IMPROVING DOD'S PRODUCT SUPPORT EFFICIENCY

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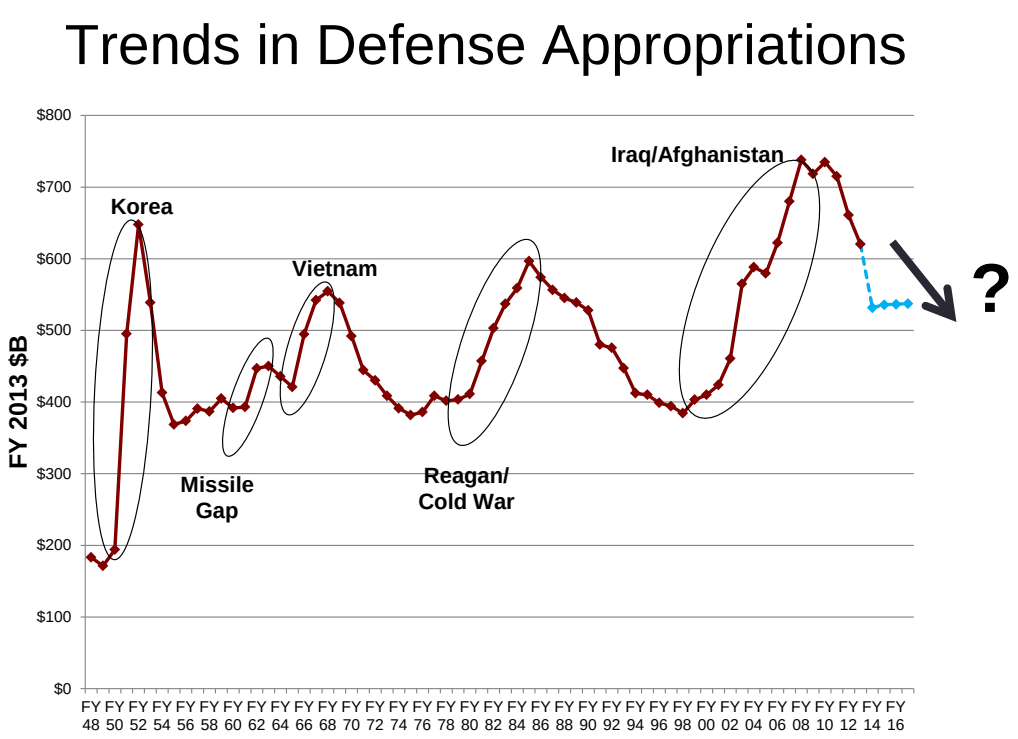
Trends in Defense Appropriations

- Since 1948, the nation spent an <u>average</u> of $478 billion per year in defense as measured in constant Fiscal Year (FY) 2013 dollars.
- During times of crisis, the nation increased the DoD's spending to defend the nation's interests.
- These defense build-ups peaked at:
  - $623B in FY 1952 for Korea
  - $547B in FY 1968 for Vietnam
  - $586B in FY 1986 for the Cold War buildup
  - $719B in FY 2009 for the wars in Iraq and Afghanistan
- We can anticipate a significant decrease as sequestrations plays out, and our involvement in Afghanistan ends (assuming no new extended operations) - - but our equipment is worn out; so repairs and modernization are required



2013 includes $88.5 billion supplemental appropriations request
Source: DoD Comptroller National Defense Budget Estimates For FY 2013 – The Greenbook

Current Defense Strategy:

- A smaller, leaner, more agile, responsive, and technologically-advanced force
- Maintain military presence & force projection in Middle East and APAC; and go elsewhere if needed (e.g. Africa)
- Build partnership and partner capacity
- Remain capable of confronting and defeating any adversary
- Protect & prioritize key investments in technology and new capabilities

