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Mini-Symposium Report

DoD Infrastructure:
Why It Is & What Does It Cost?
Dan Barker and Dr. Daniel Nussbaum, Co-Chairs

27-29 January 1998
Williamsburg, Virginia

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- The Director Program Analysis and Evaluation, Office Secretary of Defense

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OVERVIEW OF THE MINI-SYMPOSIUM

1. Goal

Identify unresolved issues, data and processes that are needed to establish the requirements and associated costs, for selected test areas within the DoD infrastructure.

2. Agenda

The agenda for the three day unclassified Mini-Symposium included a day devoted to invited speakers and two days for Working Groups to address specific aspects of the infrastructure:

Day 1. Speakers

The Mini-Symposium began with a short introduction and an overview of the Mini-Symposium objectives. The remainder of the first day was taken up with speakers and a tutorial to provide a context for the Workshops.

OSD/PA&E	Changes in the Infrastructure Since 1989	Dave McNicol
USD(A&T)	Defense Agencies: Sizing What The Customer Needs	Nancy Spruill
LMI	Re-engineering DoD's Infrastructure	John Christie
Tutorial	DWCF	Jeff Bennett
Army	Infrastructure Initiatives	Craig College
Navy and Marine Corps	Infrastructure Initiatives	Mark Mohler
Air Force	Infrastructure Initiatives	Jo MacMichael

Day 2 & 3. Working Groups

The next two days the Working Groups met and discussed issues pertaining to their specific infrastructure issue using suggested questions. They summarized their results and submitted copies of their individual reports on the third day.

Topic	Area	Chair	Co-Chair
Real Property Maintenance	Installation Support	Nancy Moore	Dennis Baer
Department Wide Administration	Force Management	Mark Mohler	Col. Greg Parlier
Defense Information Infrastructure	Central C4I	Col Bob Carr	Jackie Henningsen
Infrastructure Overhead Associated with Developing Military Operators	Central Personnel	Don Cymrot	Col. Tom Allen
Process Model for Working Capital	DWCF Group	Jeff Bennett	Greg Parnell, FS
Fund Programming			Gregg Burgess

3. Speaker Briefs and Themes

The speakers provided an overview of a variety of infrastructure areas. David McNicol of OSD/PA&E began the Workshop with trends in infrastructure to include force/infrastructure ratios, the composition of forces and the composition of infrastructure, as it supports forces. His examples showed that infrastructure downsizing has kept pace with force downsizing but, that it is still the designated billpayer for a number of initiatives. Nancy Spruill, from the Under Secretary of Defense/Acquisition and Technology (USD/A&T), provided information on the

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growing cost benefits provided by Defense Agencies (DA) and on the issues driving their growing costs. She also described the recent studies assessing infrastructure highlighting the Secretary of Defense's (SecDef) Defense Reform Initiative (DRI) which recommended DA cuts and increased cost accountability measures. John Christie of the Logistics Management Institute (LMI) provided a synopsis of current efforts to reengineer DoD infrastructure followed by a framework to assess infrastructure activities. Jeff Bennett, also of LMI, provided a tutorial of the Defense Working Capital Fund (DWCF), describing the fund's Defense Business Operating Fund (DBOF) origins and the current information provided for budget submissions. His tutorial concluded by showing the current difficulties of incorporating business plan metrics into a model useful for the programming community.

The service–specific briefings included an overview of each component's approach to accounting for and reducing infrastructure costs. Craig College, of Army Program Analysis and Evaluation (PA&E), provided Army initiatives in each of the infrastructure areas. He highlighted the need for improving the accounting of infrastructure costs and for removing constraints binding the DoD to suboptimal allocation of resources. Mark Mohler, of the Navy's programming division, gave an overview of Navy efforts to reduce total ownership costs. These included using cost as an independent variable in acquisition decisions, outsourcing previously "core" operational activities and using best business practices and information technology to restructure support functions. Jo MacMichael, of the Air Force's (AF) programming division, described AF outsourcing initiatives. She described the AF programming community's approach to handling the dramatic increases in A-76 studies and to projecting the resulting savings.

4. Working Group Synopsis

While each of the Working Groups had similar questions presented to them, the topic areas and the make-up of the Groups led to varied results. The initial description of the Groups' findings demonstrate the diversity of the infrastructure areas and of the issues selected to be examined. The Groups also independently uncovered common themes which are applicable in analysis across the infrastructure areas.

4.1 Working Group Reports

The Real Property Maintenance (RPM) Working Group prototyped a process for analyzing any one of the installation support activities. This process began with a baseline of the requirement followed by the identification of key processes, relevant constraints, performance measures and data sources. The more difficult portion of the process will include the analysis of performance measures and the improvement of performance.

The Department Wide Administration (DWA) Working Group identified activities in this infrastructure area and suggested ways to break the area down which would allow greater visibility to the area's resources. It studied the current initiatives to find cost savings and improve efficiencies such as the DRI and the Government Performance and Results Act (GPRA). The Group concluded with recommended initiatives which are included in the common findings section.

The Defense Information Infrastructure (DII) Working Group found the understanding of the DII well below the

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level of more traditional DoD systems. To remedy this initial obstacle the Group began with a definition describing the DII as a seamless web of communication networks, computers, software, databases, applications, data, security services and other capabilities that meet the information processing and transport needs of DoD users in peace and in all crises, conflicts, humanitarian support and wartime roles. The DII Measures of Performance (MOP) were found to be directly linked to improved force performance. Cost saving and performance enhancing initiatives in this area include creative licensing activities, spiral development and Outsourcing and Privatization (O&P) of communications personnel. Analysis in this area is needed across the spectrum: benchmarking, better identification of user needs, experimental architecture assessments at battle labs and quantification of productivity improvements.

The Central Personnel Working Group looked at the costs of infrastructure overhead to develop military personnel. Current policy decisions must be modeled in order to get reliable cost saving estimates. For example, rotational constraints often reduce the actual savings of reducing force size by increasing retention and recruitment costs. Likewise a simple "desired" tooth to tail ratio of operational and administrative personnel may be unlikely to achieve improved efficiency. An increase in military "managers" is similar to civilian sector trends in which large increases in "white collar" and managerial positions has accompanied productivity increases. The Group recommended options to allow the cost of military personnel to be more visible at the local commands to increase the benefits to commanders who economize labor.

The Defense Working Capital Fund (DWCF) Working Group explored a generic demonstrator model which they hope to transform into a "quantitative tool for resource managers, programmers and comptrollers to understand and assess effects of WCF policy and programming changes." The Group recommended input and output variables and policy decisions to be included in the model. There was consensus that the model provided a capability that would increase communications across the offices involved in the Planning, Programming and Budgeting System (PPBS) process and that it should be prototyped for one of the twenty–nine WCF business areas.

4.2   WG Common Findings

Each of the Working Groups had functional service representatives as well as cost estimators and analysts. While the combination of functional managers and analysts has occurred before, this was one of the first times in which infrastructure was the topic. As a result, a considerable amount of time was devoted to learning the dialect of the various contributors in each Group. Some Groups reported results that are more applicable to general performance measurement techniques and some spent their time addressing specific constraints which should be eliminated or included in cost savings projections.

The issues the Groups all decided were important to highlight include: current assumptions of the utility of infrastructure, the need to refine performance measures, the constraints to implement changes to infrastructure and the existing and recommended initiatives to create efficiencies.

4.3   Utility

Office of the Secretary of Defense (OSD) managers will have a different view

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than local commanders of the utility of infrastructure areas. If commanders did not see the utility in infrastructure, less money would migrate from forces Program Elements (PEs) to infrastructure PEs. The "tooth to tail ratio" and the categories by which group infrastructure was no longer helping to create meaningful debate on the utility of particular infrastructure areas. The key questions are: "How does the infrastructure area contribute to force effectiveness?" and "When do we get increased overall performance by increasing 'tail' activities?"

4.4 Performance Measures

Infrastructure areas need to be measured by the functional requirements they support. However, visibility of performance decreases as distance from the activity center increases. Centrally sponsored studies have a variety of data sources to draw from: benchmarking and cross service comparisons may be useful if allowances are made for the component's special needs and documentation on firm fixed price contracts and per capita calculations can provide insight into efficiencies. Special attention should be given to the effect of changing policy decisions on each area. While central managers should do more assessments on performance in infrastructure areas, they should not assume that the data provides enough visibility to manage the area centrally.

4.5 Constraints

Projections of cost savings from infrastructure cuts must include constraints which reduce the ability to make cuts (e.g. the 50-50 rule) and those which would reduce the total amount of savings (e.g.

deployment ratios which increase personnel overhead costs). For example, since DWA has a large number of reimbursable billets, savings estimated from a fixed decrease in DWA should be offset by the reimbursable amount. Additionally, the increased number of cost saving initiatives provide their own set of "costs." Since the A-76 study process is a commonly accepted way of identifying cuts, the quantity of these studies being performed has increased tremendously. As a result, the ability to finish them in time to include the savings projections in PPBS milestones has reduced dramatically.

4.6 Initiatives

A number of Groups recommended ways to combine duplicative efforts. To exploit advantages of economies of scale and of competitive sourcing, Groups suggested efforts to consolidate management under the best provider. The competition and common function consolidation may occur as an effort for cross-service regionalization or to select a single agent manager. Additionally, Groups suggested costing options such as Activity Based Costing (ABC). The Groups encouraged implementing incentives for units which identify and provide cost savings such as, allowing the units to reinvest a portion of their savings internally. They described a potential for cyclical cost savings as units uncover ways to reengineer with Information Technology (IT) and are encouraged to reinvest to expand the use of these systems.

4.7 Working Group Summary

The Working Groups have a consensus on one particular point: the low hanging fruit in infrastructure cuts has been picked. As a result, the above findings are not offered to the community as detailed,

across-the-board solutions but as ideas to be included in future analysis. The Working Groups viewed the infrastructure areas though multiple lenses throughout the Mini-Symposium and provided a foundation which should spawn many future analyses of the requirements and associated costs of DoD infrastructure.

Trends in Infrastructure

MORS Conference

27 January 1998

Dr. David McNicol

OSD/PA&E

Overview of Forces/Infrastructure
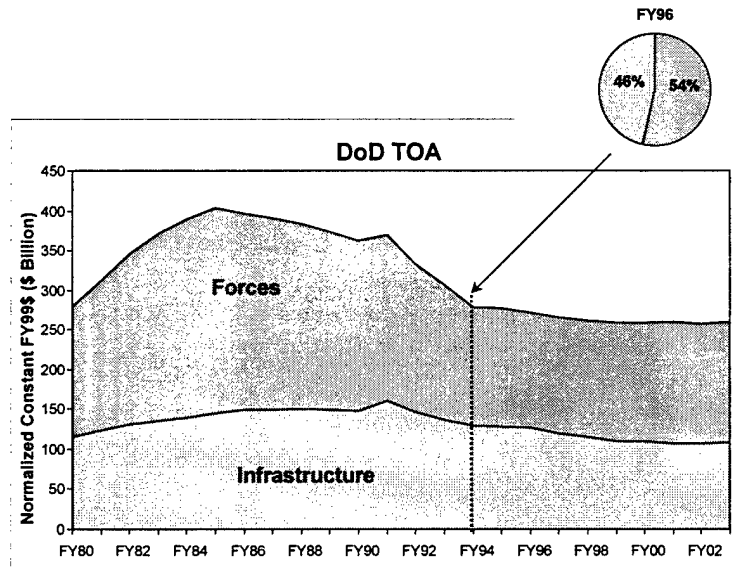
Source: IDA Normalized Data, 99PB

OSD/PA&E

Infrastructure Data System

- In 1991, OSD (PA&E) Sponsored a Study by the Institute for Defense Analyses (IDA)
  - See IDA Paper P-3113, "A Reference Manual for Defense Mission Categories, Infrastructure Categories and Program Elements"
- This Study Provides a Mapping of Fiscal Year Defense Program (FYDP) Infrastructure Program Elements To:
  - 45 Program element clusters
  - 8 Categories
- An Additional IDA Study Provides a Technique to Adjust FYDP Data for Accounting Changes That Have Occurred Over the Last 15 Years
  - See IDA Paper P-3194, "Normalizing the Future Years Defense Program for Funding Policy Changes"

OSD/PA&E

Definition of Forces

- Includes Activities That Are Directly Tied to DoD Warfighting Missions (Outputs)
  - Includes combat forces, such as heavy divisions, F-16 squadrons and aircraft carriers
  - Includes combat support forces that deploy with the combat forces, such as corporate level support, KC-135 squadrons and replenishment ships
  - Also includes most intelligence, space and C^3 for forces — such as cryptologic activities, space launch facilities and airborne command posts

OSD/PA&E

Composition of the Fighting Force

Other Forces
Categories
6%

RDT&E
Programs
10%

Intelligence
Programs
14%

Direct Support
Forces
29%
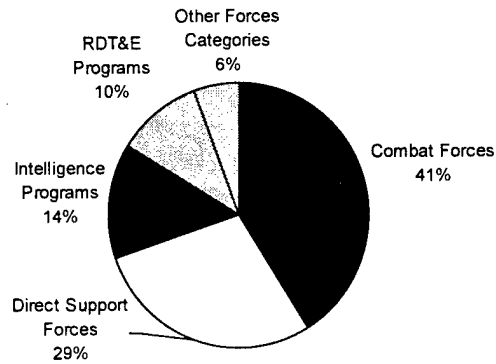
Combat Forces
41%

	FY98
Combat Forces	60.60
Direct Support Forces	42.20
Intelligence Programs	20.51
RDT&E Programs	15.40
Other Forces Categories	8.28
Total ($ Billion)	146.99

FY99 PB - Constant FY99 $ Billion

OSD/PA&E

Forces by Appropriation

Rev & Mgmt Funds
1%

RDT&E
18%

MILPERS
26%

Procurement
30%

O&M
25%

MILCON
0%
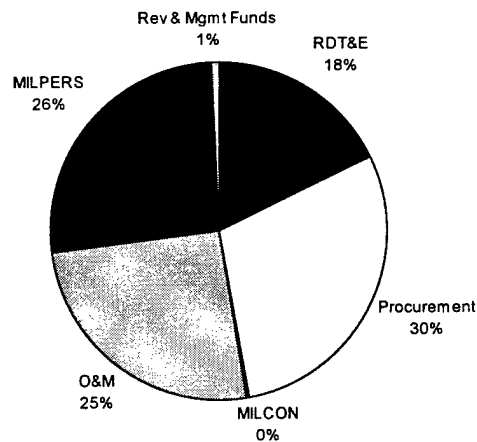
OSD/PA&E

Definition of Infrastructure

- Includes Activities That Provide Support or Control of Military Forces From Fixed Installations
  - Includes support to facilities
    - » Installation support, such as real property maintenance or environmental compliance
  - Includes support to equipment
    - » Acquisition support such as test ranges and facilities
    - » Logistics support such as (non-DWCF) depot maintenance
  - Includes support to people
    - » Personnel support such as recruiting and PCS travel
    - » Training support such as Reserve Officer Training Course (ROTC) and pilot training
    - » Medical support (Defense Health Program)
  - Includes control of forces
    - » Force management functions such as CINC management Headquarters (HQs)
    - » Centrally managed communications functions, such as base level communications/operations and air traffic control

OSD/PA&E

Support to Forces*

Installation Supply	FY98$ Billion
Logistics	25
Training	12
Medical	19
S&T	16
Other	8
Forces	147
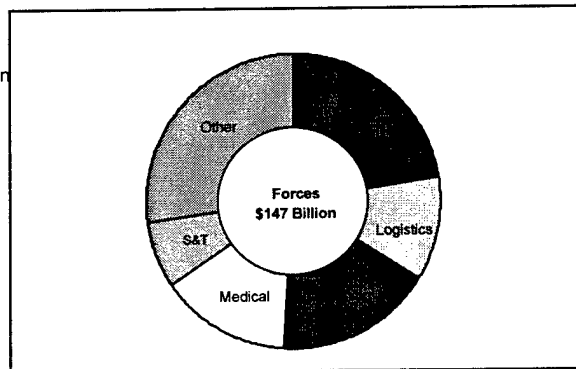
Forces
$147 Billion

