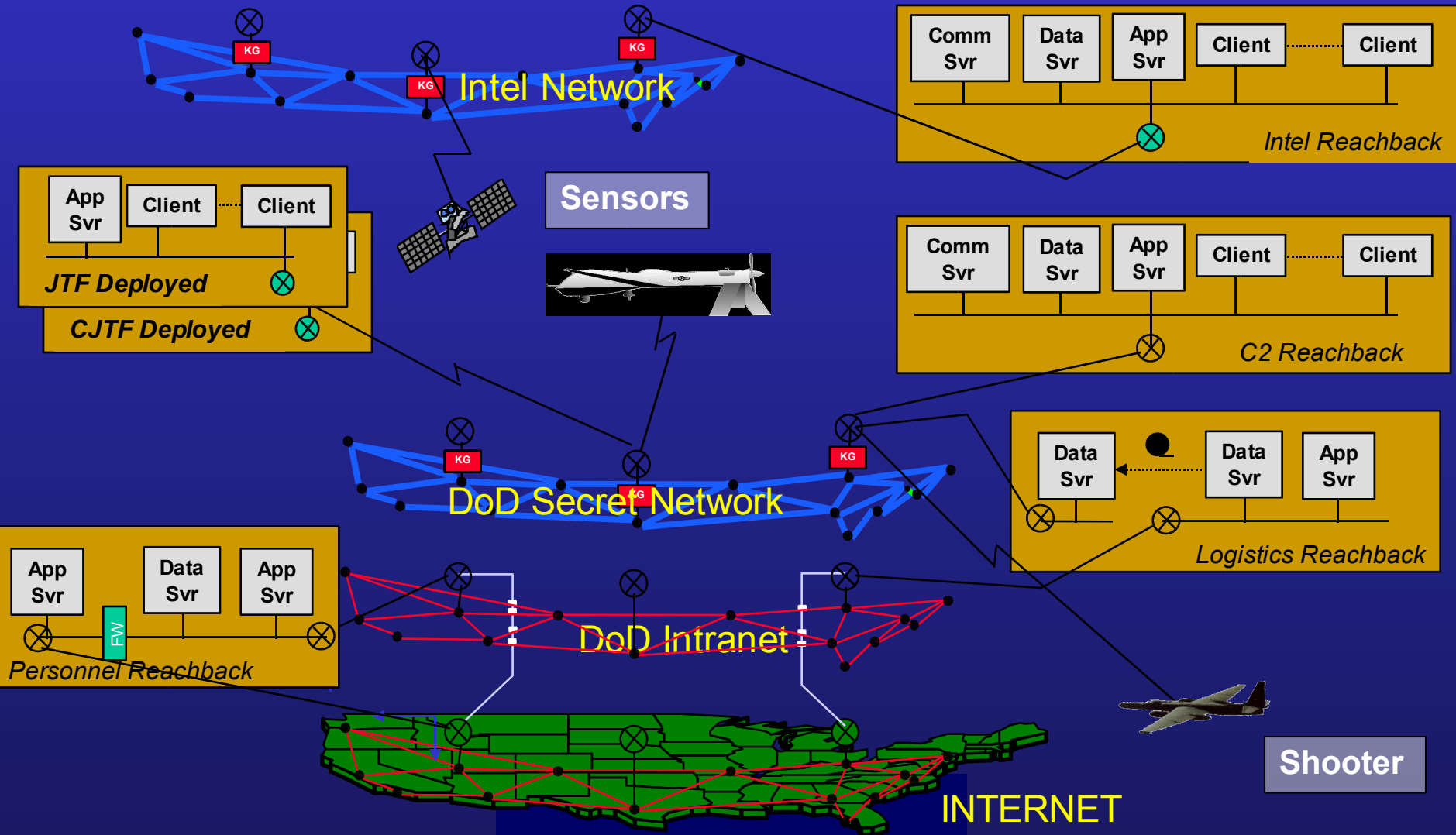
Margaret Thatcher

Current Operations Support : A Sample Operational Thread