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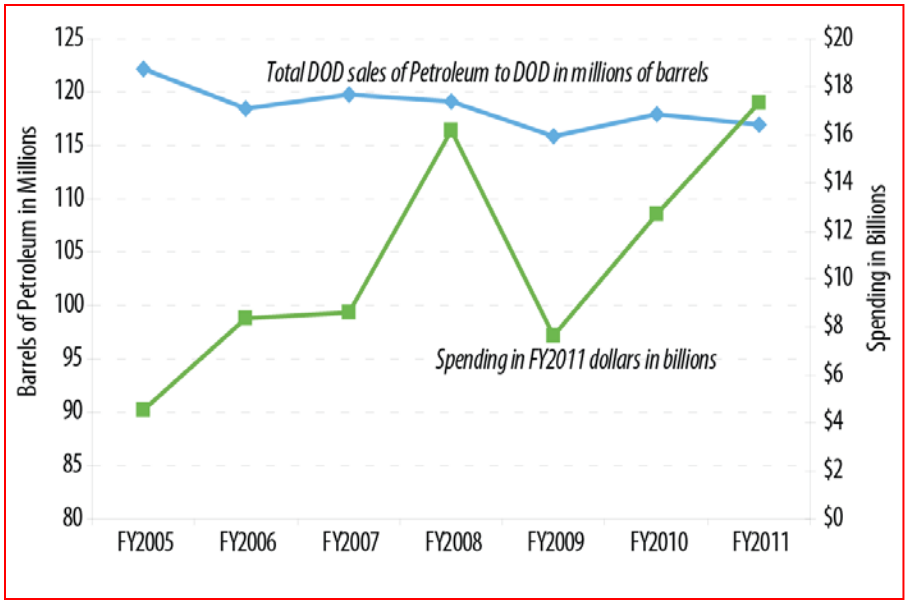
- But, cost trends (energy, acquisitions (goods and services), labor, medical) are all adverse
- As are demographics and debt payments

Maintain a strong defense posture with fewer dollars

Rising Fuel Costs

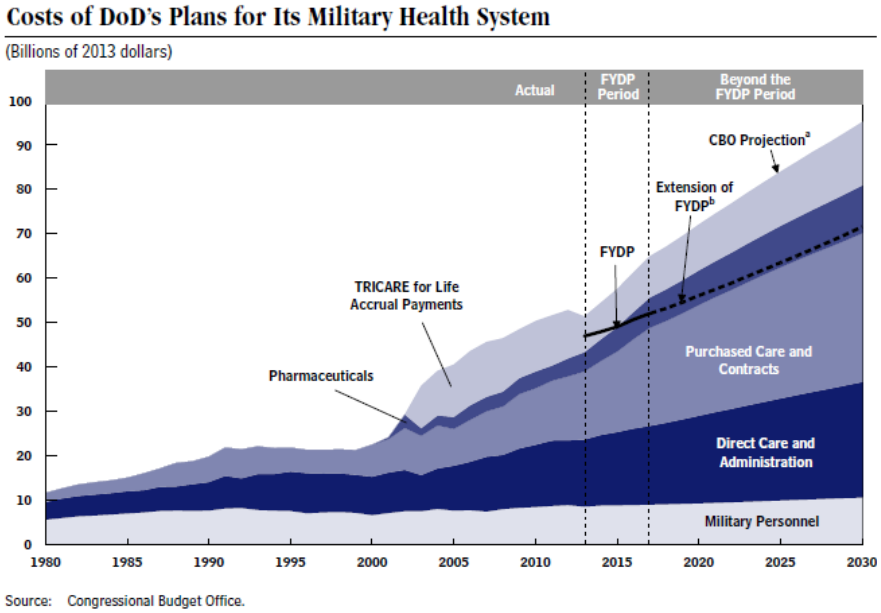
- In 2010, the armed services used more than five billion gallons of fuel, while conducting operations
  - Estimated cost of $13.2 billion—a 225% increase from the cost in 1997
  - The $13.2 billion price tag only accounts for the price of fuel alone and does not consider the associated delivery costs.
  - The cost to deliver fuel in an air-to-air scenario was estimated to be between $20 and $25 per gallon
  - The cost of delivering fuel by air could be as high as 10 times the cost of ground delivery
  - The cost to the Army for delivering fuel in an operational environment was between $100 and $600 per gallon, dependent on the range of the battle space.

