

Network-Centric Operations and Information Superiority

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Net-Centric Vision (1)

- Network leads to information sharing,
- increasing shared situational awareness
- which, in support of commander's intent,
- allows for self-synchronization
- and much more effective mission accomplishment



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Net-Centric Vision (2)

- “Power to the Edge.”— to enable and empower people at the edge of the network.
- The “edge” of the network is wherever action is taking place.

Move from smart push to smart pull

We seek to build:

- An agile, robust, interoperable and collaborative DoD,
- where warfighters, business and intelligence users all share knowledge
- on a secure, dependable and global network
- that enables excellent decision-making, effective operations and network-centric transformation.



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Net-Centric Vision (3)

- DoD is leveraging the information revolution.
- But real transformation is more than just technology
 - Need to co-evolve: doctrine, organization, training, materiel, leadership, personnel and facilities
- These changes are showing results and increasing capabilities daily.

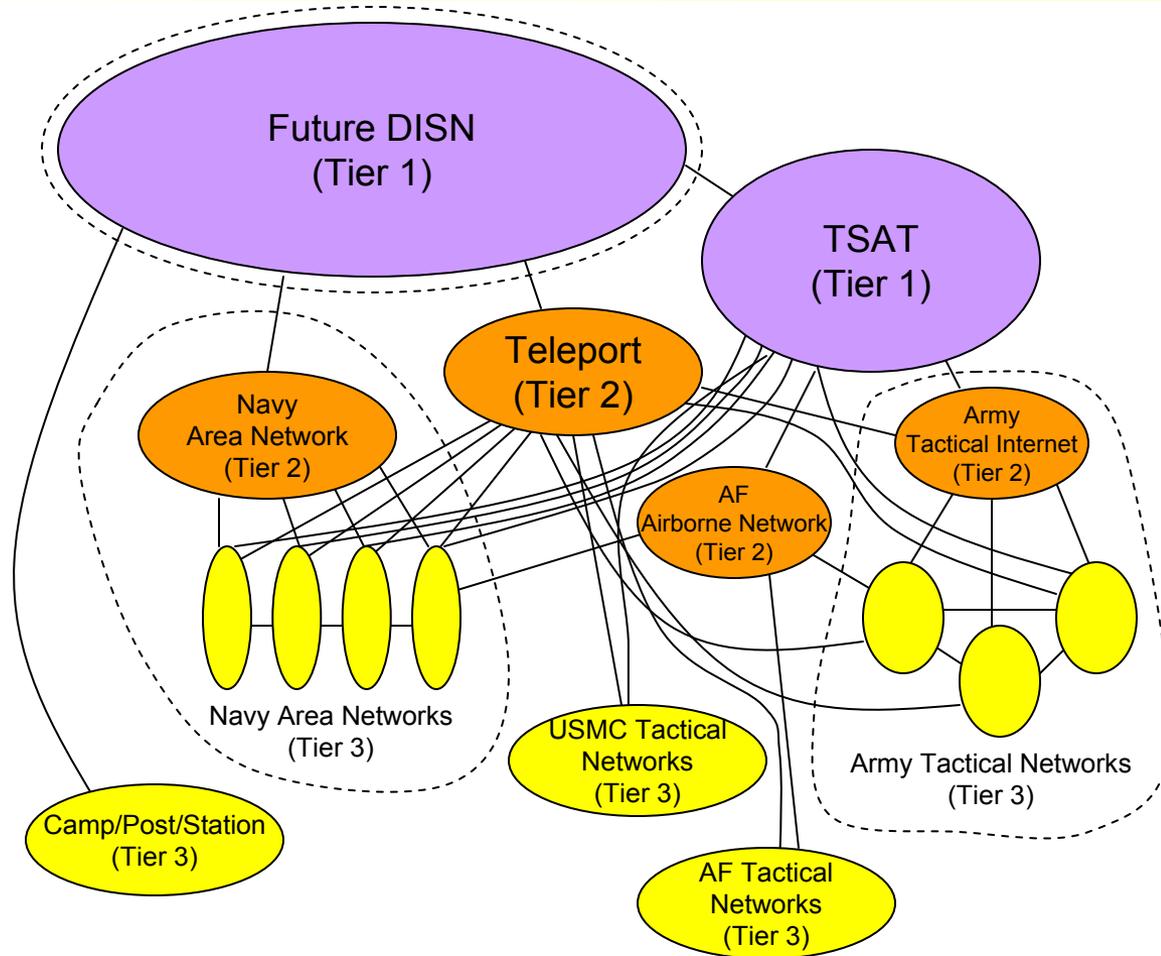


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Global Information Grid (GIG) Architecture