*Note: Other is made up of Central C³, Central Personnel, Force Management and other Acquisition Infrastructure

OSD/PA&E

Source: IDA Normalized Data, 99PB

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Force and Infrastructure Shares
Normalized

DoD TOA

Forces - Acquisition

Forces - Other

Infrastructure - Other

Infrastructure - Acquisition

Normalized Constant FY99$ ($ Billion): 0, 50, 100, 150, 200, 250, 300, 350, 400, 450

FY80 FY82 FY84 FY86 FY88 FY90 FY92 FY94 FY96 FY98 FY00 FY02
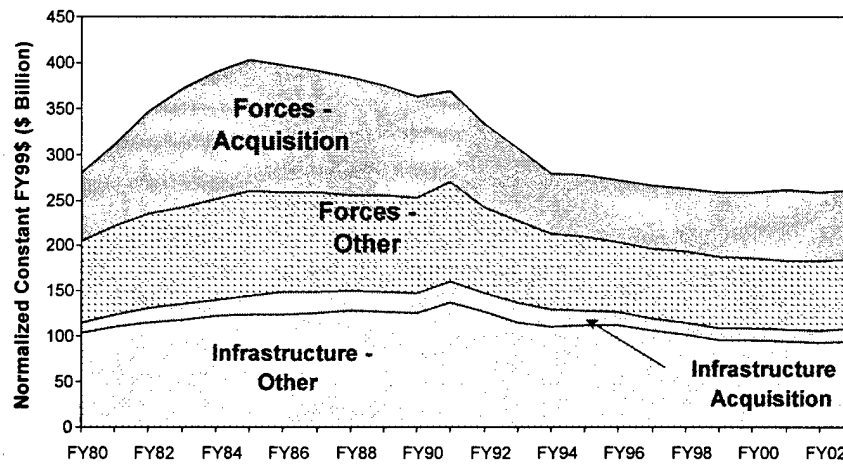
OSD/PA&E

Force and Infrastructure Shares
Manpower
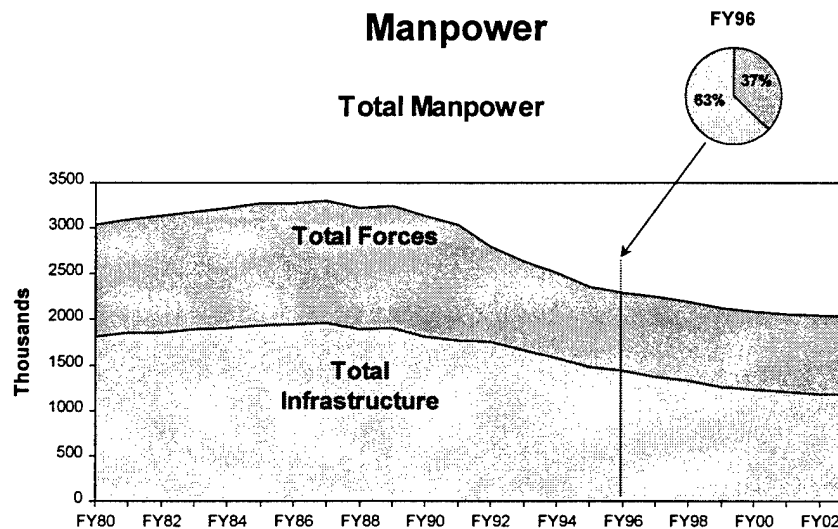
FY96

Total Manpower

37%

63%

Total Forces

Total Infrastructure

Thousands: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500

FY80 FY82 FY84 FY86 FY88 FY90 FY92 FY94 FY96 FY98 FY00 FY02

OSD/PA&E

Support to Forces*

Installation Supply	FY98$ Billion
Logistics	25.2
Training	128
Medical	19.4
S&T	16.4
Other	8.0
Forces	147.0

Note: Other is made up of Central C3, Central Personnel, Force Management and other Acquisition Infrastructure

OSD/PA&E

Changes in TOA

Percent Change in TOA (FY99$)

Legend:
- Forces excluding Procurement
- Command Managed Training
- BOS/RPM
- S&T Programs
- Central Logistics
- Other Central Training
- Other Acquisition Infrastructure
- Central C3
- Geophysical Aids
- Management/Operational HQ
- Other Central Personnel
- Family Housing
- Other Force Management
- Central Medical
- Dependent Support Activities
- Environment

Environment 410% growth

Comparison based on FY89 and FY98

OSD/PA&E

Conclusions

- Despite Many Perceptions to the Contrary:

- Infrastructure Downsizing Has, in General, Kept Pace With Forces Downsizing

  - Notable exceptions for some areas such as quality of life and environmental programs

- With successful implementation of the Quadrennial Defense Review (QDR) and the Defense Reform Initiative (DRI), the share of funding for infrastructure is projected to actually decline further by the end of the FYDP period

OSD/PA&E

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Defense Agencies:
Sizing What the Customers Needs?

Dr Nancy Spruill
Deputy Director, Acquisition Resources
OUSD(A&T)/API
27 January 1998

Overview

- Defense Agencies — Who are They?
- Concerns
- Previous Restructuring Efforts
- Defense Agency Resources
- Restructuring Methodologies

Defense Agencies — Who are they?
Post Defense Reform Initiative

- BMDO - Ballistic Missile Defense Office
- DARPA - Defense Advanced Research Projects Agency
- DCAA - Defense Contract Auditing Agency
- DeCA - Defense Commissary Agency
- DFAS - Defense Finance and Accounting Service
- DIA - Defense Intelligence Agency
- DISA - Defense Information Systems Agency

- DLA - Defense Logistics Agency
- DLSA - Defense Legal Services Agency
- DSAA - Defense Security Assistance Agency
- DSS - Defense Security Service
- TC & TRA - Treaty Compliance and Threat Reduction Agency
- NIMA - National Imagery and Mapping Agency
- NSA - National Security Agency

Reasons for Defense Agencies

- Provide Economy of Scale and Scope for Required Functionalities
- Central Management of a Product
- Maintain Long-term Vision
- Prevent Conflict of Interest
- Provide Close Coordination With SecDef

Defense Agencies TOA Comparison
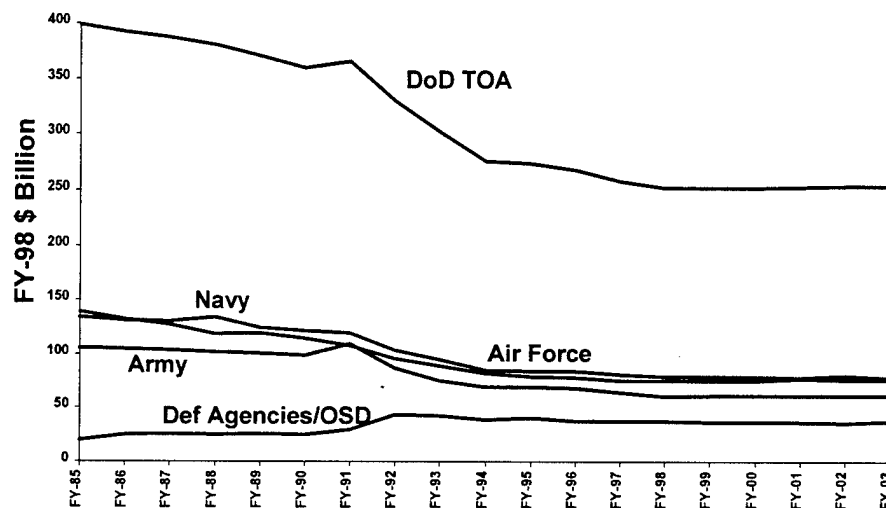
Defense Agencies/OSD Resources

- Apparent Rise in Defense Agency Funding Has Been Caused by the Following:
    - Functions shifted from services to DLA (FY81-89)
    - Growth of DCAA (FY85-90)
    - Increased funding of BMDO programs (FY86-87)
    - Establishment of chemical demilitarization programs (FY87)
    - Increased DARPA funding (FY89-94)
    - Establishment of US SOCOM (FY91)
    - Establishment of DeCA (FY92)
    - Implementation of DBOF/DWCF accounts (FY92)
    - Establishment of DHP (FY92)
    - Establishment of DARO (FY94)
    - Growth of DISA (FY95-96)
    - Establishment of DoDEA (FY96)
    - Establishment of chemical-biological (FY96)

Normalized Funding
If Things Were Kept As They Are Now (in FY98 Dollars)
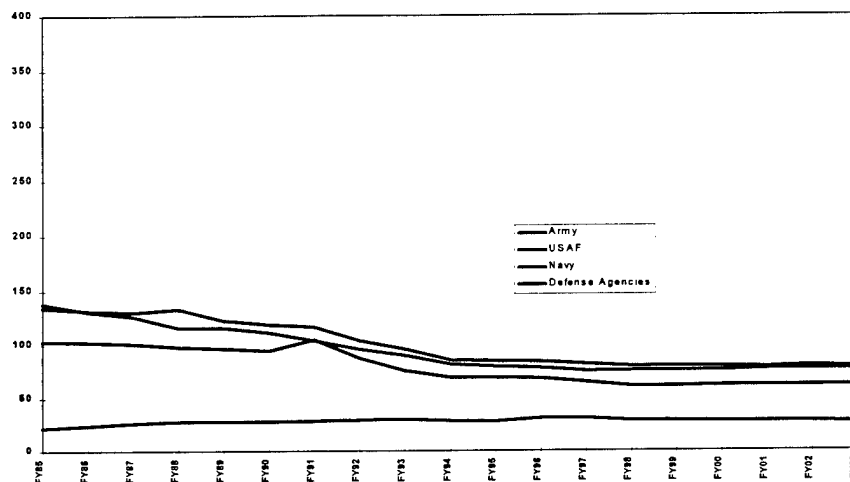
Defense Agency Manpower Resources Comparison
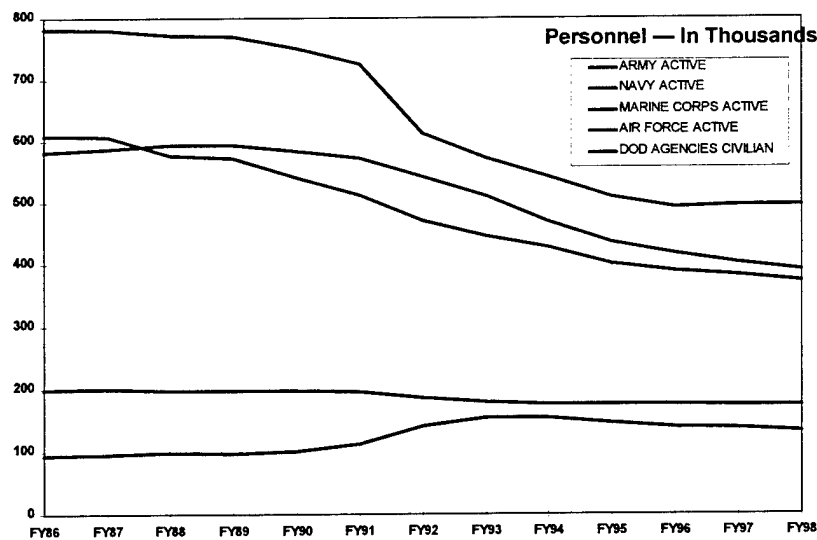
Concerns about Defense Agencies

- Aren't Responsive to Customer/Could Get Goods and Services Cheaper From the Private Sector
- Don't Have to Compete for Resources in Same Way As If the Function Was Within the Services
- Don't Get the Same OSD-Level Scrub Like the Services Do

Previous Defense Agency/OSD Restructuring Initiatives

- Bottom-Up Review (1993)
- Commission on Roles and Missions (CORM) (1995)
- QDR (1997)
- Defense Reform Initiative (DRI) (1997/1998)

Bottom-Up Review

- **First Attempt to Restructure DoD to Reflect Post-Cold War Era**
  - Established cooperative threat reduction initiative at about $400M per year
  - Created ASD for personnel and readiness within OSD
  - Established office of the Deputy Under Secretary of Defense (DUSD) for acquisition reform

CORM
Directions for Defense Report

- **Recommendations:**
  - Outsource all commercial type support activities and all new support requirements
  - Combine DCMC and DCAA
  - Establish board of directors for each defense agency — responsive to customer and fiscal discipline
  - Create a single defense support organization to manage and oversee defense agencies
- **Restructuring Defense Agency and DoD Field Activity Management (PA&E August 1996)**
  - Conducted in response to CORM
  - Completed a review of each defense agency during the accompanying program review
  - Existing advisory panels (vice board of directors) should be relied upon to address customer problems
  - Customer responsiveness not an apparent problem

QDR
Defense Agency Task Force

- Goal to Free up Funds for Modernization Through a 10% Savings
- Recommended:
  - Reduced military manpower
  - Outsource and privatize
  - Process reengineering
  - Fee for service funding of some agencies
  - Establish a board of directors for each agency
- QDR Approved:
  - 6% funding reduction to most defense agencies
  - Expanded outsourcing and privatization (DLA and DHP)
  - Embraced business process reengineering (DFAS and DIS)
  - Consolidate Defense Systems Information Agency (DISA)
  - Established defense reform task force to further review defense agencies and Office of the Secretary of Defense (OSD)

DRI
Defense Reform Task Force

- Guiding Principals that shaped DRI:
  - Reengineer: Adopt modern business practices to achieve world-class standards of performance
  - Consolidate: Streamline organizations to remove redundancy and maximize synergy
  - Compete: Apply market mechanisms to improve quality, reduce costs and respond to customer needs
  - Eliminate: Reduce excess support structures to free resources and focus on core competencies

DRI (Cont.)

- **Adopting Best Business Practices:**
  - "Just in Time" logistics
  - Electronic business operations (paper free)
- **Changing the Organization:**
  - Reduce Defense Agency personnel by 21% (FY03)
  - Eliminated defense support activities
  - Reduced number of defense agencies and DoD field activities and restructure OSD
    - » Established threat reduction and treaty compliance agency formed by consolidation of OSIA, DSWA and DTSA
    - » Eliminated ATSD(NCB) and DUSD (I&CP), restructured OUSD(Policy) and ASD(C3I)
    - » Consolidate various security elements (including DIS) as DSS

DRI (Cont.)

- **Established DMC — a Board of Directors for Management**
  - Monitor progress with the business practice changes
  - Negotiate an annual performance contract with each defense agency
  - Monitor A-76 competitive evaluation progress
  - Examine additional opportunities for consolidation of management activities in the defense agencies

DRI (Cont.)

- **Streamlining Through Competition:**
  - Evaluate entire workforce to identify which functions are commercial in nature and could be opened up for competition under the A-76 process
- **Eliminating Un-Needed Infrastructure:**
  - Consolidate, restructure and regionalize many of the support agencies to achieve economies scale
    - » DISA and DFAS

A Case Study — DCMC

- **Background:**
  - During FY98 budget preparation, DCMC requested an easing of the rate of manpower reductions throughout the FYDP to accommodate several functions that had been transferred to them
  - PDM I — directed a review of DCMC's business operations. Study confirmed the transfer of new functions but also noted improvement opportunities in the manner in which DCMC operated their business functions
  - PDM II — provided the additional funding needed to cover new business functions and directed a study of the business to determine which could be transferred to the DWCF

A Case Study — DCMC

- **Resourcing Options:**
  - Defense Working Capital Fund
    - » The standard
  - O&M Appropriation
    - » Status quo
  - Fee for Service/Direct Reimbursable
    - » Pay for certain outputs
  - Board of Directors
    - » Customer driven O&M

A Case Study — DCMC

- **Study Results:**
  - Indicated that DCMC structure and pricing could be improved by two complimentary efforts:
    - » Transition pricing system to ABC methodology with attendant DCMC long-term commitment to reducing pricing structures
    - » Revise resourcing method to include the appropriate mix of O&M funding and either DWCF or direct customer reimbursement
  - Deputy Secretary of Defense concurred with the results and issued the "Concept of Operations" memo that governs ongoing initiative
    - » Since the resourcing options require accurate cost accounting structures, it was determined that an 18 month schedule would be used to define customer requirements for DCMC and refine the command's ability to accurately measure expenditures for given business operations

A Case Study — DCMC

- **Progress to Date:**
  - DCMC developed unit cost management system
    - » Employee reporting of hours to various work processes
  - DCMC conducted functional validation of all products and services to determine value added
  - Implementation and testing of unit cost management system
- **Action Remaining:**
  - Evaluate unit cost areas for potential transition to alternate financing
  - Implement transition of appropriate unit cost areas
  - Performance contract — Defense Reform Initiative Directive (DRID

A Case Study — DCMC

- **Expected Outcomes:**
  - Overall, expect to improve service while reducing incurred cost through application of efficiencies
  - DCMC will have product and service level detail into their operating costs
  - Unit cost management methodology provides improved insight into operating inefficiencies and ability to reduce costs

LMI

Reengineering DoD's Infrastructure

Future Directions?