DOD Petroleum Spending & Consumption



Source: Data provided by DLA-E, March 1, 2012. Fuel deflation factor from National Defense Budget Estimates for FY2010, Office of the Undersecretary of Defense (Comptroller), June 2009, Table 5-9, "Department of Defense Deflators – Outlays for Pay and Purchases", p. 47. Analysis by CRS.

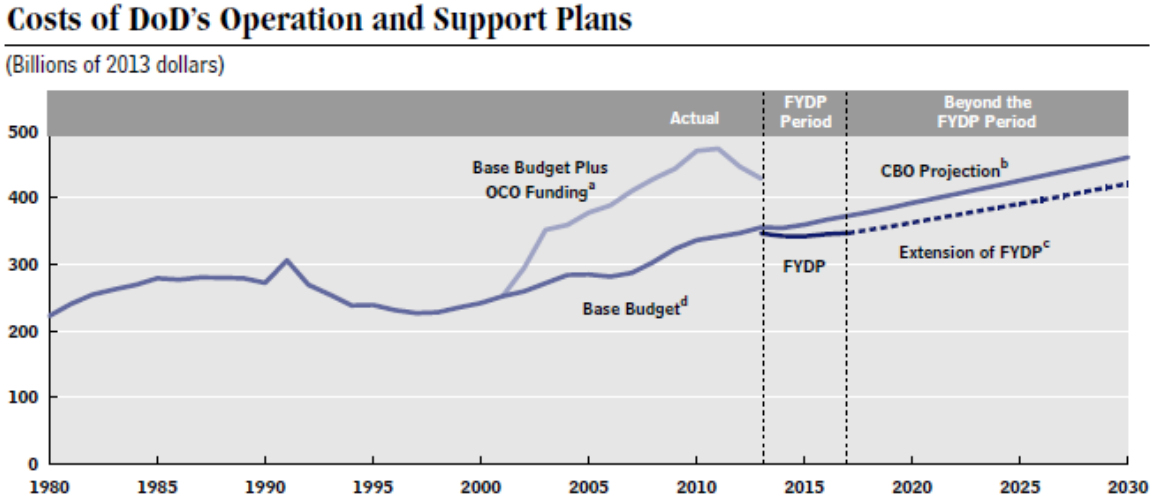
Rising Health Care Costs



- Low out-of-pocket expenses for TRICARE beneficiaries, combined with increased costs of alternative sources of health insurance coverage, make the TRICARE program relatively more attractive each year.
- As a result, a larger share of military retirees and their dependents are relying on the program.
- In addition, low out-of-pocket costs and other factors have led to utilization rates for inpatient and outpatient care that are significantly higher for TRICARE beneficiaries than for people with other insurance.

Trends in DOD Product Support Costs

- Product support costs continue to rise and consume more of the defense budget – the "death spiral"
- O&S includes:
  - Military health care,
  - Compensation of the department's military and civilian employees, and
  - Operation and Maintenance Activities



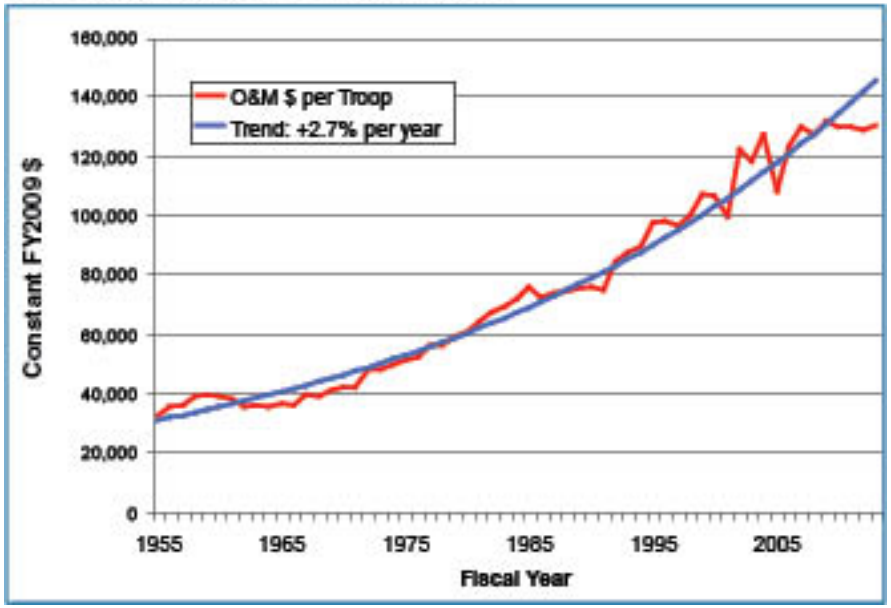
Source: CBO. Long-Term Implications of the 2013 Future Years Defense Program. July 2012

