

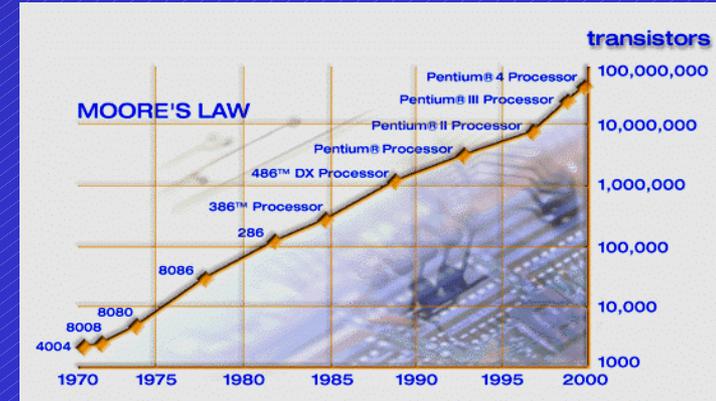
# **Naval-Industry R&D Partnership Conference**

**August 14, 2002**

**RADM Dan Bowler, USN**  
Director,  
Warfare Integration and Assessment  
(N60/N70)

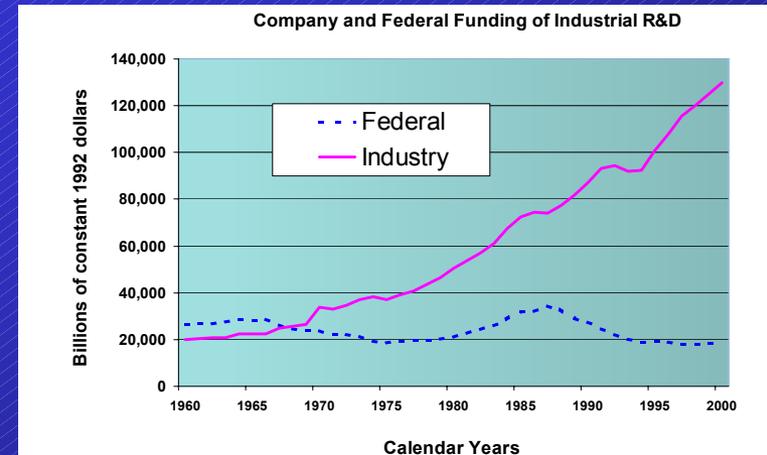
# Moore's Law

- ◆ Technology is driving size smaller
  - Driving faster processing
  - Driving more capability



# Industry-Gov't Research spending

- ◆ R&D
  - Ind/Gov't ratio is 8:1 and increasing
  - Gov't needs to leverage off Industry
- ◆ S&T
  - Gov't much stronger
  - Industry can leverage off Gov't



*Government and Industry need to Leverage off each other to gain Capabilities...*