John D. Christie
27 January 1998

It is a pleasure to be here today and to have the opportunity, again, to address some of the difficult infrastructure issues.

As your read ahead says — infrastructure covers a diverse set of support functions such as: communications and intelligence, central logistics, including supply and maintenance, medical activities, training, installation support and science and technology plus other acquisition support.

And as you have heard and/or read, DoD infrastructure is not synonymous with either "overhead" or with support

Current Environment

- Pressures to Cut Infrastructure
- Lack of Major Change in Sight to:
  - Initiate major reengineering of infrastructure
  - Realign infrastructure responsibilities, authorities and accountability

Quite clearly the pressure is on to cut infrastructure to fund modernization, just as it was a year ago when I was preparing to moderate an infrastructure programming symposium.

However, I am less optimistic than I was 10 months ago about the ability or willingness of the current leadership in the executive and congressional branches to initiate major changes for the good of the Department.

A year ago I loosely quoted what I recalled Frank Raines saying during the review of the Commission on Roles and Missions (CORM) of the Armed Forces. It was something to the effect that "If reengineering is done right, you don't need to make a tradeoff between reduced capability and reduced cost — you should be able to enhance capabilities while reducing costs." I still believe what he said then, but I, along with many of you, continue to be frustrated by the inability to make — or help to make — it happen.

	Observations from the April
LMI	**1997 Infrastructure Symposium**

- **DoD Needs Major Infrastructure Changes**
  - Essential rethinking and major reengineering of activities needed
  - Top-level leadership will be required to achieve major change

- **DoD Also Needs To:**
  - Develop better management tools
  - Vest responsibilities and authorities together in the right persons to get accountability

After an all day symposium a year ago involving a number of experienced programmers and managers (both DoD employees and alumni), they arrived at the conclusions indicated in the vu graph. At the time I was a bit surprised and depressed that they/we came to the conclusion that major progress would require a Jump Start by senior leadership and that it could not be achieved through the existing management processes in the Department.

However, a year later, with no Jump Start, and no evidence of major change, I do believe the problem is more difficult than I thought then.

Observations from the November 1997 DRI Report

- Principles Guiding the Defense Reform Initiative Included:
  - Commit leadership team to change
  - Focus on core competencies
  - Streamline organizations for agility
  - Break down barriers between organizations

On reading the DRI report I was pleased with the statement of principles given as guides to the effort. All of the right words are there.

Observations from the November 1997 DRI Report

LMI

- DoD Defined a Set of Initiatives To:
  - Reengineer: Adopt modern business practices
  - Consolidate: Streamline organizations
  - Compete: Apply market mechanisms
  - Eliminate: Reduce excess support structures

Moreover, the next paragraph on the initiatives also says all of the right things in the right order (i.e., reengineer, consolidate, compete and eliminate).

LMI	**JDC Observations in January 1998**

- DoD Has Not Yet Bit the Bullet on Major Reengineering of Infrastructure Activities
  - In terms of the April symposium no addressal of major segments such as medical care or housing
- Organizational Changes Outlined to Date (After the November Report) Will Not Result In:
  - Realigning responsibilities, authorities and accountability for infrastructure segments

However, on reading the rest of the DRI report, I did not get the impression of a strong follow through on the implementation of the guiding principles in the initiatives laid out therein.

I was encouraged with some direction to reduce the size of the Office of the Secretary of Defense by about one-third. However, I was both saddened and amused that the reductions would be achieved in part by items such as that in Appendix C-6. A specific one that caught my attention was the item to:

> "Transfer the Defense Privacy Office from the Director, Administration and Management, OSD, to WHS."

As many of you are aware Doc Cooke is both the Director, Administration and Management and the Director, Washington Headquarters Service. Such changes in form with little if any substantive impact (i.e., moving a responsibility from a dual hatted individual's right hand to his left) do not give me a warm fuzzy feeling about the potential larger scale long term impacts of the effort. Such items do show that some of the authors still have a sense of humor!

Moreover, 10 months after the symposium on infrastructure programming, if any major infrastructure changes or consideration thereof are being initiated by the top-level leadership, I, as one outsider, am unaware of them.

JDC Observations in January 1998 (Cont.)

- OSD/ Mil Dept Staffs Must Try Again to Educate Leadership on Need for Change
- For This Administration or Next, Need to Convey Importance Of:
  - Senior leadership initiatives for major reengineering of selected segments
  - Better alignment of responsibilities, authorities and accountability for infrastructure segments

Where does that leave us and what can we and you do? I am aware of no magic solutions in the current environment.

Those of you in the Department need to husband some portion of your staff resources from "stomping out current fires" and focus them on integrated analytical work that can be used to convey the significance of opportunities to be taken or lost by current and future decision makers. As analysts, you need to define the problems in terms that the leaders should look at them and then help shed light vs. heat on the subjects.

Analysis can not drive decision making if decision makers are driven by other non-quantifiable factors. However, analysis can be used to clarify and quantify opportunities to be lost if decision makers chose to take no action or actions counter to what good economic and business analyses would suggest. Even if your products are not acted on in the near term, they will inform decision makers in all branches of the government and the public, on "potential alternatives" and will be available for future debates and action.

LMI   **How Can Progress Be Achieved in the Current Environment?**

- Improve the Information Framework
  - Relate infrastructure outputs to essential force inputs (e.g., readiness) and better relate infrastructure inputs to outputs
  - Better group information to evaluate infrastructure
- Modify Infrastructure Categories to Be More Output Oriented
  - Focus more on demand than supply

What are some more specific actions that I think those of you in the Department can take or initiate now — even if the top level leadership does not want to be more aggressive in the near term, for political or other reasons?

First, I believe you can improve upon the information framework that has been developed to date for analyzing and assessing the infrastructure. As some of the participants said in the infrastructure symposium last April, there are opportunities to focus more on the demands or products from the infrastructure and less on the supplies or inputs to portions of the infrastructure.

How Can Progress Be Achieved in the Current Environment? (Cont.)

- Improve Cost Visibility
- Push for Better Alignment of Authorities and Responsibilities, Particularly in PPBS and Execution Processes
  - OSD to services/other components for execution
  - Revisit/reshape OSD responsibilities to reduce stovepipe advocacy in PPBS reviews

I believe that most would agree that we can improve on cost visibility for activities/functions within the infrastructure and for functions that are performed in both the "forces" and infrastructure (e.g., maintenance).

The second item in the vu graph may be more difficult to achieve (even if it were to be done with no immediate impact on the substance of the defense program). It is more emotional than the first and has deeper cultural roots in some areas, but it must be addressed if the Department is to ever achieve major reengineering of the DoD's infrastructure.

Moreover, now is a good time to address some changes because the SecDef has recently said in the message from the secretary accompanying the DRI report that the principles to "commit the leadership to change" and "streamline organizations for agility" should guide the Department in its reform initiatives. Take him up on his words and encourage change before revised organizational responsibilities are "locked in."

Example from Commission on Roles and Missions Effort

LMI

- In Illustrative Information Framework, Put All DoD Resources in Six Matrices:
  - Two for all forces and procurement of systems
  - Four for all non-deployable support or infrastructure
- Goals Were To:
  - Assess all missions/activities in coherent groups
  - Not double count resources

In the past when I or others have said that DoD's information framework for supporting decision makers could be improved, some have said it could/would take years to make significant change.

I would like to share with you some work done by the "Process Team" for the CORM over about a six month period 1994-1995.

My purposes are twofold: to give you an example of one approach to improving DoD's information framework and to illustrate that something can be achieved in less than "years of work."

I am not here to say that the approach being described by me should be adopted, even though I believe it is a sound one. Rather, I want to stimulate your thinking on how to improve the definitions of infrastructure outputs, organize infrastructure components/activities/functions for analysis and better relate inputs to infrastructure outputs that are expressed in terms of what the deployable forces need.

The example comes from the CORM process team's task to develop recommendations that would assist DoD's leadership in adjusting "roles and missions" in the future.

Illustrative Information Framework

LMI

- Force Readiness
- Weapons Capabilities Improvement and Replacement
- Non-deploying Support to Forces
- Missions and Force Units
- Technology Advancement
- Personnel Management and Individual Training
- Facilities, Headquarters and Environment
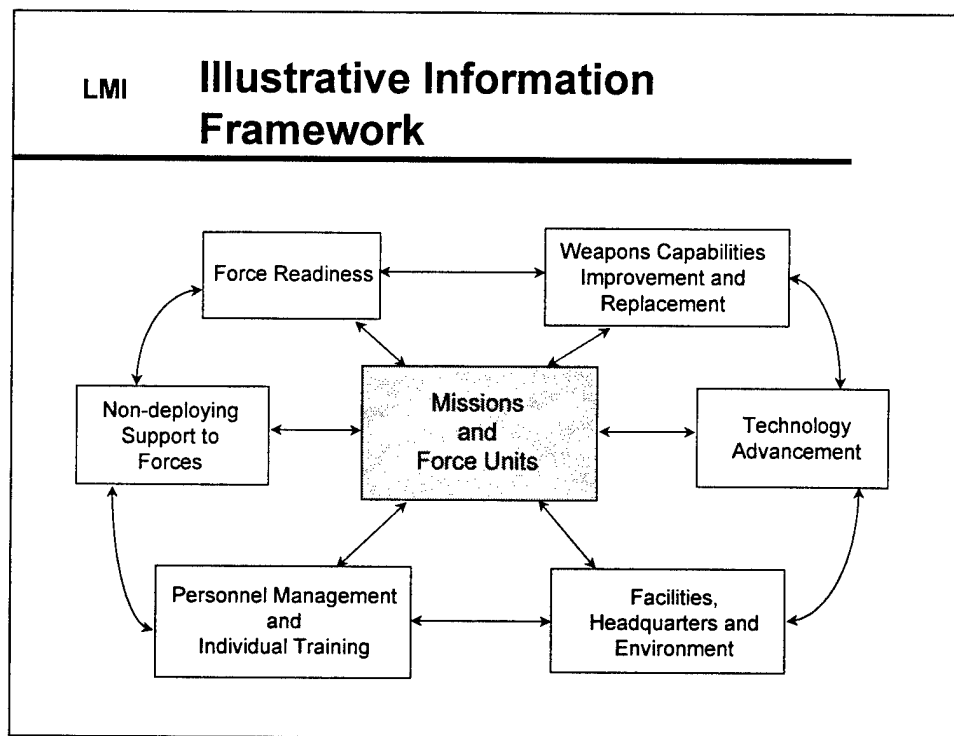
One of our key findings was that the allocation of most roles and mission decisions in the DoD evolved from decisions made in the requirements generation, acquisition and PPBS processes.

Thus, to improve future decision making on roles and missions there was/is a need to improve:

- The information framework supporting the decision processes;
- The decision processes, including particularly, the PPBS process; and,
- The alignment of organizational responsibilities and authorities consistent with the improvements adopted by DoD leaders for the information framework and decision processes.

My focus here is on the information framework; which in our example, consisted of seven matrices. While it was developed for CORM, it will become apparent that four of the matrices cover or address what is commonly included in the definition of infrastructure.

Illustrative Information
Framework Assessment Vehicle

Far Term
Mid Term
Near Term

What is being assessed

DoD Components

Executive Summary Assessment

Resources (FYDP Data)

e.g., Program/System Description, Force Units, TOA, Manpower

Specific assessments including strengths, weaknesses and risks
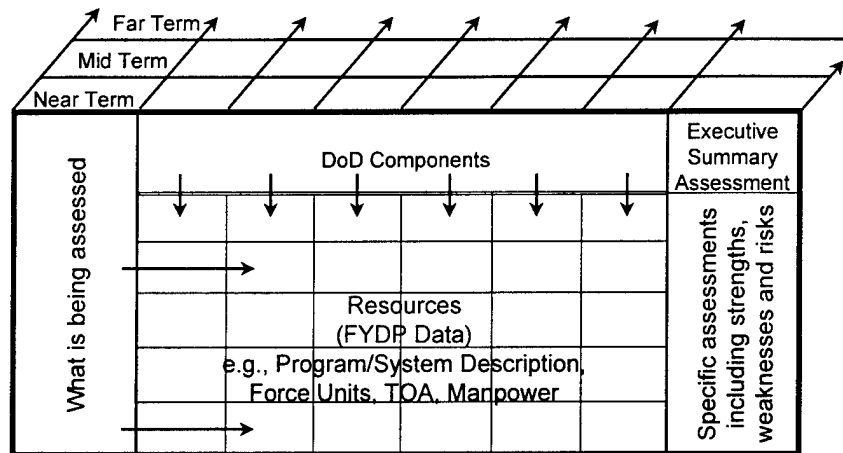
I will very quickly go through about a half a dozen slides to convey the essence of the information framework structure. For each of the matrices we envisioned assessments being made of strengths and weaknesses in three different time frames: the near term (about one to two years), the mid term (about three through six years) and the far term (beyond six years).

In some cases the designation of who should have primary responsibility to the SecDef for making the assessments may be apparent. In others, it may be dependent upon how the SecDef chooses to manage the decision processes in the Department.

The process team did not advocate a particular solution. It only made an appeal for clear designations and alignments of responsibility, authority and accountability consistent with the information framework and decision process changes adopted by the DoD leadership.

LMI — **Illustrative Information Framework Display**

Missions and Force Units

DoD Components

Missions

Forces (Active and Reserve) apportioned to each CINC for each mission

Assessments CINCs, CJCS, Others
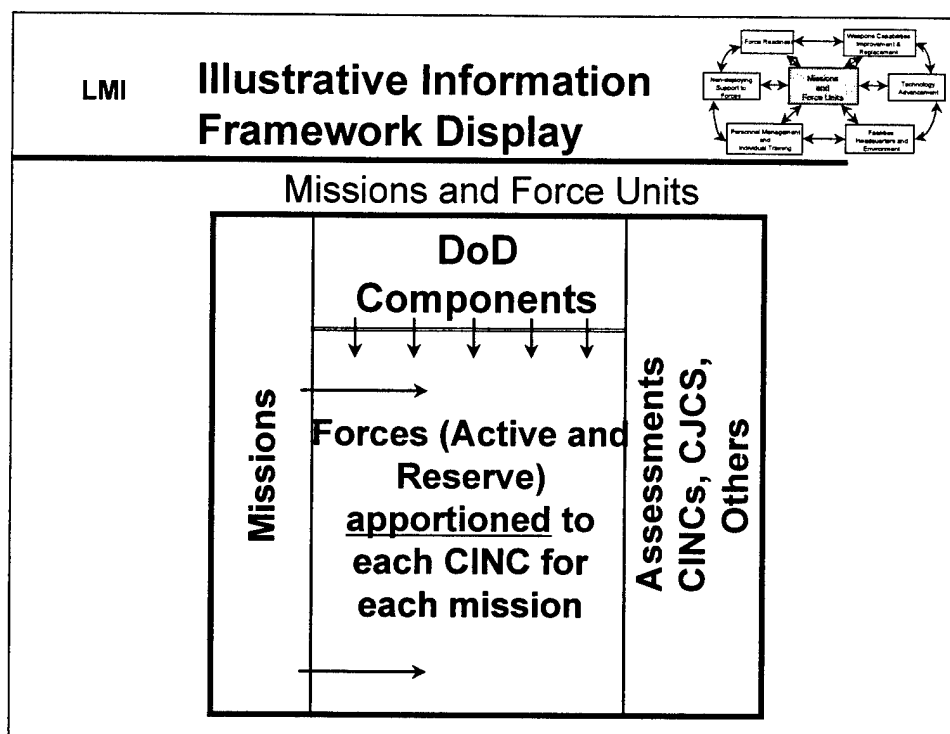
The centerpiece of the illustrative information framework was the matrix for missions and force units.