As a result, a sizable portion of "defense discretionary" spending is not available to be spent freely, as it is already earmarked for future requirements

Rising O&M Costs

- Since the Korean War O&M funding per service member has increased at a rate between 2.5% and 3%.
- A very large share of the O&M budget goes to pay civilian Department of Defense personnel.
  - In the Fiscal 2009 base budget, civilian pay in the O&M accounts was projected be about 30 percent of total O&M funding.
  - Salaries have outpaced the growth of inflation—as in most skilled occupations, compensation of federal civilian workers has grown in real terms over time.
- The O&M budget also includes costs of operating and maintaining major weapon systems.
- These costs also have increased faster than base inflation.

Figure 3: DOD Operation and Maintenance Funding per Active Duty Service Member, Fiscal 1955 to Fiscal 2013



Source: CRS, based on Department of Defense data. FY2009 to FY2013 data reflect projections made in February 2008.

Notes: Excludes war costs and war-related end strength for FY1990 to FY1992 and for FY2001 and beyond.

Budget Cuts are Imminent

- The current budget reduction facing the DoD is estimated at $487 billion over 10 years, including 10% of the Army and Marine manpower by 2017, with the potential to cut an additional 10% of the budget, or more, over the same period.

- Examples of budget-related cuts
  - The Air Force has already closed the F-22 production line, is slowing the purchase of the F-35 airframes, and expects to decrease substantially its total number of tactical aircraft and fighter wings.
  - The Navy is likely to decommission seven cruisers and cancel the acquisition of two Littoral Combat Ships and six High Speed Vessels.
  - Several bases will be closing overseas, and another potential Base Realignment and Closure (BRAC) round is on the horizon.

Do more with less

- The need to improve efficiency has never been greater
  - Constrained and shrinking budgets
  - Sequestration will affect operations.
  - One area particularly impacted: maintenance and support
- DOD's charge: Generate efficiency by reducing overhead costs, improving business practices and culling excess or troubled programs
  - 2011 uniformed services leadership review*: Identified potential savings of +$100 billion between now and 2016—however, this is still short of the sequestration goal.

reference; Robert M. Gates, January 6, 2011, "Statement of Department Budget and Efficiencies"

DoD Logistics Today

- Spend over **$210 billion annually** (FY2010); employ approx. 1 Million government people; have an inventory of approx. **$95 Billion**
- Although there has been a 37.5% decrease in average customer wait-time between FY2004 and FY2007 performance is still far from world class, by any measure (response time, flexibility, cost, etc.)
- The commercial world has integrated logistics data systems; DoD has over 2000 non-inoperable logistics systems (and few links to the rest of the enterprise)
- DoD Logistics has little cost visibility or performance accountability
  - Implementation of RFID program, mandated in 2002, has been slow
- Unlike world-class systems, DoD lacks total asset visibility
- Supporting two major theaters of operation; averaged 48,000 requisitions/day from January-May 2007; but logistics has been a major problem in theater (Iraq/Afghanistan/Kuwait) and it is critical to 21st Century warfighting

Magnitude of DoD Logistics Operations (FY10)

