Sense And Respond: A Paradigm for Future Integration of Information Technology into Command and Control Operations

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Agenda

- Sense and Respond Key Tenants

- Sense and Respond: A Paradigm for future Command and Control Operations

- Sense and Respond: A Compliment and Enhancement to Enduring Warfighting Philosophies

Sense and Respond Key Tenants Reviewed

- **Demand can be unpredictable**, so success depends on **speed of pattern recognition** and **speed of response**

- The **best chain is** no longer one that is highly optimized, but one that is **highly flexible**

- Organizes Units and subunits into "modular capabilities" that negotiate with one another over commitments

- **Networks "self-synchronize"** via a common environment and set of shared objectives

- Uses IT for data sharing, **"knowing earlier,"** commitment tracking, and role reconfiguration

Solution Bounds

- Enduring nature of war
- Innovative concepts and technology
- Ability to discern the difference

Paradigm for Future C2

- Pragmatic approach to effective integration of IT into C2
- Provides a "what is it" approach to IT
- Supports a network <u>enabled</u> force
- Technology leverage vs technology reliance
- Eases the Command <u>or</u> Control dilemma
- Supports and enhances warfighting philosophies

Sense and Respond

Enduring Nature of War

Enduring and Nature of War

- Friction
- Uncertainty
- Fluidity
- Disorder
- Human Dimension
- Violence and Danger
- Moral and Physical Forces
- Violent contest of human will

Future Battlefield

America's technological dominance
will *drive adversaries* to:

- Engage asymmetrically
- Create environments of "chaos and ambiguity"
- Employ increasingly sophisticated weaponry
- Favor the "human dimension of conflict"
- Engage in "close combat" to negate technological advantage

Technology vs. Human Will

Supports and Enhances Warfighting Philosophies

Maneuver Warfare

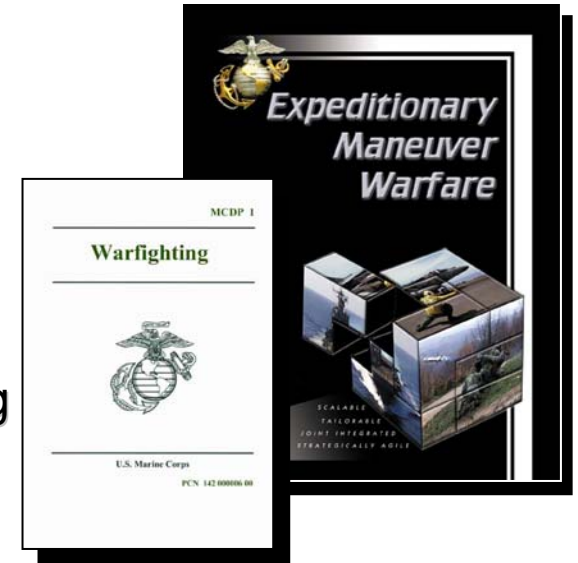Enduring Nature of War

Sense and Respond

Maneuver Warfare

"Maneuver warfare is a warfighting philosophy that seeks to shatter the enemies cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope." (MCPD-1 Warfighting)

Expeditionary & Maneuver: Combat Multipliers

- **_"Expeditionary"_** describes the immediate ability to go where the enemy is, displace him, and operate from his terrain.
  - Embracing austerity
  - Adaptability to the environment at hand
  - Innovation to ensure advantage
  - Physical and psychological rigor
- **_Maneuver Warfare_** is a concept for how Marines…
  - Gain the advantage by rapidity of decision-making
  - Seize the initiative
  - Exploit fleeting opportunities
  - Shatter the cohesion and will of the enemy

Maneuver Warfare is a philosophy of leadership that is based on trust and decentralized decision-making that enables Marines to thrive in the chaos and friction of combat

…it's a mindset others only talk about.