While assessments are essential for these fundamental missions assigned to the DoD, we did not assign resources to this matrix because force units can be apportioned to multiple CINCs for different missions.

LMI

Illustrative Display

Readiness of Operational Force Units

	Force Providers	
CINCs	**Forces (Active and Reserve) <u>assigned</u> to each CINC for operations and training**	**CINC and CJCS Assessments**
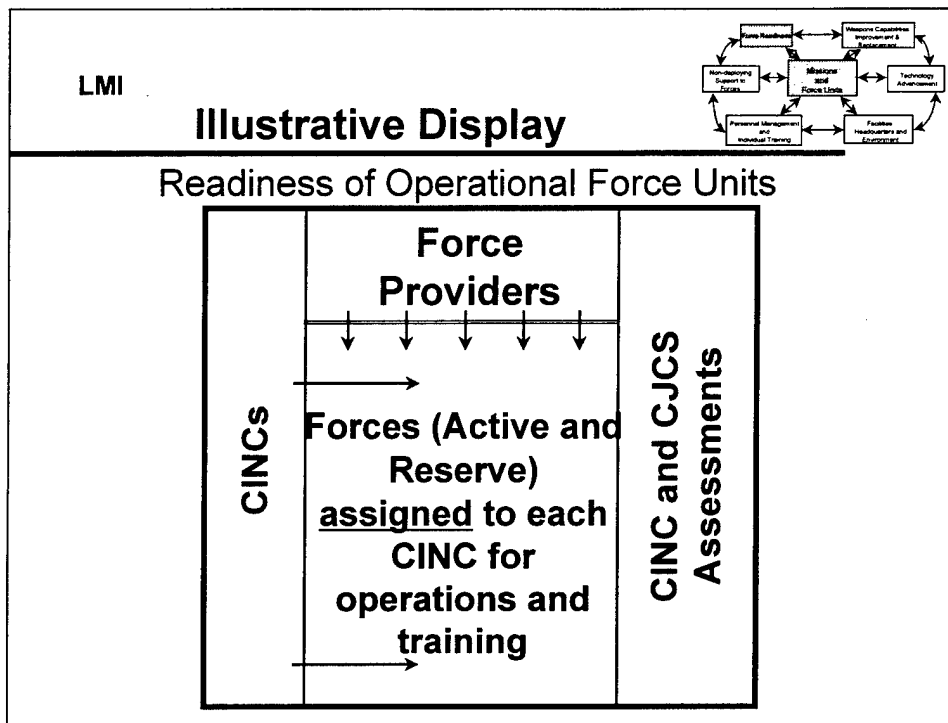
All resources were assigned/allocated to the six surrounding matrices.

The upper left matrix contains all of the major deployable force units in the Department and includes the resources (including manpower costs) required to operate them.
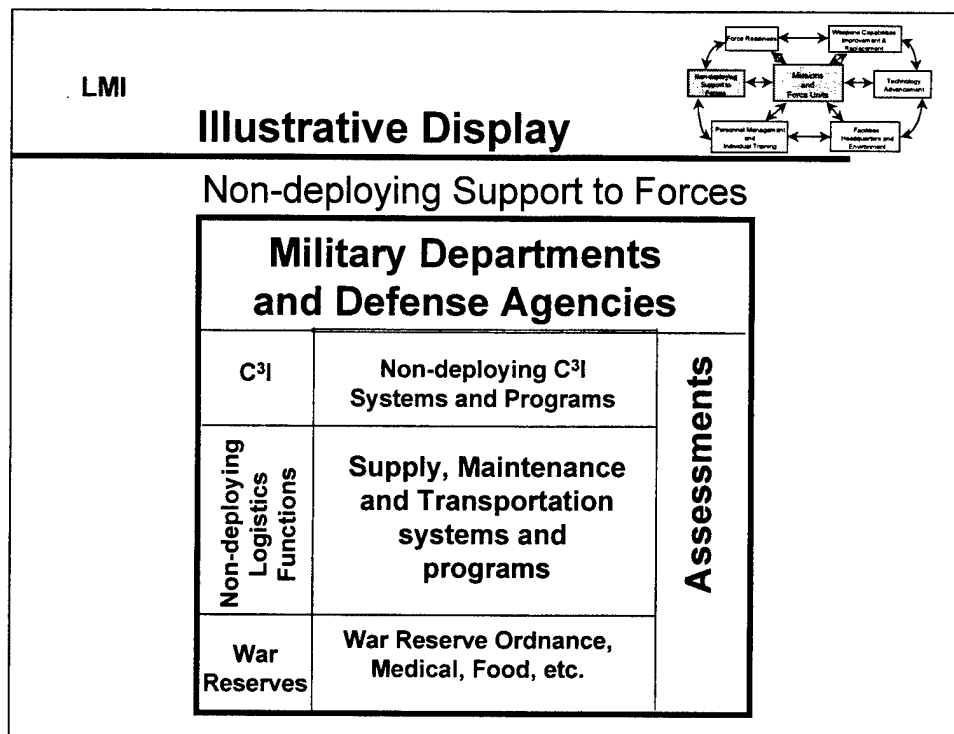
What is defined as infrastructure is contained in the bottom four matrices surrounding the center "missions and force units" matrix.

The first of these was defined as the non-deploying support — predominantly:

- Non-deploying C^3I;

- Non-deploying logistics; and,

- War Reserves, including resources to procure and support them in periods when the nation is not at war.

An objective in structuring the four bottom matrices and deciding what to include in them was to make their outputs as close as possible to what the managers of the force units in the force readiness matrix would demand to be effective. Therefore force units need trained individuals (from those with responsibility for managing the resources in the personnel management and individual training matrix) and reliable and sustainable equipment (from those with responsibility managing non-deployable logistics). They also need useful and responsive communications capabilities, information for command and control and intelligence (from those responsible for managing the non-deployable portions of these activities).

Illustrative Display

Personnel Management and Individual Training

Military Departments and Defense Agencies		Assessments
Recruiting	Recruiting, Examining and Advertising for Military personnel	
PCS and Individuals	PCS costs and Individuals account costs	
Training	Initial, Specialized, Pilot training; PME; Personnel and support	
Medical	Non-deploying medical support, GME, CHAMPUS and dependent medical care	
Compen-sation and QOL	Non-add cost for military compensation, benefits, housing, MWR, etc.	
Civilian Personnel	Civilian training programs and (non-add) civilian personnel compensation	

The second part of the four infrastructure matrices is for personnel management and individual training. You can see from the rows on the chart the types of activities and resources included. You may also note that we assigned the military manpower costs of individuals assigned to force units to the readiness and force units matrix to assure management cost visibility and responsibility at that level.

In this matrix we would include those costs, in non-add form, so that the managers responsible for policies on personnel functions/activities such as PCS moves, tour lengths and all elements of compensation (including benefits and bonuses) could assess the full costs of alternative means of providing the force unit managers what they need (i.e., trained personnel to fill the appropriate spaces in the force units).

Illustrative Display

Weapons Capabilities Improvement and Replacement

Military Departments and Defense Agencies		
	ACAT 1 – 2 Programs	
Joint Warfighting Capabilities	**Systems in the current inventory and approved/proposed development or procurement efforts**	**JROC Assessment**
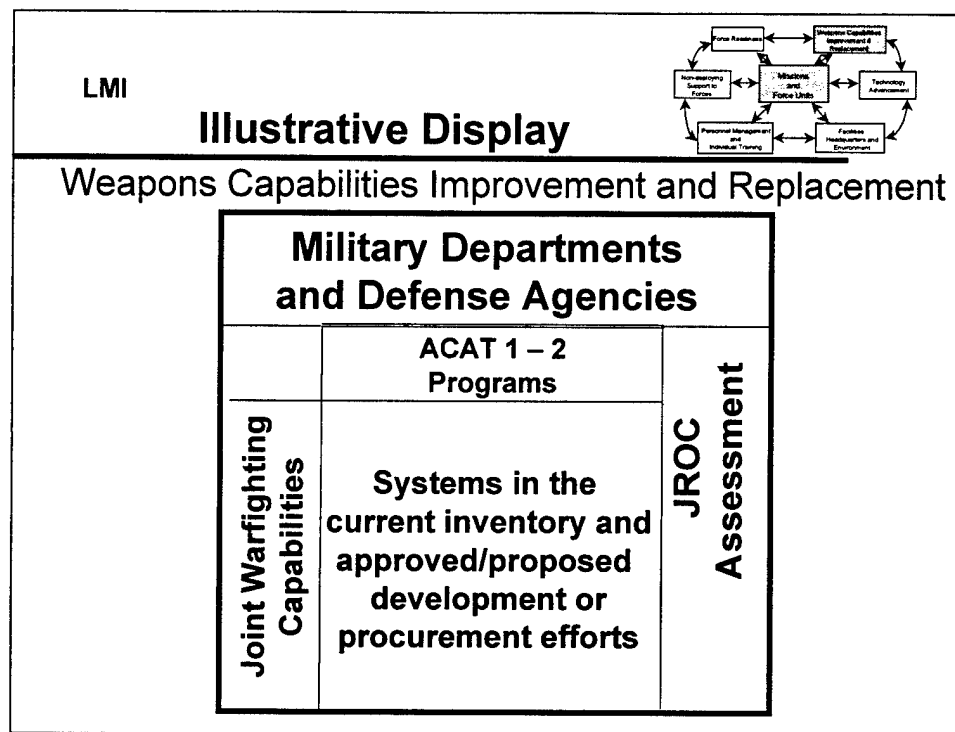
This is the weapons capabilities improvement and replacement matrix. It is included here for completeness. It is the second of the six surrounding matrices that contain resources not considered to be part of the infrastructure.

LMI

Illustrative Display
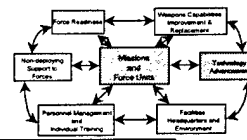
Technology Advancement

Military Departments and Defense Agencies

	Research and Advanced Technology Demonstrations	
Joint Warfighting Capabilities	**Current DoD and commercial research programs supporting specific joint warfighting capabilities**	**Assessment**

This technology advancement matrix includes the research and advanced technology programs (e.g., ATDs and ACTDs) and associated resources. The primary outputs from this matrix are/should be the proven technologies included in the procurement programs of the future.

Illustrative Display
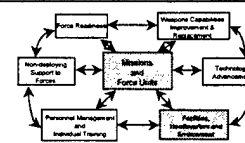
Facilities, Headquarters and Environment

Military Departments and Defense Agencies		
BOS	Base Operating Support	
MRP	Maintenance of Real Property	**Assessments**
Management HQs	Military and Civilian personnel and operating support for headquarters	
Environ-mental	Total resources for environmental compliance and restoration	
Support to Other Nations	Total resources including Military and Civilian personnel	

This matrix covers the management of the non-deployable facilities and headquarters that are not included in the readiness and force units matrix. It also includes support to other nations.

The process team chose to follow the rule that the sum of the parts should equal the whole. In our illustrative information framework this meant that the sum of the resources in the six surrounding matrices had to equal the whole of the department's resources. Thus, we had to include a program such as support to other nations in some matrix and we thought the one on covering facilities and headquarters was most appropriate.

Information Framework Matrices
Example (FYDP Data — 5 Year Avg.)

Facilities, Headquarters and Environment	$33.7	$10.9	$8.7	$9.5	$0.2	$4.4
Total	$251.6	$55.3	$76.4	$73.2	$3.3	$43.4
Matrix (Active and Reserve Military and Civilian Personnel in Thousands)	DoD	Army	DoN	Air Force	SOCOM	OTHER OSD/JCS
Readiness of Force Units	1,529	745	429	266	42	47
Non-deploying Support to Forces	669	49	52	108	-	220
Personnel Mgmt, Training and Medical	425	250	180	118	-	117
Weapons Capabilities Replacement and Improvement	-	-	-	-	-	-
Research and Advanced Technology Demonstrations	18	12	0	6	-	0
Facilities, Headquarters and Environment	521	182	114	134	2	89
Total	3,163	1,238	775	632	44	474
Percent of DoD		39%	25%	20%	1%	15%
Matrix (Percent of Total Personnel)						
Readiness of Force Units	48%	60%	55%	42%	96%	10%
Non-deploying Support to Forces	21%	4%	7%	17%		46%
Personnel Mgmt, Training and Medical	13%	20%	23%	19%		25%
Weapons Capabilities Replacement and Improvement						

This chart shows you how the FYDP resources — both dollars and military manpower — map onto the illustrative information framework just described. The five year average information shown is aggregated from year by year data for the individual military departments, SOCOM and other OSD/JCS (which includes defense agencies).

The point of including this chart is to show that the illustrative information framework was not just a concept without application. A few individuals over a period of a few months could adapt and manipulate the FYDP data to provide a different view or perspective on how decision makers might choose to address issues and gain additional insights. Thus, you should not be deterred from trying to further improve the information structure in the FYDP, the infrastructure categories and/or other displays used to support decision makers.

LMI   **Comparison of CORM Example to PA&E Infrastructure Categories**

Roles and Missions Example	PA&E Categories
Technology Advancement	Acq Infrastructure
Facilities, Hdqtrs, & Environment	Installation Support
	Force Mgmt
Non-deploying Support to Forces	Central Logistics
	C^{4}I
Personnel Management and Individual Training	Central Medical
	Central Personnel
	Central Training

Possible Mapping of PA&E Categories to Roles and Missions Example

This chart indicates how the currently defined DoD infrastructure categories could be mapped onto the illustrative information framework that I have just described to you. However, my objective is not to try to sell you on the framework I have just described. As I said before, it is to get you to think about improving what has been done to date.

LMI **Examples of Concerns with Current Infrastructure Categories**

- Compensation/Benefits Not Integrated
  - Commissary benefits/costs in Logistics
  - Family housing in Installation Support
- Real Property Maintenance Spread Across Categories vs. Integrated in Installation Support
- Need to Align Functions in Infrastructure Categories to Better Focus on Outputs and Desired Management Authorities

I believe that you can improve upon what you have. Specifically, I encourage you to address possible changes to better align analytical and management responsibilities with infrastructure outputs that are more closely tied to the needs of the force units that the infrastructure is/should be supporting.

Keys to Success Include Better Information for Decision Makers

- Start by Doing in Program/Budget Community in OSD/Services
  - Do not wait for charter or guidance
- Do Integrated Analysis on Alternative Means to Provide Infrastructure Outputs
  - e.g., Relate costs of trained people for forces to potential changes in policies for training, PCS moves, stationing, means of providing compensation ($/benefit mix)

This chart includes some suggestions on how to proceed. Do not wait for your leaders to develop a charter or guidance for you. Agree among yourselves what changes you should make to the information structure. The issues on information structure should not require DepSecDef initiation — or possibly even his approval if you can agree on one or more approaches. Sort out how to define the right questions that your leaders should be addressing and do the integrating analyses for them.

LMI

Summary

- Take the Initiative — Do Not Wait for Direction From Above
- Work Together Among OSD/Services/Joint Staff/ Defense Agencies to Improve Information and Analysis
- Inform Leaders of Progress — Request Support for Changes You Can Not Agree to Among OSD/Services/Joint Staff

In the current environment I believe the approach outlined in this final summary chart is what you need to do.

You need to take the initiative at the levels where you are working. To not do so, in all likelihood, will result in further delay in improving the management of DoD's infrastructure. Given the pressures on DoD to do more with less, such a delay would not be in anyone's best interest.

Thank you for the opportunity to address and talk with you today!