Total Logistics Costs: $210B $ 112 billion in maintenance $ 74 billion in supply $ 24 billion in transportation	**Operational Resources** 100,000 suppliers 1,000+ legacy logistics systems 103,000+ requisitions per day $95.6B inventory/4.6M items (SKUs)
Assets: $595B • 500 ships • 15,800 aircraft • 30,000 combat vehicles • 330,000 ground vehicles	**Operating Locations** • 17 Maintenance depots • 25 distribution depots (global) • 49,000 customer sites • Worldwide air and seaports

Source: Defense Logistics Cost Baseline, FY2010

The potential for dramatic improvements in performance with tens of billions of dollars of annual savings must be realized -- and soon.

Logistics Results: "Successful", but not World-Class

But Capability Losses are not Inevitable

- Despite the competition for budget authority, critical capability losses need not be inevitable.
- By emulating commercial best practices, we can "get more for less"

DoD's Challenge

- Under status quo management, budget cuts put product support performance at risk
- To avoid or mitigate this risk, DoD must significantly change its approach in product support strategies to increase the "bang for its buck"
  - Think "smarter"… not "richer"
  - Focus on "outputs"… not "inputs"
  - Focus on performance…not transactions
  - Develop cost visibility
  - Adopt metrics-based continuous improvement

- The solution: Deploy world-class business practices and proven business operations that are applicable to product support to simultaneously reduce overhead while preserving the maximum combat capability and performance

Why must product support be improved?

- A smaller force increases the value of every platform and weapons system available to the warfighter.
- Federal budget-reduction pressures limit the number and scope of new platforms and systems for foreseeable future
  - We cannot afford the costs of an inefficient logistics system.
  - More important, high levels of availability for platforms and weapons systems will be essential.
- Rapidly escalating support costs on aging equipment and platforms eat up available resources – financial and manpower
  - Solutions lie in improving the product support - from acquisition to execution to adoption of new enabling technologies.
- Improvements in military logistics, particularly in the weapons support arena, offer an opportunity for large-scale savings.
- Savings could be reinvested in DoD's strapped modernization accounts to build and support the next generation of weapons and equipment for the warfighter
- The Aerospace Industries Association estimates that the savings could amount to as much as $32 billion a year

Incentives for industry and government are required to achieve the needed changes

Secretary of Defense Hagel's Initial Thoughts (Regarding The Defense Budget Crisis)*

- Employment for tens of thousands of uniformed active duty personal and government civilians in positions that could be done equally well, and for far less, by private contractors.
- Runaway personnel, health care, and retirement costs.
- An acquisition system that doesn't operate efficiently, effectively, or quickly enough to meet the military needs.
- The failure to adopt organizational and process reforms from the private sector - - that have resulted in improved efficiency, greater productivity and reduced cost.
- Congress must cooperate in providing long-term budget certainty; and smart ways to address acquisition, personnel, and government overhead cost.

**Daniel Goure, "Lexington Institute," April 4, 2013*

Recommended Actions for Improvement

- Improved product support efficiency and effectiveness, includes:
  - Performance-based product support solutions with PPP and different/longer contracts
  - Lean six sigma
  - Strategic sourcing (i.e. public/private competitions for non-inherently-governmental work)
    - Reintroduce “competitive sourcing” for non-inherently-governmental work
    - Replace the depot 50/50 rule with strategic sourcing
  - Inventory optimization
    - Benchmarking and performance metrics – better use of benchmarking against private and public sector enterprises
- Appropriate productivity incentives for industry
- Integrated logistics systems to improve supply chain visibility that consolidate and streamline IT requirements and push them to the cloud
- Two significant cost driver are manpower and fuel--Adopt new technologies that reduce fuel consumption, streamline support operations, eliminate waste in both process and assets, replace humans with machines