Supports and Enhances Warfighting Philosophies

Adaptive Planning

Maneuver Warfare

Enduring Nature of War

Sense and Respond

Supports and Enhances Warfighting Philosophies

Adaptive Planning

Decentralize C2/Uncertainty
"Proliferate Decision Makers"

Maneuver Warfare

Enduring Nature of War

Sense and Respond

Proliferating Decision Makers

- Maneuver Warfare requires Decision Makers
  - Concentration and Speed
  - Surprise and Boldness
  - Exploiting Vulnerability and Opportunity
- Empowered by
  - Mission tactics
  - Commander's intent
  - Focus of effort

Distribute Uncertainty

- Those who are most affected by uncertainty and risk are usually in best position to overcome uncertainty

- Perfect solutions are not necessary

- Resolve uncertainty at lowest practical level, quickly, with greatest situational awareness

Supports and Enhances Warfighting Philosophies

Adaptive Planning

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"Proliferate Decision Makers"

Maneuver Warfare

Coping with the Bounds

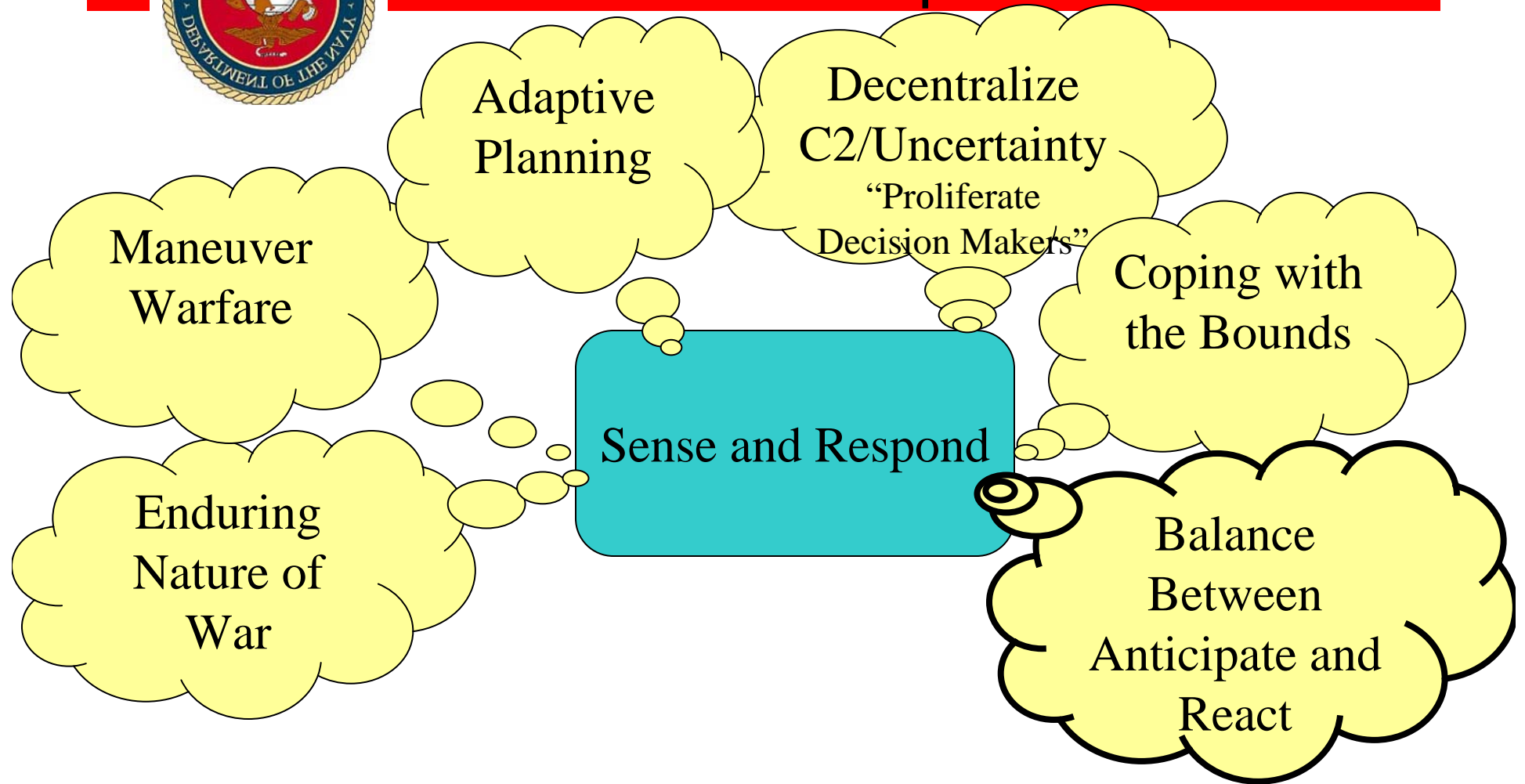Sense and Respond

Enduring Nature of War

Linear vs Nonlinear

- Automate appropriate linear processes
- Use rapid, robust, and reactive linear processes to provide a solution to highly complex nonlinear problems
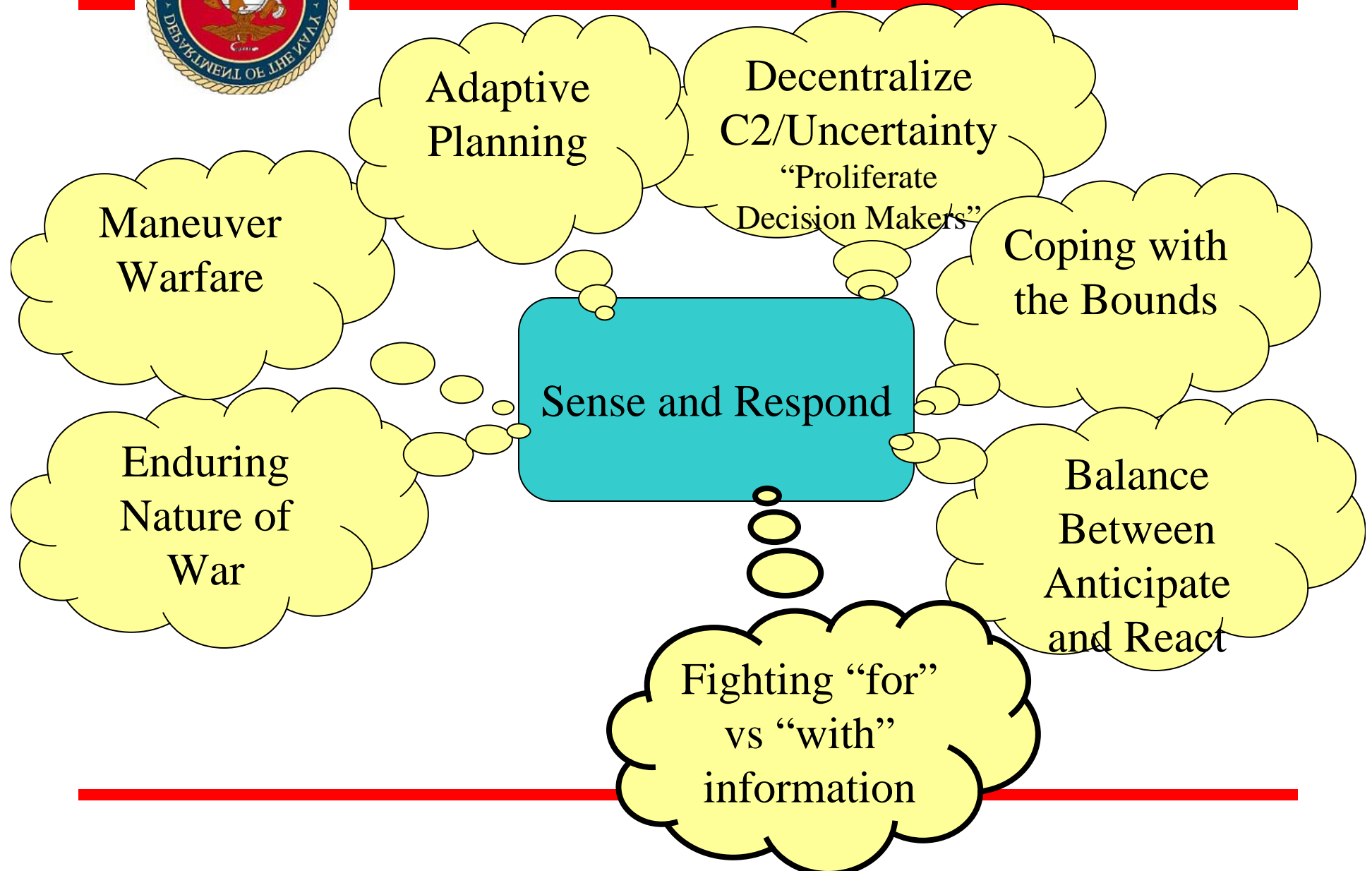- Complexity theory