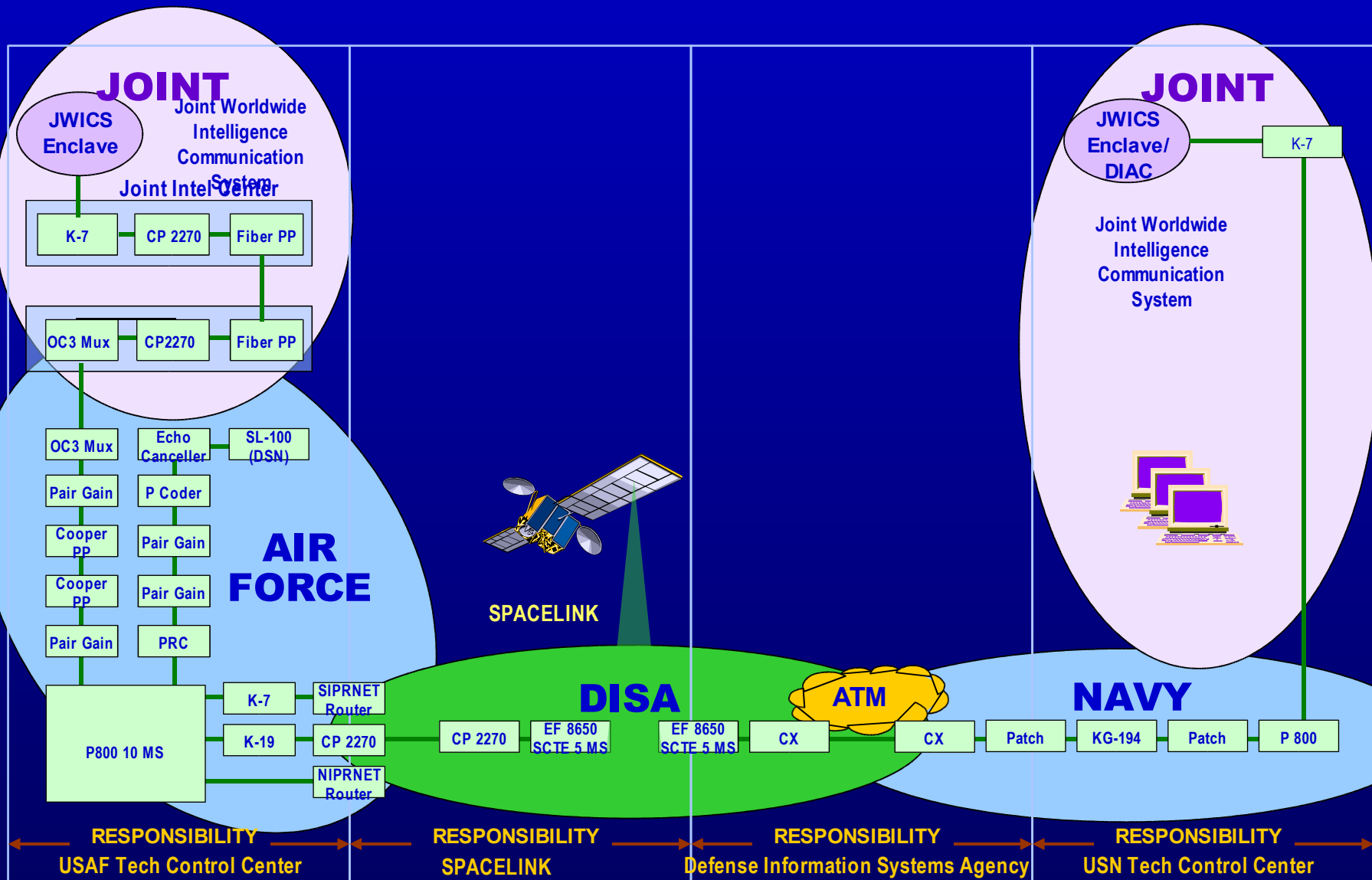
Sample Mission Thread: Battle Damage Assessment to Target