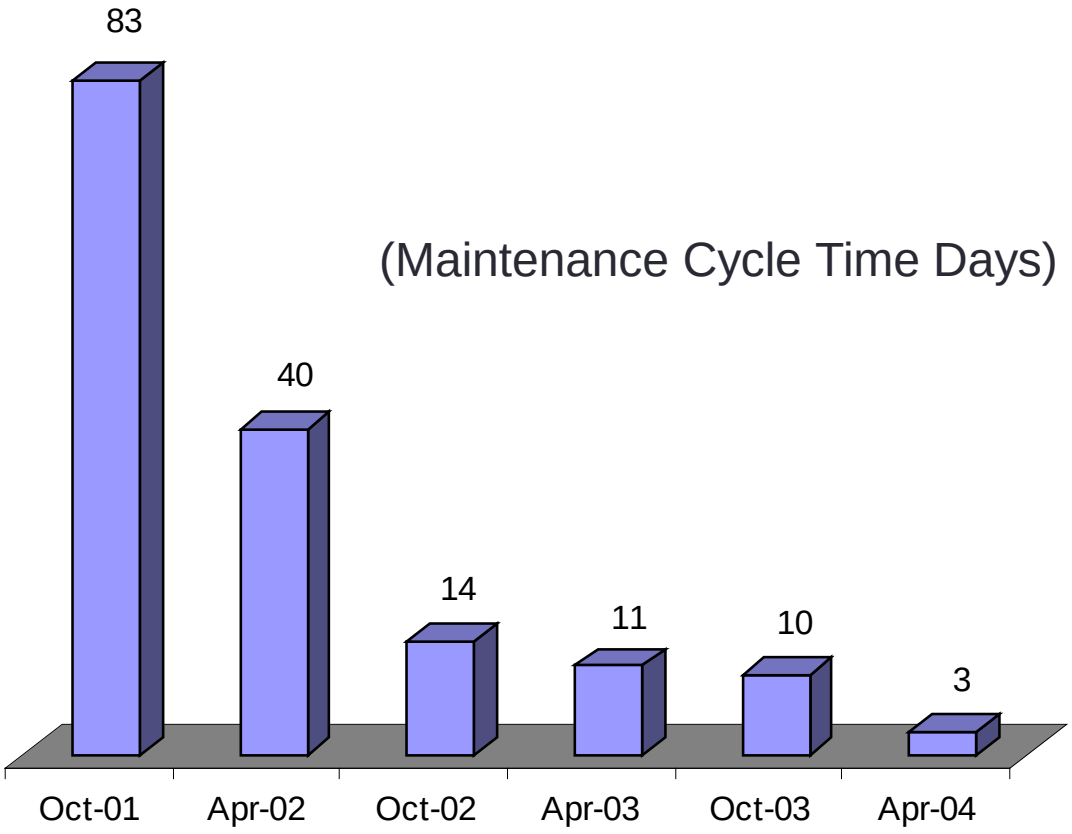
Performance Based Logistics Availability and Response Time

Navy Program	Material Availability* Pre-PBL	Material Availability* Post-PBL	Logistics Response Time** Pre-PBL	Logistics Response Time** Post-PBL
 F-14 LANTIRN	73%	90%	56.9 Days	5 Days
 H-60 Avionics	71%	85%	52.7 Days	8 Days
 F/A-18 Stores Mgmt. System (SMS)	65%	98%	42.6 Days	2 Days CONUS 7 Days OCONUS
 Tires	70%	85%	28.9 Days	2 Days CONUS 4 Days OCONUS
 APU	65%	90%	35 Days	6.5 Days

Note: "Pre-PBL" is sole-source government and "Post-PBL " is competitively awarded (either to private sector or to a public/private partnership

*Klevan, Paul, NAVICP, UID Program Manager Workshop Briefing, 5 May 2005
**Kratz, Lou, OSD, Status Report, NDIA Logistics Conference Briefing, 2 Mar 2004

Focus on Continuous Improvement (Getting Lean)



AIMD Lemoore Power Plants Shop
F404 Engine Repair Cycle Time

Reduced Fuel Use and Alternative Fuels

- Need to develop more rapid fielding of fuel efficient systems and alternative fuel sources
- Benefits
  - Reduced logistics burden
  - Reduced dependence on foreign oil
  - Supply chain resilience against natural disasters
  - Reduces carbon footprint – “green” military initiatives
- Challenges
  - Long system service lives (ships and planes) i.e. the inventory changes slowly
  - Lack of reliable data on energy use
  - Current efforts by the Services to test and certify alternative fuels are far outpacing commercial availability