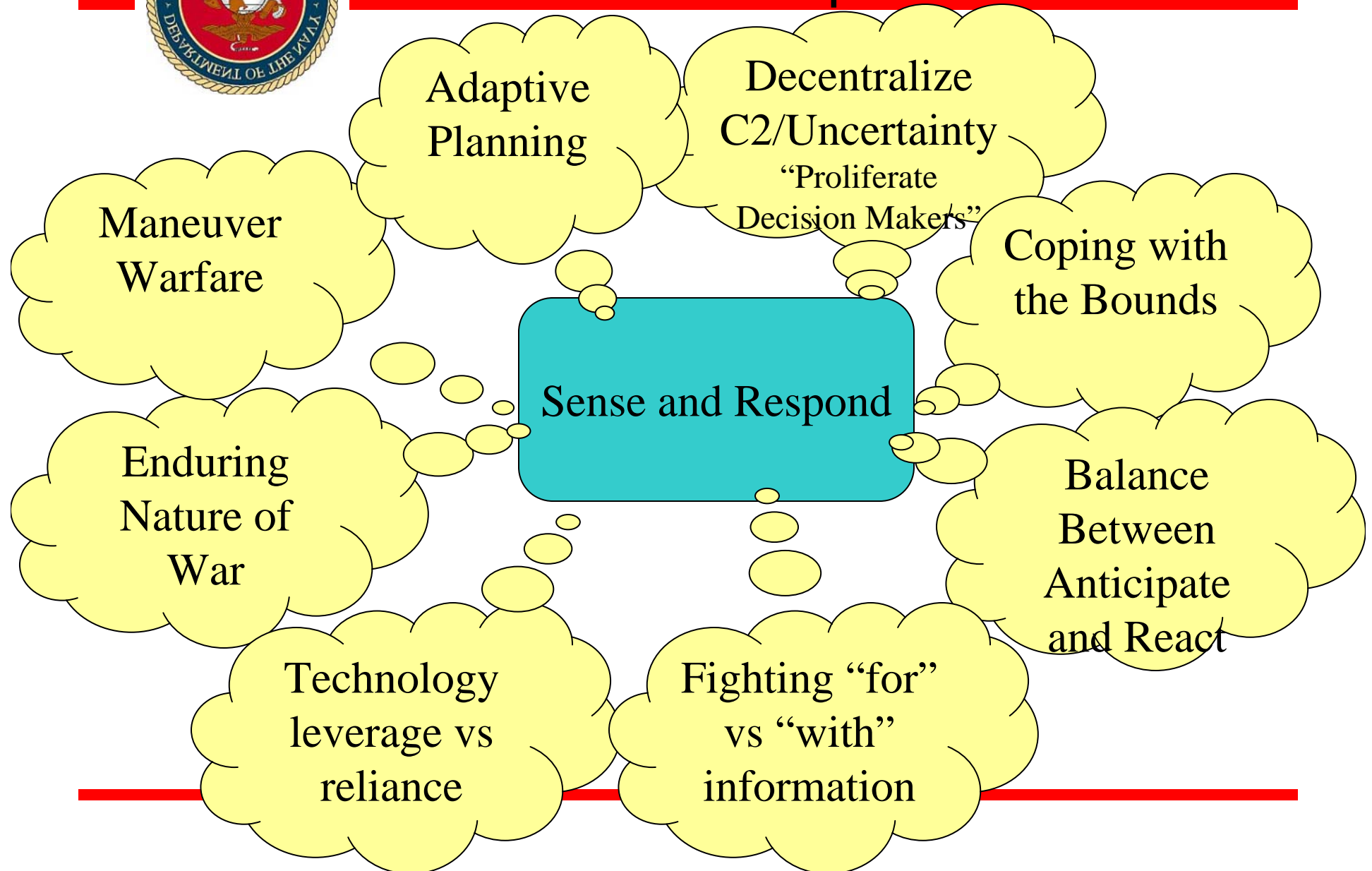# Supports and Enhances Warfighting Philosophies

Adaptive Planning

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"Proliferate Decision Makers"

Maneuver Warfare

Coping with the Bounds

Sense and Respond

Enduring Nature of War

Balance Between Anticipate and React

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Balance Between Anticipate and React

Fighting "for" vs "with" information

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Technology leverage vs reliance

Fighting "for" vs "with" information

Technology Leverage vs Technology Reliance

"We must guard against over reliance on technology. Technology can enhance the ways and means of war by improving man's ability to wage it, but technology cannot and should not attempt to eliminate man from the process. Better equipment is not the cure for all ills; doctrinal and tactical solutions must also be sought." (MCDP-1 *Warfighting*)

Conclusion

- As an approach for integration of IT into Command and Control, Sense and Respond is in harmony with our warfighting philosophies
- Sense and Respond is a pragmatic approach to a highly complex and chaotic problem