- Tier 1 Global
- Tier 2 Theater
- Tier 3 Tactical



Major GIG Programs

Transport

- Global Information Grid—Bandwidth Expansion (GIG-BE)
- Joint Tactical Radio System (JTRS)
- Transformational Satellite (TSAT)
- Teleports

Services

- Net-Centric Enterprise Services (NCES)

Security

- GIG Information Assurance (IA)



Key Related Concepts

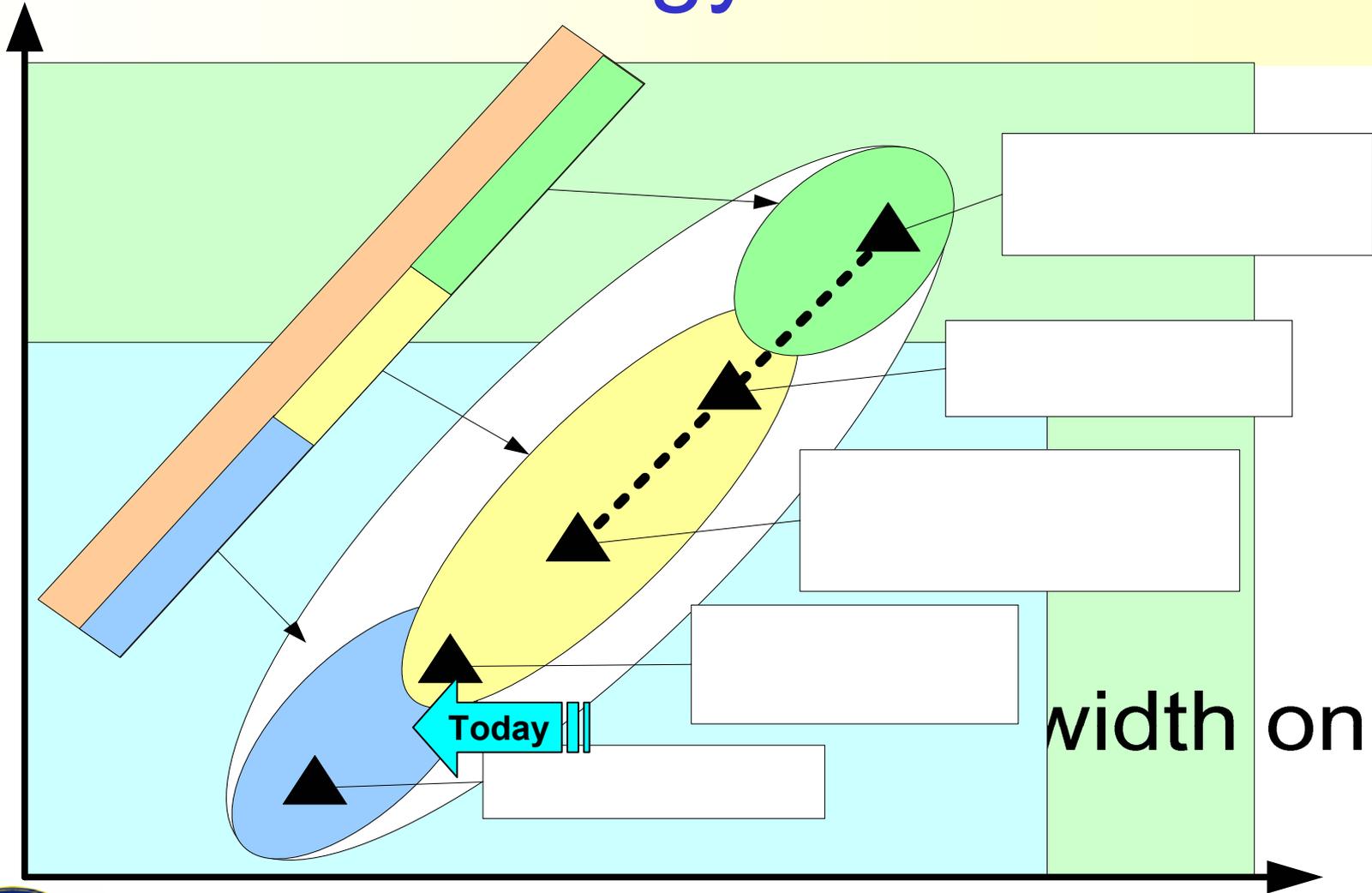
- Net Ops/Management
- Spectrum Management
- Data Strategy