Autonomous systems/robotics

- Examples of applications:
  - Kiva – warehouse material handling applications
  - Autonomous (driverless) trucks and cars: Caravan/convoy applications as well as repetitive controlled route applications.
- Benefits:
  - Reduce costs through automation
  - Increase efficiency
  - Improve reliability
  - Reduce errors
  - Improve service
  - Accelerate throughput/work output
  - Safety – reduces risk to human life in dangerous situations
  - Cost – reduces manpower requirements
  - Efficiency – streamlines repetitive tasks and eliminates process inefficiencies/waste

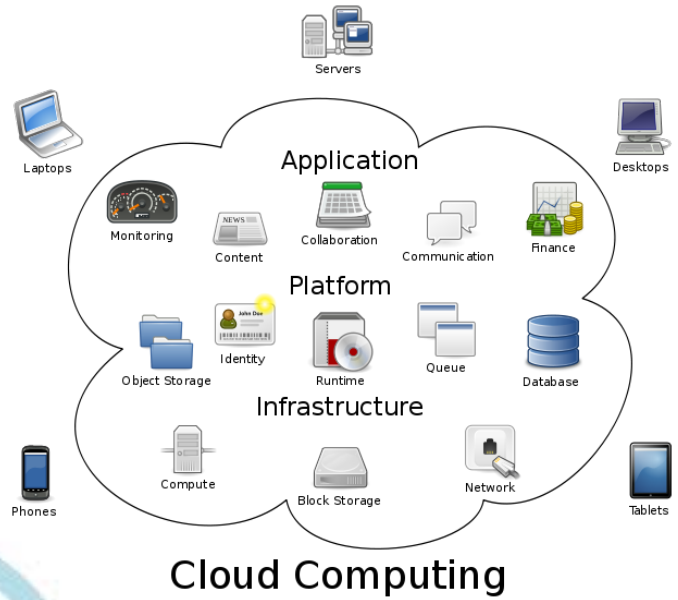
- Challenges to consider:
  - Will need a cultural change--robots replacing humans for jobs
  - For some applications technology still under development
  - Requires significant training for staff and users
  - Requires initial up-front investment, with expectation of longer term ROI

Competitive Sourcing/(public/private competition via A-76)

- Work is not inherently governmental
- Work can be performed by the private sector
- Allows for public sector to compete with private sector for work
- Benefits:
  - Government very often wins (but benefits realized no matter who wins)
  - Better performance at lower cost (average savings over 30%)
  - Forcing factor (incentive) for “learning” with the existing process
  - Creates competitive incentives (e.g PBL, warrantees, follow-on awards) in environments that are not normally exposed to market forces

Key Takeaways

- Plenty of opportunities for improvement – to do more with less, while not jeopardizing capabilities or the warfighter
- Pathways for improvement discussed here:
  - Technology – autonomous systems, cloud computing, big-data analytics, robotics, and integrated I.T.
  - Performance-based management
    - Adopt changes that produce and incentivize the desired outcome at the desired cost.
    - A 'systems theory" view vs. a transactional view.
  - Process/continuous improvement through metrics, incentives, and lean six-sigma



Recommendations

- Private sector initiatives in the areas discussed have produced impressive savings and improvements in efficiency & effectiveness.
  - *DOD efforts can closely model those efforts and achieve similar results.*
- Expand efforts already underway in areas of lean, supply chain optimization and performance-based logistics
- Emphasize Competitive Sourcing (including all depot work)
- Adopt enabling technologies that reduce asset and resource consumption – e.g., human, financial, fuel - and risk to the warfighter and to DOD's mission.

- To achieve change, two things are required:

1. Recognition of the need for change.
2. Leadership; with a vision, a strategy, and a set of actions.

It can be done!