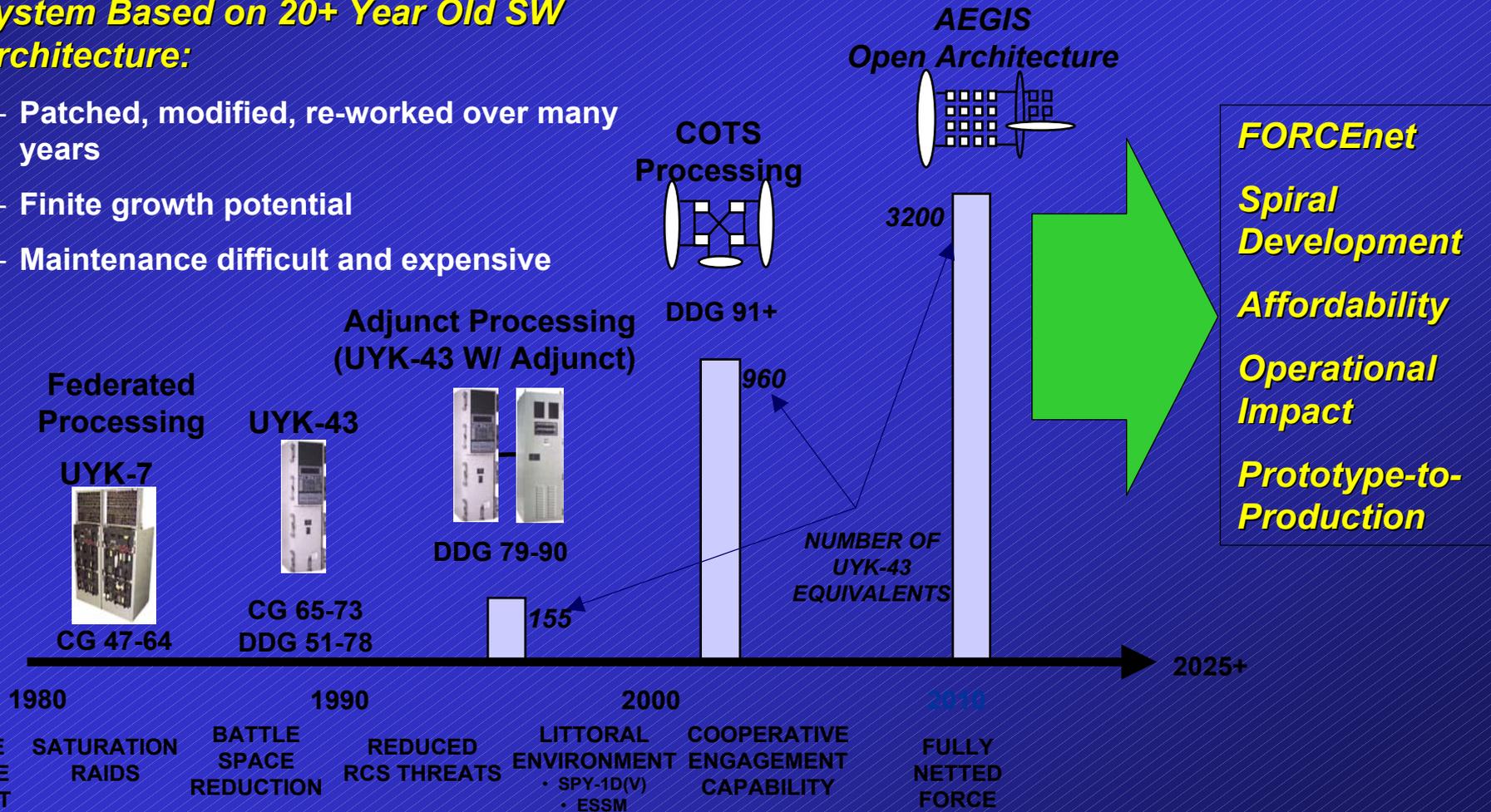
# AEGIS Combat System Technology

## Computer Hardware vs. Computer Program



### System Based on 20+ Year Old SW Architecture:

- Patched, modified, re-worked over many years
- Finite growth potential
- Maintenance difficult and expensive



# ***Change is Imminent....***

- ◆ Personnel (our leaders and warfighter's)
- ◆ Technology
- ◆ Threat

## ***The US Military needs to be***

- ◆ Flexible/Adaptive
- ◆ Have incremental capability, and
- ◆ Faster

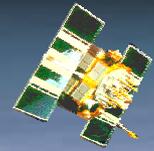
*Requires the shift to capabilities based force  
from threat based force...*

# *Leading the Navy into the Future...*

- ◆ **Advanced Concept Technology Demonstrations (ACTD)**
  - Getting technology into the hands of warfighter's
  - Effort to go from 4-5 year delivery to 3 years.
- ◆ **Mission Capabilities Package → Integrated Strategic Capability Plan**
- ◆ **Future Naval Capabilities**
- ◆ **Naval Transformation Roadmap**
  - Sea Strike
  - Sea Shield
  - Sea Basing
  - FORCEnet



*"It's not enough to have an ideology; you have to be able to pass it on, to infect others with your ideas."*