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RF Technology Revolution

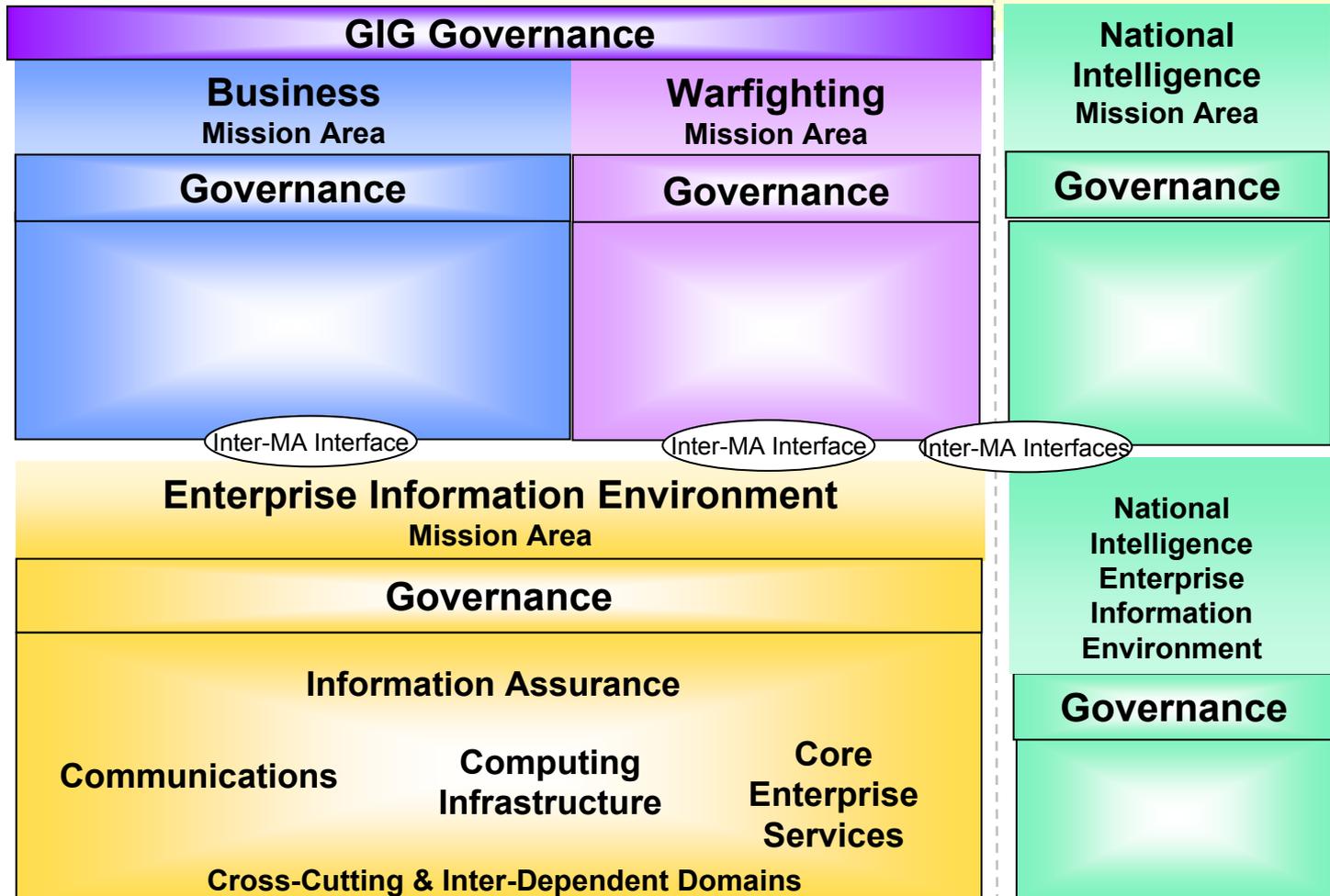


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DoD Portfolios and Related National Intelligence Portfolios



Other Issues

- Systems Engineering
- Mission Assurance
- Outsourced Services
- Committee on National Security Systems
- Joint Tactical Radio System