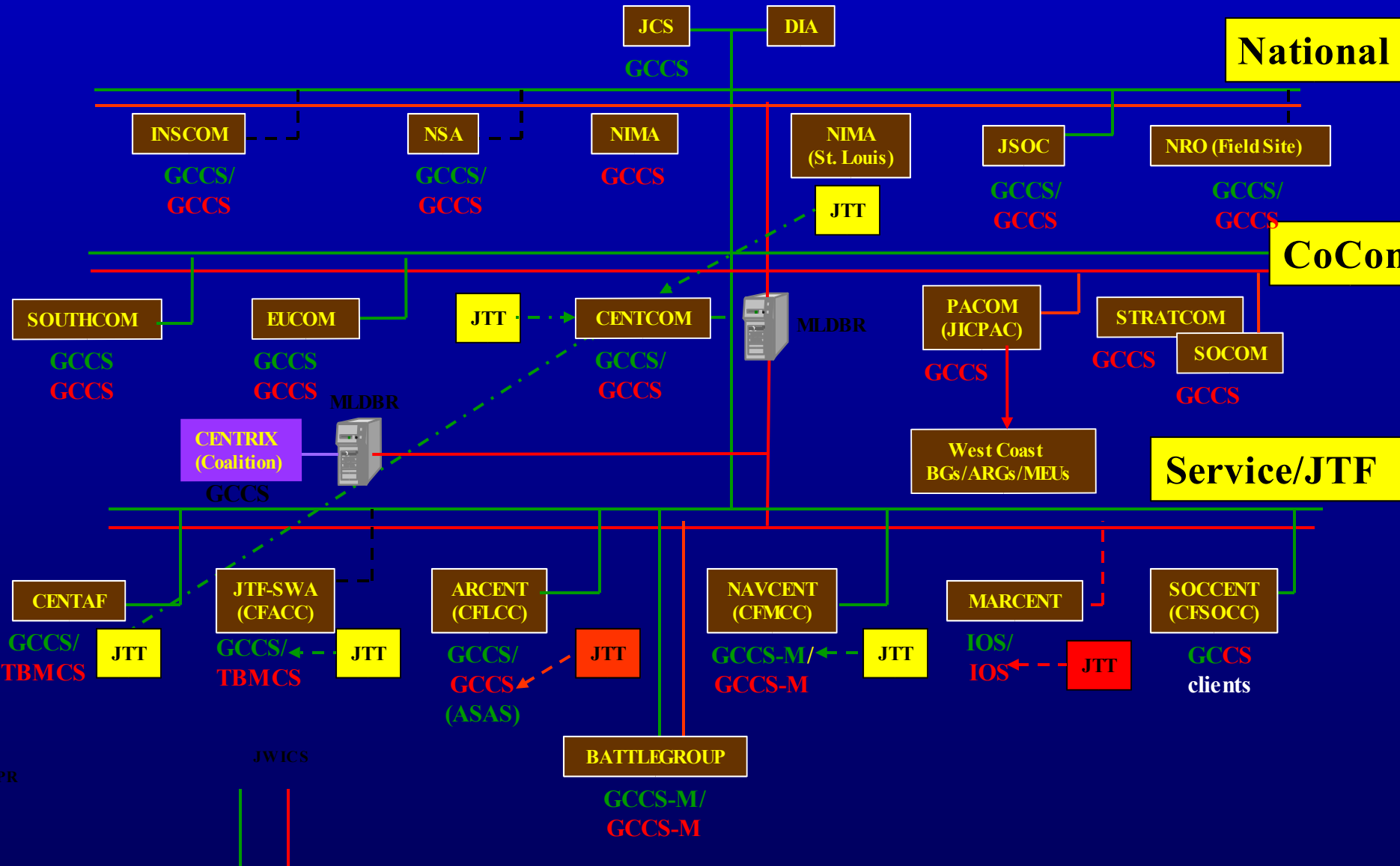
Networks @ Multiple Security Levels



Communications Relay Path



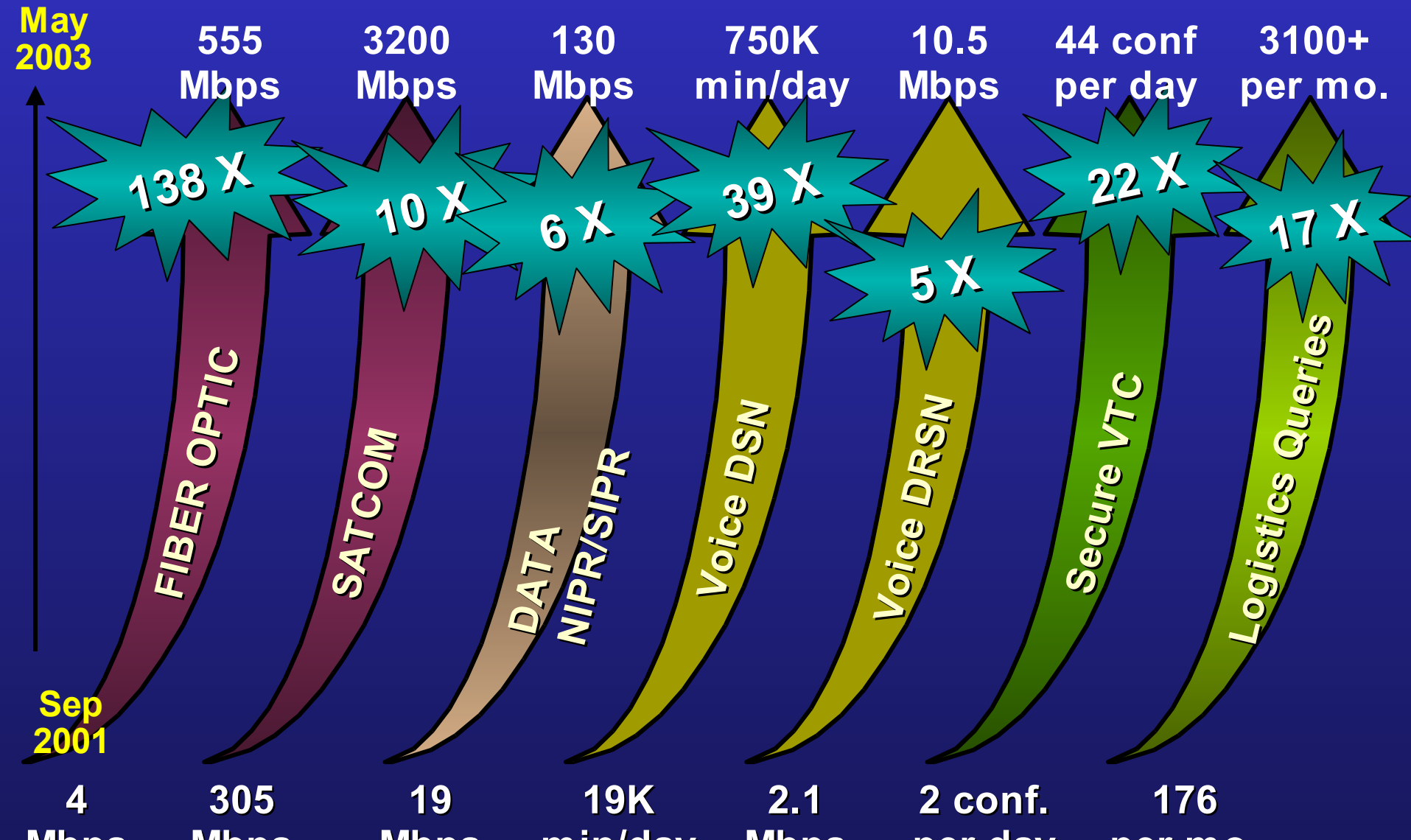
Single Supporting Data Source



Operation Iraqi Freedom Successes


- *First- All-Service and SOF, Red, Blue, & Intel fused picture.*
- *First- Large-scale use of secure satellite phones in a combat environment.*
- *First- Extensive coalition automated information sharing exchange.*
- *First- Desktop collaboration tools used for joint C2.*
- *First- Widespread use of VTC as a C2 system.*
- *First- Ubiquitous use of commercial SATCOM to supplement military SATCOM.*
- *First- Extensive coordinated use of UAVs.*
- *First- Real time in-transit/asset visibility.*

Operation Iraqi Freedom Communications Trends



Why We're Here Today: The Challenge

- Current Enterprise-Wide Infrastructure Approaches Are Aging
 - Good News: 27 Releases of Global Command and Control Since 9/11
 - Bad News: Insufficiently Scalable, Flexible, Technologically Dated
- Current Web Services, Enterprise Application Integration, Service-Oriented Architectures Hold Promise
 - Good News: Early Enterprise Efforts Indicate Certain Aspects of Technology are Sufficiently Mature for Broad Application
 - Bad News: Lots of Maturation Still Required – Both for the Federal Enterprise to Use and for the Commercial Technology Itself