DoD Working Capital Funds

Briefing to MORS/SCEA Mini-Symposium
DoD INFRASTRUCTURE: WHY IT IS & WHAT DOES IT COST

Presented by Jeff Bennett
Logistics Management Institute

Outline

- Background

- Benefits

- Irritants

- Customer Physics

- FYDP Programming *Link to* Business Plans

Working Capital Fund Evolution

Service Industrial Funds

Service Stock Funds

(Maintenance) (Transportation) (Consumables Navy - DLRs)

Defense Business Operating Fund

- Service and DLA Supply
- Service Depot Maintenance
- Information Services
- Transportation
- DFAS
- DISA
- Navy PWC and Labs
- Printing/DeCA/DRMS

(Army Working Capital Fund) (DON Working Capital Fund) (Air Force Working Capital Fund) (Defense Working Capital Fund)

Original Revolving Fund

Original Stock Fund

Appropriated Funding

$

Cash

Vendors

Materi

Customer

Losses

52
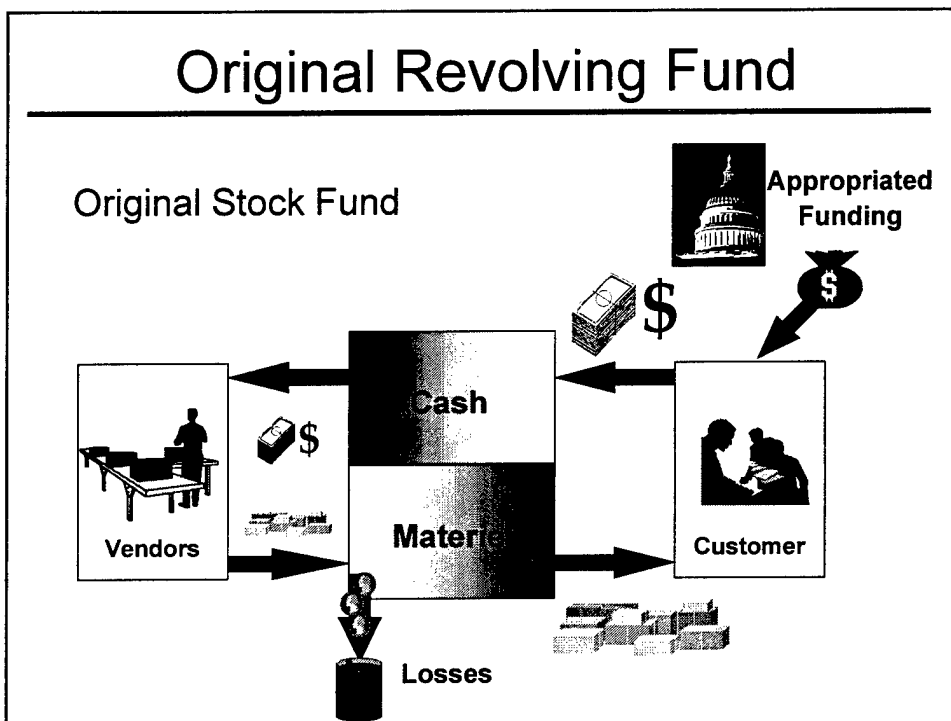
Working Capital Fund

Operating Costs:

- Salaries
- Accounting
- Rent
- Utilities
- Equipment
- Maintenance
- Depreciation
- Initiatives

Appropriated Funding

Cash

Vendors

Materi

Customer

Losses
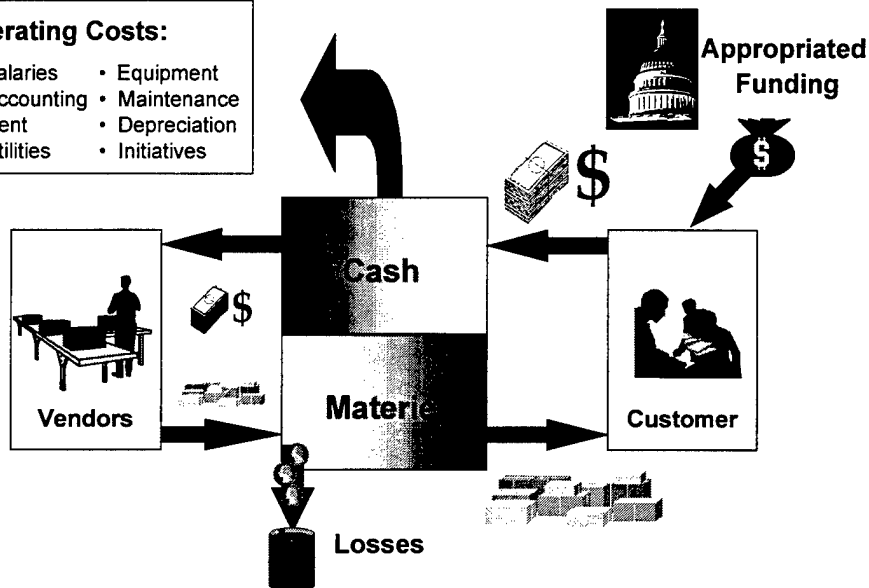
Overall FAA Benefits

- Reduced Cost-Improved Support

- Buyer-Seller Relationship

- Financial Flexibility

- Fewer Constraints/Restrictions

- Reduced Subsidies

- Potential Revolving Fund Efficiencies

- Supports OIG Audit Recommendations

Revolving Funds

A Best Business Practice for Economy, Efficiency, and Higher Performance

For DoD Add:
- Stabilized Pricing for Program Stability
- Finance the Leadtime

Irritants

- Price Fluctuations

- Prior Year Losses

- Cost Control

- Funded Carryover

- Cash Shortages

- Customer Choices in a Monopoly

Far too often the choices reality proposes are such as to take away one's taste for choosing.
Jean Rostand (1894–1977), French biologist, 1939; in <u>The Substance of Man</u>.

Customer Physics

- Visibility of Costs
- O&M Flexibility ... Defer Orders
- Alternate Sources Save Today's TOA
- Customer Savings Only Transfers (Delays) Costs
- DWCF Collects ALL Costs
  - Pay me today or pay me tomorrow

Budget Submission

- **Revenue:**
  - Customer orders
  - Depreciation

- **Expenses:**
  - Cost of goods sold
  - Salaries and wages
  - Transportation
  - Supplies for internal operations
  - Equipment
  - Other purchases from revolving funds
  - Printing and reproduction
  - Advisory and assistance services
  - Rent, communication, utilities
  - Other purchased services

Programming DWCF

- **Annual Submission of POM Business Plans:**
  - *Revenue*: As perceived by business areas
  - *Costs*: Reflecting business areas planned activity
  - *Intra-DWCF Orders*: As planned by business areas
  - *Customer Orders*: As planned by customers

- **Missing Linkage to FYDP Programming:**
  - Plans do not sum to a "control total" ... lost in O&M total
  - Business metric part of the plan not yet developed:
    - » Capacity metrics
    - » Performance metrics

DoD Infrastructure:
Why It Is &
What Does It Cost

27 January 1998

Infrastructure Overview
Total Infrastructure
% of TOA

Infrastructure Overview

Total Infrastructure

% of FY1985 Funding

FY1985 Base Year - Middle of Reagan years
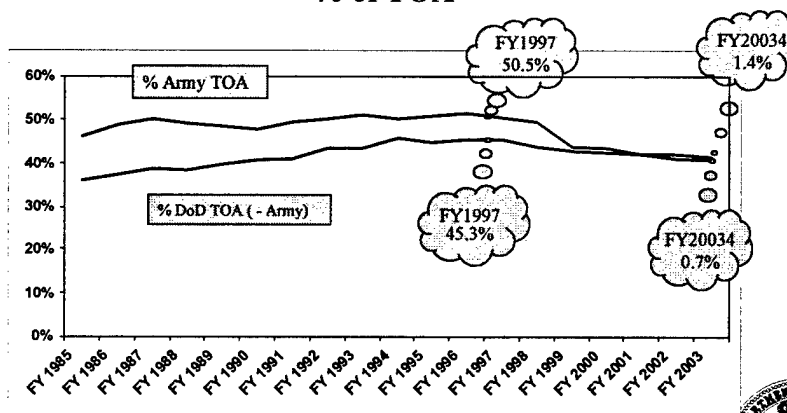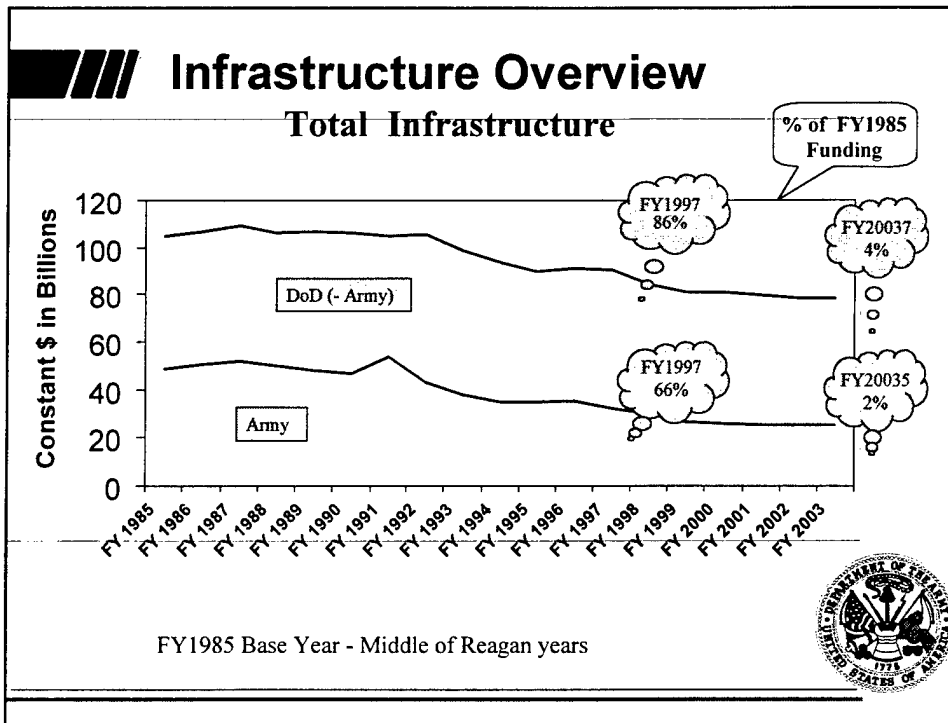
Installation Support Initiatives

- **Base Closures**:
  - Savings from all four rounds (112 closures and 27 realignments) will result in net initial savings of $3.3 Billion annually and $1 Billion in recurring savings
  - Overseas reductions total an additional 664 closures
  - During FY98-01, the Army will complete the rest of 29 bases scheduled for closure and 11 for realignment from the 1995 BRAC round
  - The break-even point for all rounds for BRAC was reached in FY97
- **Outsourcing and Privatization**: Army plans to study approximately 56,000 spaces with a gross savings of $1.3B during FY99-03
- **Excess Space Disposal**: By FY03 the Army will have disposed of 100 Million square feet of excess space
- **Family Housing Privatization**: Goal is to eliminate all inadequate family housing by the year 2010
- **Utility Privatization**: Goal is to privatize all utilities systems, where economical, by the year 2000
- **Base Level C^4 Transition Roadmap**: Details how Army installations will capitalize on information technology

Acquisition Infrastructure Initiatives

- **RDA Efficiencies:** In the FY 98-03 POM (total $2.1 Billion)
  - Reduction of non-warfighter unique S&T and more efficient T&E management resulted in over $1 Billion
  - Reduction of # of PEOs from 9 to 6 and PMs from 136 to 110, and streamlining of management control and oversight resulted in approximately $1 Billion
- **Acquisition Reform Initiatives:**
  - Streamlining of acquisition support through Electronic Commerce/Electronic Data Interface will save $140 Million across FY98-03
  - Working to implement cost as an independent variable for all Army programs in order to reduce total life cycle costs and acquisition time
  - Utilizing prime vendor support on maintenance and technical support for such programs as Apache and Paladin
  - Need to obtain legislative support for additional acquisition reform initiatives
- **QDR AMC Reshaping:**
  - Reduced by 8530 civilians and 2000 military personnel
  - Expected dollar savings will reach $450 Million by FY03
- **RDTE Manpower Reductions:**
  - DoD goal is 22.3% reduction from FY91 levels by 2001
  - Army program is 40% reduction by 2001 and 46% by 2003

Central Logistics Initiatives

- **Logistics Efficiencies:** In FY98-03 POM total $2.3B, some of the efficiencies include:
  - Administrative/Production lead time $278 Million
  - Operations and sustainment cost reductions. $295 Million
  - Cost of Spares (Zero Cost Growth) $475 Million
- **Depot and Plant Infrastructure Reductions:**
  - Ammo plants reduced 47% since FY89
  - Maintenance depots reduced 50% since FY89
  - Further progress constrained by legislative impediments
- **Inventory Reductions:**
  - Wholesale secondary items by 43%, from $18.9 Billion to $10.8 Billion
  - Retail repair parts ASLs by 33%, from $1.5 Billion to $1 Billion
- **Direct Vendor Support:**
  - Implemented direct vendor support to dining facilities in CONUS and expanding to OCONUS for a savings of $10 Million annually across all military departments
  -
  - Test of vendor support for initial issue clothing is on-going

Central Medical Initiatives

- **Army Military Medical End Strength**
  - Reduced medical end strength by 34%, while beneficiary population down by only 12%
  - Army DHP savings total $2 Billion between FY89 and FY03
- **Army Medical Treatment Facilities (hospitals):** Reduced by 45% between FY89 and FY99 with more closures or conversions likely in the future
- **AMEDD Management Headquarters:** Reduced by 46% between FY89 and FY01
- **Prime Vendor Program:**
  - Saved $84 Million in reduced pharmaceutical inventory
  - Reduced 2.4 Million square feet of warehouse space
  - Reduced inventory and warehouse workers by 130 positions

Force Management Initiatives

- **HQDA Redesign:** Resulted in savings of 5,000 spaces from HQDA headquarters and field operating agencies
- **Congressionally Imposed Reduction:**
  - Congress has imposed another 25% reduction to October 1997 HQ staffing levels
  - By FY02 staffing levels will be 48% of FY89 levels
- **Force Structure Adjustments:**
  - These adjustments will allow Army to reinvest $3.2 Billion into other priority Army programs
  - Will help to reduce operating strength deviation

Additional Initiatives

- **C³ Initiatives Include:**
  - Circuit bundling initiative — keeping cost growth at 2.5:1 while data interchange requirements growth is 50:1
  - Installation Information Infrastructure Architecture (I³A) to lay out standards and models for information technology investment on installations
- **Central Personnel Initiatives Include:**
  - Extended 10 Thousand new positions to women in the Army
  - Officer Restructuring Initiative to align personnel authorizations with Defense Officer Personnel Management Act (DOPMA)
  - Reduced paid parachutists authorizations by 3 Thousand
- **Central Training Initiatives Include:**
  - Use of distance learning programs has projected $193 Million in savings from FY98-03
  - More accurate forecasts of institutional training seats required saves $71.2 Million during FY98-03

Management

- **Need discipline in the process — easy to promise, but must follow up**
  - Strategic management plan:
    - » Enables *change management* and guides the Army toward its vision.
    - » Is a dynamic tool whose process enables immediate input into the Army's strategic planning process
  - Efficiencies reviews:
    - » Functional reviews
    - » Army audit agency support
    - » Continuing evaluation and dialogue
  - Incorporated in POM — buy backs and new efficiencies:

POM 98-03	$8.3 Billion
POM 99-03	$2.2 Billion
Buy Back in POM 99-03	- $.7 Billion

Enablers

- **BRAC**
  - Single decision
  - Two phase execution

- **Credit Private Contractors in Army Depots**

- **A-76 Relief**

- **Amend Depot Maintenance Limitations**

Wrap-Up

- **Infrastructure Reductions Are Not a New Game to the Army, but We Have Picked up the Pace**

- **Need Discipline in the Process — Easy to Promise, but Must Follow up**

- **Army Is Receptive to New Ideas, Sharing Our Good Ideas and is Looking for More**

Navy Infrastructure: Reducing Total Ownership Cost

Mr. Mark Mohler

**Associate Director,
Programming Division (N80)**

27 January 1998

Outline

- **Program Requirements and Funding Trends**

- **Challenges and Initiatives**

- **Summary**

QDR Outcome - Navy Goals

- **Stop Migration of Procurement $$ to Fix Unprogrammed O&S Costs**

- **Protect Readiness**
- **Set $60 Billion by 2003 DoD Acquisition Target**
- **Infrastructure Reductions Envisioned**

- **<u>Navy Strategic Mission & Value Confirmed</u>**
  - Modest Force Structure Adjustments
  - Endstrength Reductions Directed

Ship Force Structure

Aircraft Force Structure

HELO

TRAINING

ATTACK

FIGHTER

OTHER

FIGHTER ATTACK

FISCAL YEAR

85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03

0 1000 2000 3000 4000 5000 6000

Personnel

Historical TOA

(CB98$ Billion)

FISCAL YEAR

FYDP SCN

(TY$ Billion))

Assumptions used in projecting SCN:

• We used anticipated changes to Expected Service Lives (ESLs) as follows:

> AGF 3 - 46 vs. 35 years
>
> AGF 11 - 41 vs. 35 years
>
> LCCs - 44 and 45 vs. 35 years
>
> SSBNs - 40 vs. 30 years
>
> (AGF/LCC ESL adjustment was made to soften the SCN spikes in 2004 and 2005 by spreading out Command ship procurement to2004, 05, 07, and 08. Assumes noSLEPs. SSBN ESLs will likely be raised after the first refueling statistics are analyzed.)