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Systems Engineering

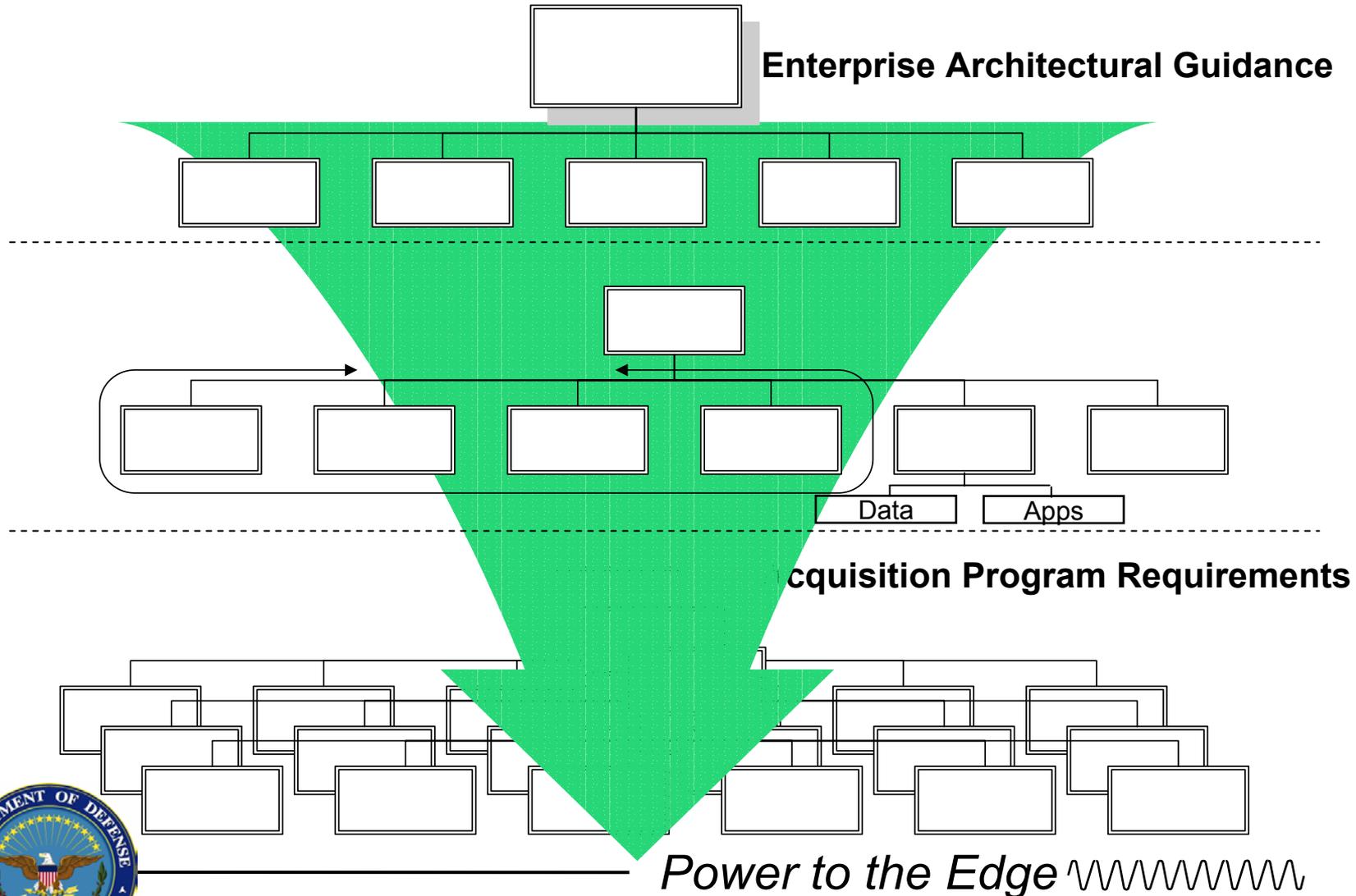
- Defines end-to-end, functional, performance, and standards baseline that programs must meet to inter-operate effectively.
- Requires enterprise-level decision making.
- Builds consensus to develop technical solutions and bring leadership together.
- Overseen by Senior SE Board.
- Results published as technical baseline.