The background of the slide features a large, semi-transparent American flag on the left side, with its stars and stripes clearly visible. On the right side, there is a silhouette of a group of military personnel standing in a line, possibly in front of a vehicle or structure, set against a bright, hazy background. The overall tone is patriotic and forward-looking.

“...possibly the single-most transforming thing in our forces will not be a weapons system, but a set of interconnections and a substantially enhanced capability because of that awareness.”

-- Defense Secretary Rumsfeld

The Future

To Counter the Asymmetric Threat: Agile NetCentric Warfare

- Transform Federal Intranets into Service Oriented Architectures
- Publish *all* information as early and as widely as possible
- Empower Users to pull *whatever* they want *whenever* they want
- Distribute Product Management to specialized Communities *but*
- Clearly identify Information Producers to the Enterprise
- Exploit Market Mechanisms

Visibility
Agility

Supply & Demand
ROI Metrics

“Boundaryless Information Flow”



GLOBAL INFORMATION GRID

Scale: Several Million Users; Tens of Thousands of Information Services

Keys to Agility

1st - Comprehensive, accurate, shared Situation Awareness to enable self-synchronization

2nd - Mobility and “Composability” to rapidly reconfigure forces *and* supporting information capabilities

3rd - Service Oriented Architecture (SOA)

- Modular, loosely coupled → Rapidly reconfigurable
- Ubiquitous user access Collaboration

Result:

Dramatically accelerated organizational learning cycle!*

* Responders (Users) exhibit rapid behavior change in combat (continuous experimentation)

The *New* Assumptions

- Industrial Age (System-centric)
 - Clear lines of authority
 - Limited Scope (Finite system boundaries and user population)
 - Known, relatively static requirements
 - Predictable future (stable Business environment and standard processes)
 - Deduce designs from high level abstractions and test effectiveness with small-scale experimentation
- Information Age (Net-centric)
 - Boundless information space with no single controlling authority
 - Highly dynamic requirements w/ many unknowns
 - Marginally predictable near term future
 - Many users engaging in unpredictable ways at unpredictable intervals
 - Highly, Dynamically Interconnected

Designs *must*:

8. Derive from massive simulations and ongoing real world observations
9. Be agile before and after fielding in response to new conditions

The *New* Imperatives

How to Improve Design of large, complex Net-centric capabilities?_

How to Lower Risks inherent in designing and deploying large, complex Net-centric capabilities?

Shape evolution of Enterprise IT

Vice

Build systems