• SSN inventory will drop below 50 in 2015 based on a long term procurement rate of 30 NSSNs at 2 per year. If the QDR target level of 50 SSNs is to be maintained, a 3,3,2 per year extended buy rate beginning FY09 is required for a total NSSN build of 47 hulls(or NSSN equivalent). The three SSN 21s are projected to be decommissioned in 2026, 28, and 30.

• A range of 12 to 14 ADCX will be built under SCN. This chart shows cost projections for 14 ADCX ships. (Change in law required if a Charter & Build option were explored).

• MCSX was eliminated from planning, as future MIW will likely be an organic (H60) capability.

• 22 (AADC/Land Attack/TBMD) CG conversions are included in the SC SCN cost profile.

• The 32 DD 21 costs projected to drop to $750 (FY97) Million after the 5th unit.

• Adjustments made for the 4th DDG-51 in FY98

• Surface Combatant ESLs require extension between FY2013-2025 to maintain 116 QDR force level.

• LHA SLEP (FY2004-2012) is accounted for in the "OTHER" category.

FYDP APN

(TY$B)

8
7 — OTHER
6 — V-22
5 — AV-8B
4 — F/A-18
3 —
2 —
1 — APN 5-7
0

98   99   00   01   02   03

FISCAL YEAR

Total Ownership Cost Reduction Initiatives

- **Acquisition**
  - Multi-year

  - Smart Buy (CVN)

  - Cost as an Independent Variable

  - Activity Based Costing

- **Operational**

  - Smart Ship

  - Horizon Concept

Total Ownership Cost Reduction Initiatives (Cont.)

- **Support**
  - Smart base/smart card
  - Competition and outsourcing
  - Regionalization
  - Privatization
  - Demolition
  - BRAC
  - Staff reductions/reorganizations

Multi-Year Procurement
APN 1-4 & SCN (Budget Share)

$TYM

Legend:
- —— % of APN 1-4 & SCN
- —■— % of Navy TOA

(X-axis: FY99, FY00, FY01, FY02, FY03)

Includes DDG-51, NSSN, T-45, CH-60, E/F, AV-8B (R)

APN	4765	5533	5646	5898	6091	27933
MYP	4642	4830	4496	4370	4153	22491
% in MYP	97%	87%	80%	74%	68%	81%
SCN	6218	6218	11533	7305	7998	39271
MYP	4761	3561	4717	4832	4306	22177
% in MYP	77%	57%	41%	66%	54%	56%
Total	10983	11751	17179	13203	14089	67204
MYP	9403	8391	9213	9202	8459	44668
% in MYP	86%	71%	54%	70%	60%	66%
TY$B						
Navy TOA	67	68	69	73	72	349
MYP	9	8	9	9	8	45
% MYP of	14%	12%	13%	13%	12%	13%
Navy TOA						

CVN-77 Acceleration

- Shift Funding Between FY01 and FY02
  - Stabilizes workforce at Newport News Shipbuilding
  - Challenges Newport News Shipbuilding to deliver at $4.6 Billion
  - Cost Cap language allows for technology improvements
- Adjustment of the DDG Profile:
  - Complete 57 ship class within the FYDP
  - Solves the out year surface ship industrial base problem

CAIV Tenets

- DoN Strategic Management Process
- Top-down, Bottom-up, Continuous and Comprehensive
- TOC Targets affected by Limited Resources
- Hierarchy of Cost Reduction Activities
   (to Include Requirements & Cost Tradeoffs)
- Contracting Incentives Leveraged
- Risk Management and Effective Communications
- Cradle-to-Grave process

Activity Based Costing (ABC)

- Navy Has Had Successful Experiences

- Some Private Sector Firms Are Outsourcing Previously Core Functions

- Navy Can Achieve Savings but Issues Remain

  - Private-sector partnerships are difficult to maintain in the government setting

  - Lack of cost measures makes benefits hard to quantify

  - Maintaining contractor accountability in the deployed environment is difficult

Smart Ship Program

● Fleet Introduction

- YORKTOWN - Already Installed
- 15 CG & 19 DDG-51s conversions programmed through FY03
- Gator 17 - RUSHMORE - under evaluation

* Reduce Manpower

* Maintain Warfighting

* Policy Changes

* Utilize Available Technology
  - Fiber Optics
  - Integrated Bridge
  - Integrated Condition Assessment
  - Standard Monitoring and Control
  - Wireless Communications

CG 48 Prototype

Manpower Reduction
69 Billets (18%)

Annual Savings
$2.5 Million

Horizon Concept: Sample Operational Duty Cycle

Platforms deploy for 36 months

People deploy for 6 months

e.g., 5 "Crew"/ 4 Ships/30 Month Rotation Plan

Fleet Readiness Center

Workup / "Local" Operations from Homeport 12 - 15 months

Training / Shore Support 7 - 9 months

For Official Use Only -- Draft Working Papers

- This slide provides a notional 30 month operational duty rotation cycle developed by the SSG XVI Horizon team. The specific rotation cycle might vary by community, percentage of ships required forward, desired Pers Tempo, etc.

- Today we rotate six different warships at six month intervals to provide 36 months of ship presence. Horizon envisions that a single warship would remain forward deployed for up to 36 months (per the DD-21 Operational Requirements Document (ORD)) with no more extensive maintenance requirements than the six successive ships would require today.

- The ships of a four-ships "Readiness Unit" would be manned rotationally by the sailors assigned to the readiness unit. Although the SSG gave this four-ship unit a new name, it is analogous to today's squadron. In fact, the rotational deployment of a squadron detachment to man deployed platforms is similar to what HSL squadrons do today.

- During this 30 month cycle, sailors would rotate through 7-9 months in an ashore readiness center facility (as discussed in the last slide), 12-15 months manning one of the readiness unit's three non-deployed ships, then "telecommute" to the deployed ship for a couple of weeks (not depicted), prior to flying forward to man the deployed ship for six months.

- SSG XVI envisioned enlisted sailors moving through this cycle three times during eight years of operational duty before being eligible for two years non-operational duty. (It is important to realize that this new operational duty cycle is designed to be much less arduous than today's sea duty, so that sailors would actually spend more time at Home with their families' than they do under today's system.)

Smart Base

- Parallels Smart Ship Concept
  - Industrial facility: Portsmouth Navy Shipyard (PNSY)
  - Operational facility: Naval Station Pascagoula
- Business Case Approach
  - Determine user requirements
  - Research business practices and technology to satisfy requirements
  - Implement selected practices and enabling technologies
    - » POM for successful initiatives

Differs from smart ship in that while ships are technology based, shore installations are business practice based. Initiatives are based on industry standards (vice MILSPEC), and COTS to accomplish the mission within existing resources. Emphasize cost avoidance via new technology and better business practices.

Business case analysis initiatives include:

Utilities and municipal services (PNSY)
Supply function/bar coding (PNSY & Pascagoula)
Motor vehicles and fuel operations (PNSY & Pascagoula)
Admin (Pascagoula)
Smart card applications (PNSY & Pascagoula)
Medical admin/Tri-care (Pascagoula)
Commissary Alternative (Pascagoula)

The Commissary alternative: Research, develop and implement procedures and agreements whereby servicemembers, dependents and retirees are afforded shopping alternatives at commercial super markets at a cost approximating commissary prices (when travel and convenience are considered). Goal is to provide lower cost supermarket shopping to both active duty and retired personnel in Pascagoula (where no commissary exists). Document cost difference between costs of commissary shopping and supermarket alternative. Establish feasibility of replacing commissary operations with commercial and state legislature agreements (including possibility of local legislation to provide sales tax relief).

- Research business practices and technology to satisfy requirements
Navy/Industry comparison
Range of alternatives
Cost to implement (money and time)
Return on investment

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Smart Card

- Initial test sites: Naval Station Pascagoula (March 1997) and Portsmouth Naval Shipyard (December 1997)
- Set up Kiosks accessed by Smart Cards (May 1998)
  - NAVSTA Pascagoula Kiosks on-line July 1998 (Admin, BQ)
    - » Automated PCS inprocessing
    - » On-line BQ registration & check in/out
    - » Replace cash counting, manual head counts at galleys
    - » Replaces weapons cards
    - » Automates mobilization checklists, security check-in, leave
    - » Stored medical and dental history, prescription for glasses and current medications, etc.

• Goal: Provide Smart Cards to all active duty personnel, dependents, civilian on-base workers and retirees, Navy-wide.

  • Two initial test sites: NAVSTA Pascagoula & Portsmouth Naval Shipyard

  –Pascagoula test includes issuing of Smart Cards to all active duty personnel, dependents, civilian on-base workers, SupShip Ingalls and retirees in NAVSTA area (approximately 8000 individuals). Initial issue Mar 97 (~2000 active duty, civ, SupShip personnel)

•Numerous potential applications:
  • Process Automation
    • Food service - Replace cash counting and manual head counting
    • Pass & Tag - Automate pass distribution and recording process
    • Physical Readiness Test - Automate manual processing of scores, replace PRT folder
    • Armory - Replace weapons cards
    • Security - Automate security check-in
  • Inventory Control
    • Tool control - Automate tool inventory, replace log books
    • Personal property pass - Automate controlled property management
    • Motor pool - Verification of license & qualifications
  • Mustering - Portable and rapid manifest information
  • Medical - Pre-population of exam forms, emergency health information; Replace medical/dental records; Latest prescriptions (medicine, glasses, etc.)

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The Navy* Competition and Outsourcing Challenge

- $2.5 Billion savings w/ steady state $1.2 Billion

- Ambitious goal - 80,500 FTEs over FYDP

- Needs full claimant support

*MC - 5K FTE
Savings: $20M FY-00, $120M steady state

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Revised Navy Competition Savings
Revised Plan

New PR99 Plan Savings Wedge = $2.5B (FY00-FY03)

$1,171M

$829M

-$71M

-$93M

$430M

$93M

	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04
FTEs STUDIED	10.5K	15K	20K	20K	15K	TOTAL FTEs = 80.5K		

8

REGIONALIZATION
"Infrastructure Cost Reduction Initiative"

- **Reduce Installation Management costs through consolidation in Navy Concentration areas.**
- **Fundamental Principles:**
  - No tenant should do what a host can do.
  - No host should do what a complex can do.
  - No complex should do what the surrounding community can do more cost effectively.
- **Focus on supporting fleet readiness, with a reinvented, right-sized and technologically advanced 21st century infrastructure.**

Consolidation in Navy Concentration areas.
- Eliminate unnecessary management layers, duplicative overhead and redundant functions/activities.
- Reduce the number of claimants in the Installation Management business.
- Regional Commander the single Base Ops Support Provider in Navy Concentration areas.

Privatization

"Infrastructure Cost Reduction Initiative"

- **Reduce Installation Management costs through privatization of non-core business functions**
  - Privatization efforts at NAWC Indianapolis, NSWC Louisville
  - Privatization of Navy Housing through Public/Private Ventures (PPVs)
  - Privatization opportunities for Utilities
  - Various site specific initiatives
- **Evaluate tools for future privatization efforts (e.g. interagency partnering, outleasing)**
- **Focus on supporting fleet readiness by divesting non-core business from 21st century infrastructure**
- **Marine Corps: examine public vs. private housing**
  - Improve housing management, make more efficient

Tools for future privatization efforts
- Interagency Partnering
- Govt Owned, Contractor Operated (GOCO)
- Outleasing
- Employee Stock Ownership Plan (ESOP)
- Site Specific Development Authority and PPVs
- "Special Commission" concept for Navy- wide Development Authority

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Navy's* Centralized Demolition Program

● **Survey Results:**
  - 1,600 Buildings
  - 10 Million Square Foot
  - $1.5 Billion PRV
  - Cost to Savings Ratio: 8 to 1
  - Total Disposal Costs: $186M

● **FY97**
  - $25M Program
    → 48 Projects
    → 2.3M SF Demo'd

● **FY98**
  - $28M Programmed
    → 49 Projects Planned
    → 1.8M SF to be Demolished

COMPLETED!   **Fiscal Year**

$ Millions — 45, 40, 35, 30, 25, 20, 15, 10, 5, 0 — 1996 1997 1998 1999 2000 2001 2002 2003

MC - 20M sq ft identified, 3.3M sq ft FY 98-00, savings $5M/yr

---

• Benefits to the Navy:
  - Reduces Infrastructure
    » Eliminates aging facilities
    » Reduces overall maintenance and repair requirements
• Generates Savings
  - Reduces annual expenses for utilities, maintenance, support services (fire protection, security, etc.)
  - One time reduction in Navy's Backlog of Maintenance and Repair (BMAR)

• Survey Results Note: Does not include Other Structures (piers, towers, etc.), or impact of Regionalization and Claimant Consolidation
• FY97 - 48 Projects executed, 120 Structures Demo'd, 23 M SF Demo'd. $161M PRV removed
• FY98 - 49 projects planned, 284 structures slated, 1.8M SF to be demolished, $267 M PRV removed

OPNAV PROCESS:

OPNAV Guidanc

OPNAV REVIEW/APPROVAL

EXECUTION

Need to Demolish Obsolete Facilities → Claimant Requirements List → Savings / Size/Cost Ratio / Claimant / Priority / Safety / Executability →

Request FY98-00

Confirm FY98
Program FY99
Review FY00

Execute FY98

Base Realignment and Closure Accounts

$3.0B
$2.5B
$2.0B
$1.5B
$1.0B
$.5B
$.0B

1992 1993 1994 1995 1996 1997 1998 1999 2000 2001

Savings

Costs

Fiscal Year

- Navy "broke even" in FY97
- Realize steady state savings of $2.6 Billion starting in FY02
- By FY01 (BRAC expires) DoN will have reduced plant replacement value of shore infrastructure by 17% v. 30% decrease in DoN endstrength and 40% decrease in the number of ships (since FY-88)
- DoN supports SecDef's call for two additional rounds of BRAC

- Program increased $40 Million in FY99 to fund actions ritical to closure and minimal caretaker costs
    - Addressed emergent requirements validated since budget review
    - Increase required due to prior year deferrals resulting from FY96 OSD recission ($86M) and emergent requirements
- Environmental Compliance and Restoration philosophy:
    - "Just in time" to support projected economic reuse scenarios
    - Defers sites with less certain economic reuse potential
    - Defers sites that transfer to other Federal Agencies
- Navy "broke even" in FY97
    - FY00 is last year for new start BRACON
    - BRAC appropriation expires in FY01

Future BRAC - BRAC reduces current facility maintenance requirements and future modernization needs. For the Navy, BRAC will generate $2.6 Billion in annual savings after completion in FY01.