# Naval Transformation Roadmap

## Full Spectrum Dominance From Seabed-to-Space

Fully-Netted  
Human-centric Combat Force



*"You can't use an old map to find a new land"*

# ***Back-ups***

# ***What is an ACTD?***

- ◆ A process that permits the early and inexpensive evaluation of mature advanced technology to meet the needs of and provide support to a military user, the warfighter.
- ◆ This process determines military utility of new “mature” technology.
- ◆ Develops and refines operational concepts so as to take full advantage of new capability.
- ◆ Provides a product that must allow for transition into a formal acquisition effort and must support military capability.
- ◆ Must produce a product that provides for evaluation and refinement (a “residual”).
- ◆ Sponsored and executed jointly.
- ◆ Funded primarily from service budgets.
- ◆ Technology can come from many sources:
  - Services
  - Agencies
  - CINCS
  - International
  - Industry



# ***Evolving FNC List***

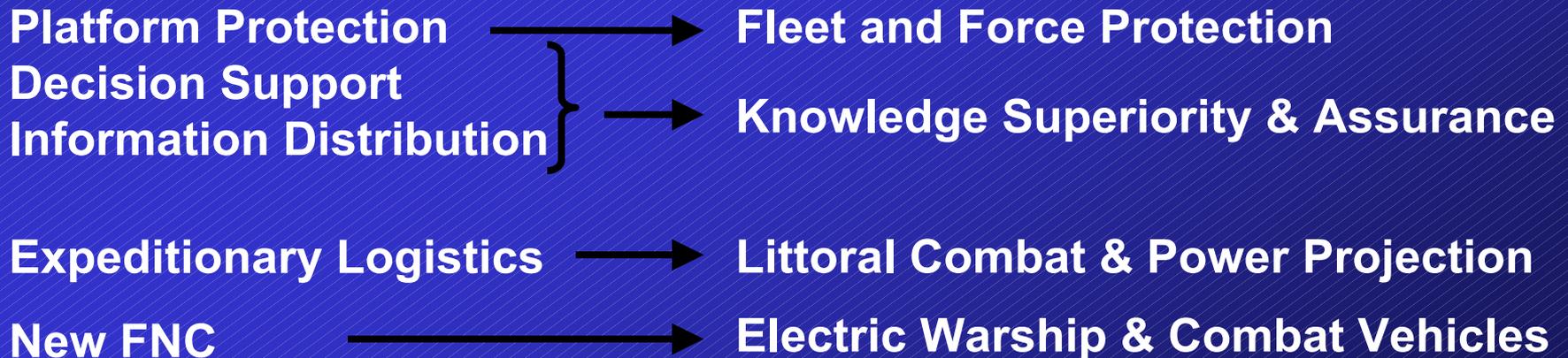
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## **Original FNC List**

**Time Critical Strike  
Missile Defense  
Littoral ASW  
Organic Mine CM  
Autonomous Operations  
Total Ownership Costs  
Capable Manpower  
Warfighter Protection**

## **Current FNC List**

**Time Critical Strike  
Missile Defense  
Littoral ASW  
Organic Mine CM  
Autonomous Operations  
Total Ownership Costs  
Capable Manpower  
Warfighter Protection**



# ***Transformation...What is it?***

## **Senior Executive Council:**

Transformation is a process that shapes the changing nature of military competition and cooperation through new combinations of concepts, capabilities, people, and organizations that exploit our nation's advantages and protect against our asymmetric vulnerabilities to sustain our strategic position, which helps underpin peace and stability in the world.

# ***Transformation...What is it?***

## **Naval Transformation Roadmap:**

Naval transformation is delivering  
new military capabilities

that will greatly expand the sovereign options  
available to Joint Force Commanders...

exploiting the asymmetric advantage of U.S. maritime  
dominance, mobility, decision superiority, stealth,  
precision and persistence.

### ***Navy – Marine Corps Team:***

***A Networked, Jointly Integrated, Sea-Based Power Projection Force,  
Assuring Coalition and Joint Force Access and  
Protecting America's Interests Anywhere in the World***

# ***Quotes in the footnotes***

- ◆ **“Leading the Revolution”, Gary Hamel, Harvard Business School Press, 2000.**