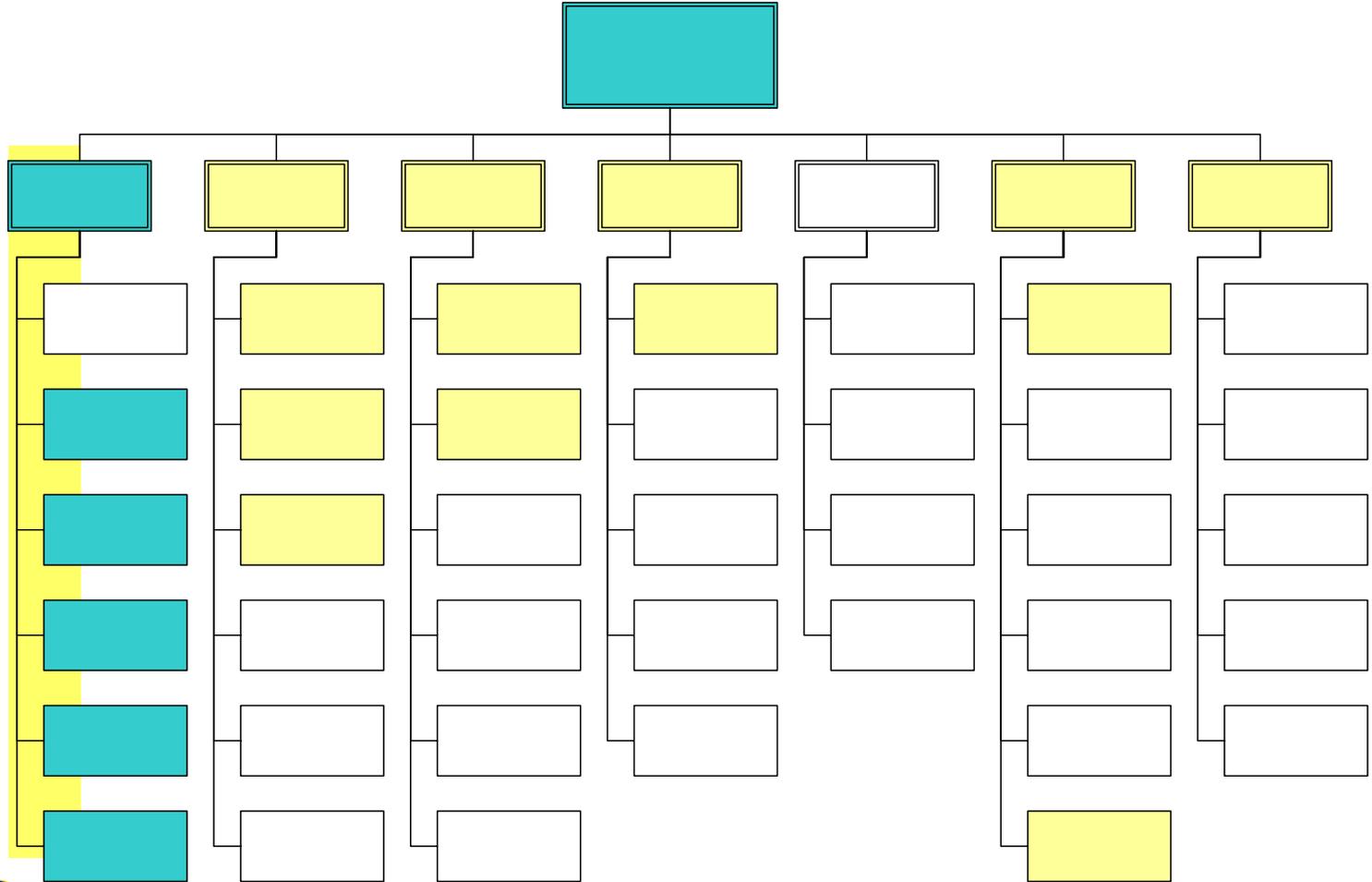
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E2E Tech Baseline Allocates *Enterprise Functions*



NCID Series Spans the GIG & Evolves Over Time



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 Draft Complete

 Planned for Next Phase

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Mission Assurance

Security architecture for GIG is moving away from perimeter defenses to near real-time situational awareness of what's going on in networks.

Based on strong identification and authentication, and anomaly detection.

DoD spends \$2.2b+ per year on Information Assurance.

Not just a technology problem.

- Need to train people to fight the network like a weapon system
- Goal of mission assurance: Complete mission irrespective of attacks suffered or damage received



Mission Assurance Goals

- Protect Information
- Defend Systems & Networks and keep them operating
- Provide Integrated Situational Awareness / Command and Control
- Transform and Enable IA Capabilities
- Create an IA Empowered Workforce



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Outsourced Services

- Some say the future of government is management of outsourced services
- This implies quality of network components will not be known
 - Except for thin veneer of GOTS
- Need anomaly detection sensors and procedural checks and balances
- Security features must be designed in



Committee on National Security Systems

- Globalization/Software Assurance
- Architecture
- Policy Compliance/Assessment
- Investing in Detection, Response, and Recovery Technology



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Way Ahead

- Government doesn't have all the answers
 - Dynamic, evolving environment
- Public-private partnerships are key
- Need new generation of technical managers
- Rewards of public service
- Welcome your inputs



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