By FY01, DoN will have reduced the plant replacement value of its shore infrastructure by 17% (since the first round of BRAC in 1988). This is in contrasts to a 30% reduction in DoN end strength and a 40% reduction in the number of ships over the same period.

DoN supports SecDef's call for two additional rounds of BRAC.

MANAGEMENT HEADQUARTERS REDUCTIONS

- **SECDEF directed an across-the-board reduction of 10% by FY03.**
  - DoN currently at -10.3%
- **Congressional FY98 Defense Authorization Act:**
  - 25% staff reduction by 1 Oct 2002 from 1 Oct 97 baseline
  - At least 5% each year from 1 Oct 97 baseline
  - DoN currently at -8.9% by 1 Oct 2002

Summary

- 21st Century - Enduring Navy Mission and a Fiscally Constrained Environment

- Force Structure Set to Meet National Requirements

- Recapitalization Necessary to Sustain Force Structure Goals

- Efficiencies/Cost Savings Initiatives Essential to 21st Century Force Structure

Major Appropriation 1989-2003 (98$M)

Legend:
- APN
- FAMILY HOU
- MILPERS
- OpMaint
- OPN
- PROCURE
- RDTE
- SCN

Air Force

Infrastructure

Initiatives

Jo MacMichael

21 January 1998

Overview

- **Background**

- **Current Program**

- **Conclusion**

In my first few slides, I'm going to paint a familiar picture — a fiscally constrained DoD and AF.

Then I'll tell you about our current competitive sourcing and privatization program. OSD has replaced "outsourcing" with "competitive sourcing" as the preferred term.

Finally, I'll summarize where we are.

DoD Topline Trends
Generalized from FY98-15 Defense Program Projection (DPP)

Chart: FY97 Constant $ (Billions) vs Fiscal Years (80, 85, 90, 94, 98, 03), with labels "Reagan Era", "End of Cold War", and "Global Engagement".

The overall DoD topline has decreased 43% over the last 13 years (FY85 to FY98). This decrease in budget authority created enormous pressures to downsize and to do so rapidly.

Air Force Funding Trends
Based on FY98 President's Budget

The line marked "Blue Total Obligational Authority" (TOA) represents that portion of the AF TOA over which the AF has discretionary authority. The delta includes, for example, DHP and SOF manpower.

Over the last 13 years, the AF TOA has decreased approximately 50%. Our current program anticipates a 3% increase. At the same time we can anticipate a 12% increase in blue TOA due to OSD increases in modernization and procurement.

Tough Choices
AF Reductions from FY85 to FY03 (Pre–QDR)

Category	Reduction
Aircraft purchased	-73%
Major Install Overseas	-68%
ICBMs	-47%
Act Mil End Strength	-38%
Civilian End Strength	-38%
Aircraft Reductions	-29%
Major Install CONUS	-26%

(Scale: 0% 20% 40% 60% 80% 100%)

Between FY87 and FY03, we experienced major reductions.

Aircraft purchased	-73%
Major overseas installation	-68%
ICMBs	-47%
Active military end strength	-38%
Civilian end strength	-38%
Aircraft reductions	-29%
Major CONUS installations	-26%

Dilemma

- **$$$ Limited**
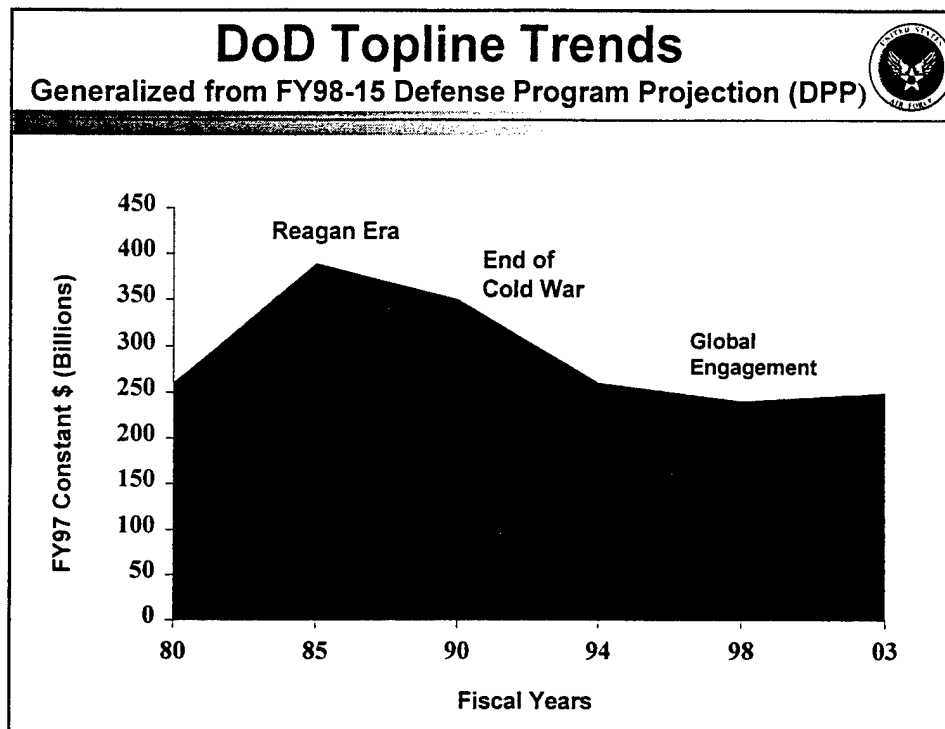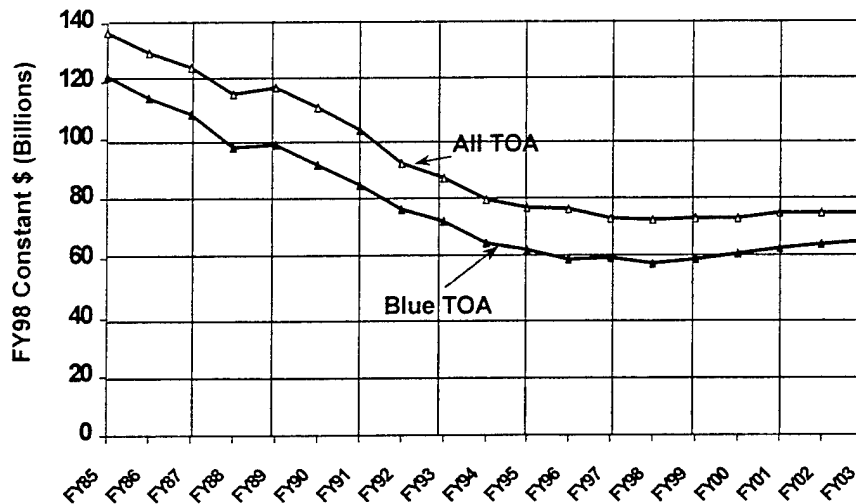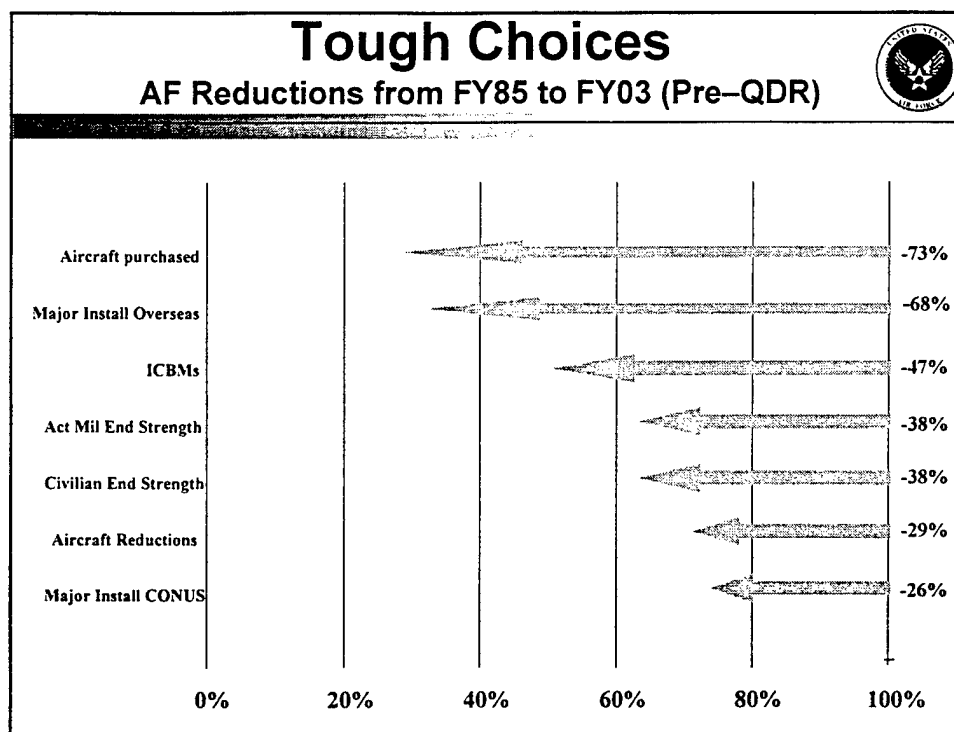
- **Choices**
  - **Force Structure**
    - **Modernization**
    - **Readiness**
  - **Infrastructure**

Tooth or Tail?
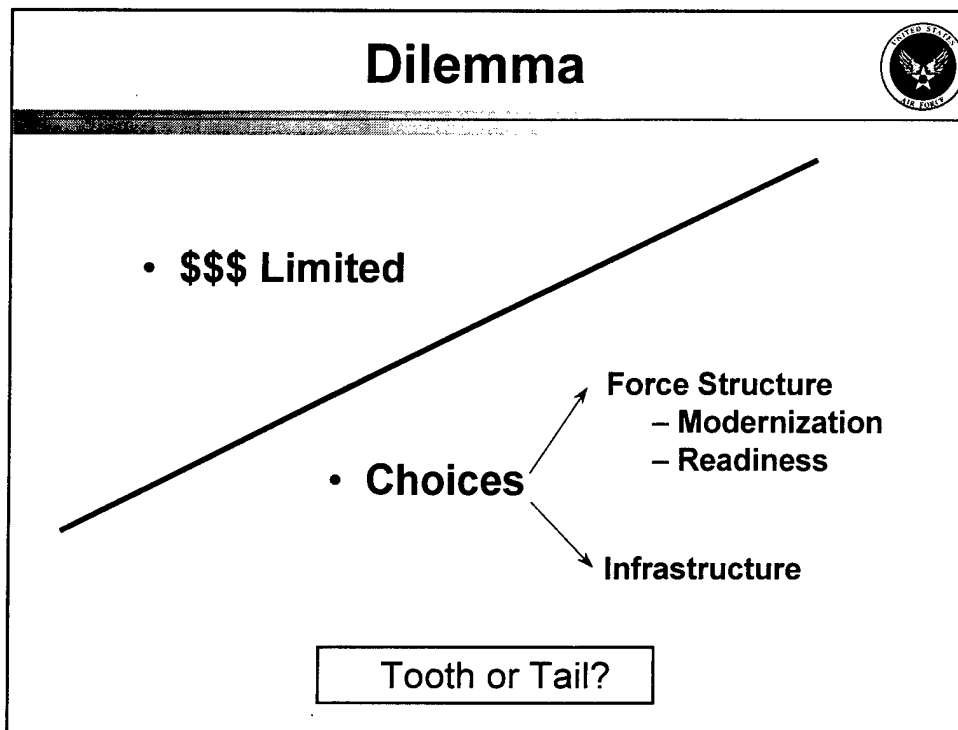
Given this fiscal environment, our goal has been to reduce infrastructure without rendering our forces hollow.

Competitive sourcing and privatization are the major tools we are using to make these choices.

Outsourcing and Privatization
Definitions

- Outsourcing
  - Transfer of a Function
  - Government Retains Responsibility and Control

- Privatization
  - Transfer of Control of an Asset (Land, Facility, Utility Plant/System) and Associated Activity
  - Public $ Private

These definitions are common through out DoD.

Competitive sourcing is the transfer of labor to an outside provider.

Two good examples would be: food service — it remains a government service and responsibility. Food service asset (facilities, equipment, etc.) ownership is retained by the government. "Food servers" are provided through a contract agreement with a private entity (following an A-76 cost comparison determining that outsourcing is the "best value"). Only positions are converted or outsourced to a contractor. Another good example would be heat plant operation — the government retains ownership of all facilities, plants, distribution systems, etc. Heat plant "operators" are provided through a contract agreement to maintain and operate the government's heat plant operations.

Privatization: Current Program

UTILITIES
- Goal — Get Out of the Business of Owning, Operating/ Maintaining Utilities, As Long As.....
  - Makes economic sense — no readiness impact
- Four FY98 projects — FY97 feasibility studies in progress

FAMILY HOUSING
- Four FY98 Projects — (1180+ Units)
- Five FY99 Projects — (5500+ Additional Units)
- Accelerates Buyout of Renovations and Replacements

DORMS
- AF Study and Review Complete
- Preliminary Results — Not to Pursue Dorm Privatization

Privatization is a fairly small part of our CS&P program. We are pursuing privatization as a means to fix rather than reduce infrastructure. For example, our goal in privatizing utilities is to take the cash value from the sale of utility assets in the form of needed repair/modernization and a reduction in utility rates.

The AF owns 110,000 units of family housing. Of the 110,000, 80,700 of these are in CONUS. The average age of our units is 34 years; one fourth of these are at least 40 years old. For MILCON, our goal is to leverage the MILCON dollars that are invested by a 3 to 1 factor: Will getting 3 houses renovated/constructed/repaired for the same AF investment to do one suffice? Our plan is to use privatization to accelerate the buyout of an extensive backlog of improvement requirements

Outsourcing
The Record

A-76 Cost Comparisons

800 Comparisons -
21K Positions
24% Savings -

OF STUDIES

900
300
200
100

Installation Cmdr
Sole Authority

Time
Limits

AF
Initiatives

Gov't-Wide
Push

Moratorium

FWRA

1979 $5.6B+ SAVED   1997
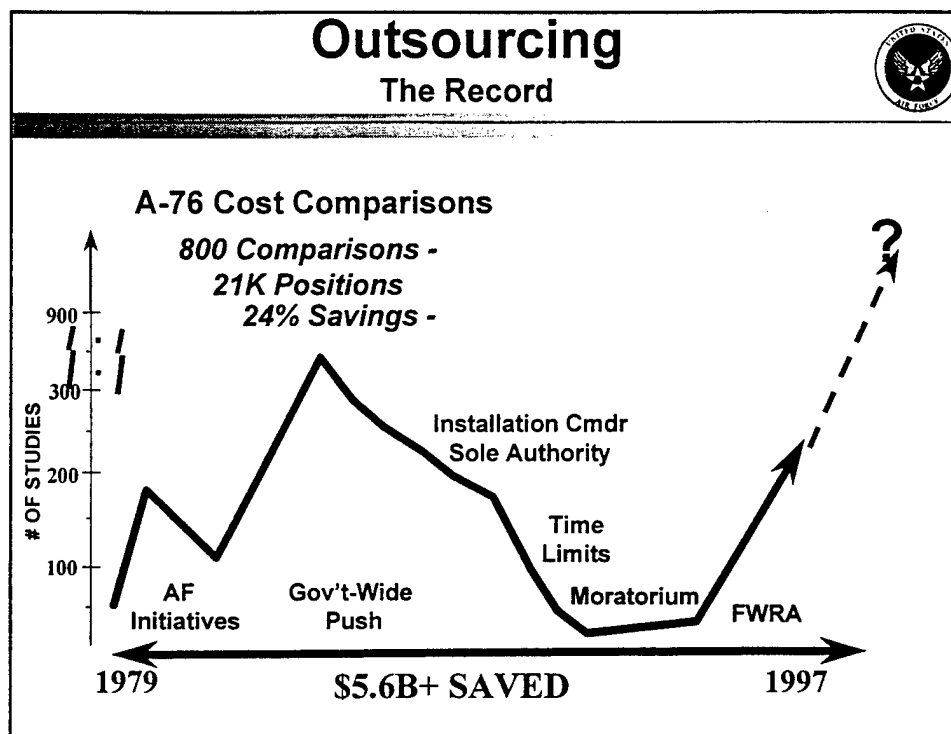
The AF has had an active A-76 program since 1979.

Unlike privatization, the goal of our competitive sourcing program is to save dollars. The AF senior leadership sees CS&P as a key link in our efforts to become more efficient and effective in providing support — to concentrate on core competencies and to free up declining dollars for modernization.

Cumulative Competitive Sourcing Savings
Pre–QDR
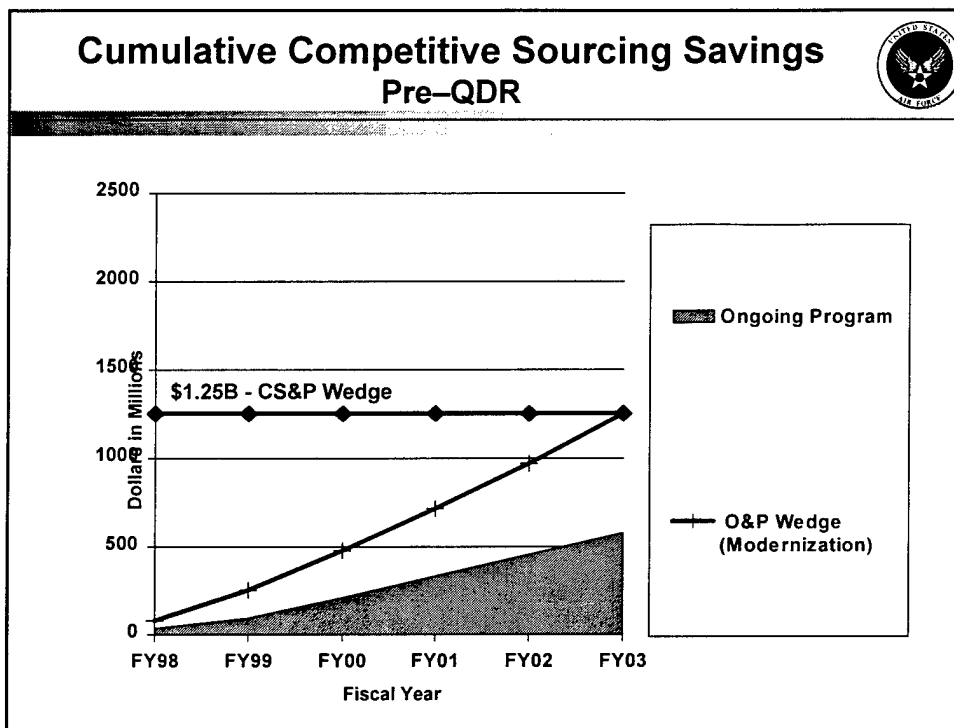
During the FY98 POM, we laid in a Competitive Sourcing goal that would result in cumulative savings of $1.2 Million. About $350 Million of this goal could be linked to specific A-76 program savings. The remainder was laid into the MAJCOM's Base Operating and Support (BOS) accounts. The plan was to adjust the MAJCOM's O&M budgets as they identified A76 projects.

What Is Jump Start?

- Concept
  - Next large round of AF outsourcing
- Approach
  - Target non-military essential
  - HAF/MAJCOMS identify candidate functions
- Next Steps
  - MAJCOMs review candidates
  - SECAF/CSAF approve MAJCOMs execute

> Jump Start: AF Manpower — 6%
> Infrastructure Manpower — 14%

Project Jump Start was a programmatic response to assisting the MAJCOMs in identifying competitive sourcing projects. The first step was to identify/target non-military essential positions. Then to work corporately with the MAJCOMs to review and identify candidates. The goal was to reduce AF manpower by 6% and Infrastructure manpower by 14%

Jump Start
Deconfliction

| 381K Military | 558K Total | 177K Civilian |

381K Military
- Wartime Deployable
- Forward Based (6 Exceptions)
- Rotation Base
- STP
- Other Mil Essential
- Inherently Governmental

177K Civilian
- Military Technology
- Forward Based (6 Exceptions)
- Title 5
- Depot
- Inherently Gov
- A-76, CDI, Target Funct

66K Total

Jump Start Target 41K (22K Military , 19K Civilian)

After thoroughly scrubbing our organic manpower, we identified 66 Thousand candidates for competitive sourcing. Of this number, 2 Thousand had already been cost-compared & remained in-house within last 5 years and 25 Thousand were determined to be uneconomical to competitive source. The next step was for the MAJCOMs to evaluate these "eligibles" as can, could or cannot.

Jump Start Process
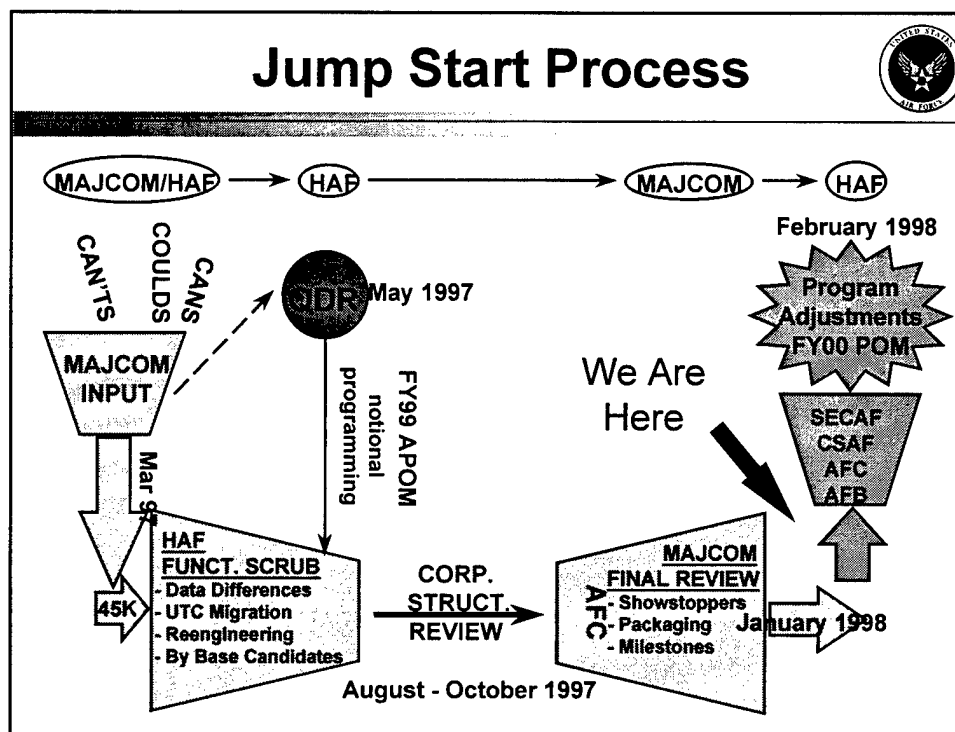
Last March the MAJCOM provided Jump Start inputs, i.e., their "cans, coulds and can'ts." During the subsequent functional review, the candidate pool was modified by QDR Results. In November the Jump Start targets, as modified by QDR results, were provided to the MAJCOMs. The MAJCOMs' final review and recommendations for implementations was due on: 15 January 1998. This will include:any execution showstoppers, plans for packaging/bundling/contracting and timelines for announcing/executing (phasing). The goal is to receive AFB, CSAF and SECAF approval in time for incorporation into POM 00.

Outsourcing: Current Program

CURRENT INITIATIVES
- 250+ Studies
- 16 Thousand Positions

DEPOTS
- Public/Private Competitions — McClellan and Kelly
  - $360.5 Million savings projected in FY98-03
- Warner-robins Announced As Winner of Kelly C-5 Depot Maintenance Competition on 4 September 1997
  - $190 Million in savings achieved FY98-04

NEXT STEPS
- Civilian Drawdown Initiatives (CDIs) — 4Thousand Positions
- Project Jump Start — 41 Thousand Positions
- Targeted Functions — 5 Thousand Positions (Reengineering)

66 Thousand Candidates: FY98-03
(Does not include Depots)

Our current program projects more than twice as many studies as we've done in the past 17 years. This target is the starting point for our 00 POM deliberations.

Total Air Force Resources Shift
FY97 vs. FY03

FY97

| Organic - 558K (87%) |
| Contracted - 87K (14%) |
| 645K |

FY03

| Organic - 491K (79%) |
| Contracted - 134K (21%) |
| 625K |

FY97 pie: Contracted 87K, CIVILIAN 177K, MILITARY 381K

FY03 pie: Contracted 134K, CIVILIAN 147K, MILITARY 344K
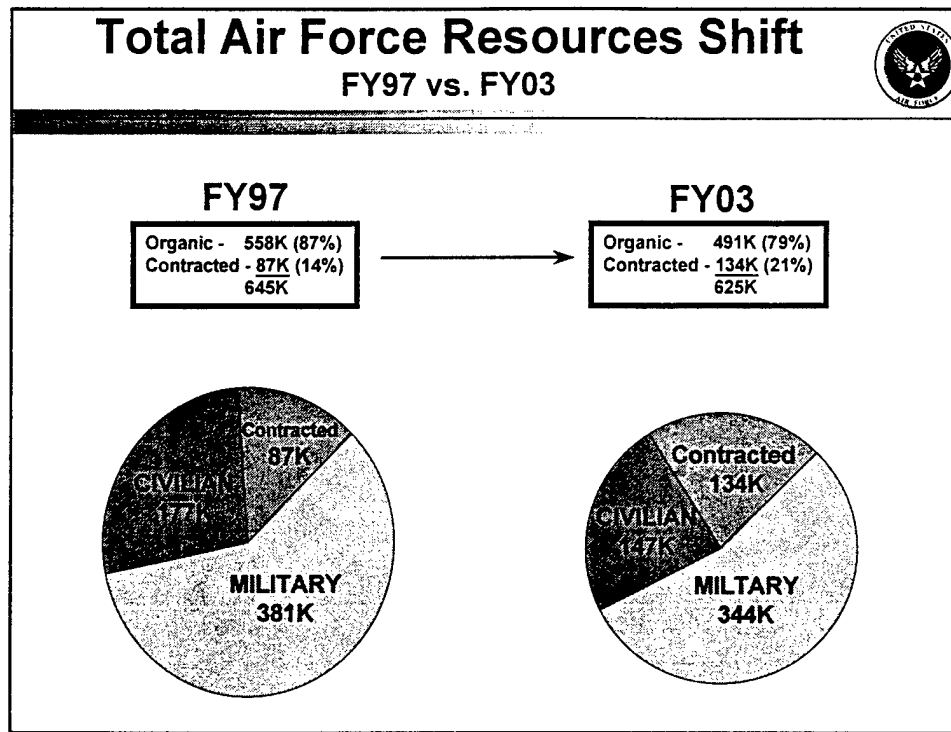
The FY03 data reflects anticipated results of planned and ongoing studies. The FY 03 baseline is smaller by 16 Thousand non-CS&P program adjustments;

The contracted area includes 87 Thousand from FY97 plus 47 Thousand from 63 Thousand of candidates (41 Thousand Jump Start, 4 Thousand CDI, 5 Thousand targeted functions, 13 Thousand on-going A-76). Assumes 60% of candidates will go contract. The (MEO) 18 Thousand includes 16 Thousand from 63 Thousand candidates and a straight-line of 2 Thousand from FY97 MEOs.

Savings Assumptions

A Conservative Approach →

- Savings Not Programmed Until FY00
    - Allows time for packaging
- Savings Programmed at 25% vs. 34% Historical Average
- Phased Approach to Savings
    - Starts small in FY00, ramps up over FYDP
- Pay All "Known" Bills First
    - To maximum extent possible

CS&P Challenges

LEGISLATIVE
- Congress/State/Local
- Law
  - Depot legislation
  - Title 10 (fire fighters–security guards)
  - Utilities privatization
- Military Floor

IMPLEMENTATION
- Projected Study Volume
- Availability of Suppliers
- Level of Savings Achieved
- Small Business Administration
- People Turbulence
- In-House Wins Competition
- Scoring
- Pers Tempo
- Mission

Achieving our competitive sourcing projected savings will mean we have to overcome some major challenges.

Conclusion

- Program is Aggressive...but Measured
  - Getting the right numbers is important... getting the numbers right is more important!

- Big Impact on People and Culture

- Can't Afford to Not Do This Right

> The Only Thing Worse Is Letting
> Someone Else Do It For Us

WORKING GROUP REPORT

Topic Area: Defense Information Infrastructure
Chair: Col. Bob Carr
Co-Chair: Dr. Jackie Henningsen, FS
Mr. Brian Flyn

The DII is the seamless web of communication networks, computers, software, databases, applications, data, security services and other capabilities that meet the information processing and transport needs of DoD users in peace and in all crises, conflicts, humanitarian support and wartime roles. DII is intended to implement the C^4I For The Warrior (C^4IFTW) vision of a user-driven infrastructure through which warfighters and other DoD users can quickly share needed information from any location, at any time using secure voice, text and video services. In the future, the DII will allow warfighters to see a fused, real-time, true representation of the three dimensional battlespace.

The DII will allow the United States military to meet the needs of the national military strategy which requires that US forces must be able to project power from Continental US bases, sanctuaries and in-theater locations in times of conflict, plus support up-to-the-minute peacetime missions.

The Defense Information Systems Agency (DISA) works with the CINCs, services and other agencies to develop the DII master plan for ASD(C^3I). The DII master plan is a living document that establishes the common DoD vision for the DII, identifies current and future elements, defines DII participants' roles, responsibilities and relationships and identifies the relationships and interdependencies of key initiatives.

Overview: Topics Covered

- How Is DII Measured?
- How Should DII Be Sized?
- What Initiatives to Adjust DII Are Underway?
- What New Initiatives Should Be Considered?
- How Much Should DII Cost?
- What Analysis Needs to Be Done?
- Summary

Overview: The DII is planned to operate as a collection of distributed, heterogeneous information systems. It will range from DoD applications implemented at central locations, to base-level or end-user applications on desktops or in tactical environments. The infrastructure requires collaborative development reflective of its cooperative ownership among the Office of the Secretary of Defense (OSD), the Joint Staff and other individual services and agencies. The current DII consists of many elements, much like a puzzle in which each piece is crucial to the overall picture. These elements build on and include a foundation of integration and technology support. It is important that the DII evolve to support new and existing missions, to provide new capabilities and to introduce new technology.

The DII includes the following: The physical facilities used to collect, distribute, store, process and display voice, data and imagery. The applications and data engineering practices (tools, methods and processes) to build and maintain the software that allow C^2, intelligence, surveillance, reconnaissance and mission support users to access, manipulate, organize and digest proliferating quantities of information. The standards and protocols that facilitate interconnection and interoperation among networks and systems and provide security for the information carried. The people and assets which provide the integrating design, management and operation of the DII, develop the applications and services, construct the facilities and train others in DII capabilities and use.

How is DII Measured?

- **How Does DII Support Forces?**
    - DII provides timely information flow (intelligence, supply, training, admin, etc) between warfighter and information sources. JV2010 will not be a reality without a robust DII

- **What Are the Timelines Between Changes to DII and Changes to the Forces?**
    - Changes in the DII area causes an instantaneous impact on the force. Changes in the force may have a considerable time lag for infrastructure to catch up

The DII is measured at the highest level by how well it supports the warfighting forces but DoD can also be seen from the view of a "big business enterprise." From that perspective, the DII is measured from multiple aspects related to how well information is transferred both externally and internally. Concerns for voice communication, global connectivity, data transfer, collection, processing, display and communications technologies — in other words all the elements of the information flow — are all elements that demand inclusion in the measurement of DII capabilities.

Dave Alberts, Director of the National Defense University, Center for Advanced Concepts and Technology, in his monograph "The Unintended Consequences of Information Age Technologies" provided guidance concerning the breadth of the challenge in trying to measure DII: "A technology insertion strategy designed to fully leverage information technologies requires alternations in our concepts of operation, doctrine, organizations and force structure. Associated changes in logistics, education and training will also be required. Without these changes we will only obtain incremental improvements in effectiveness and efficiency while foreclosing opportunities for the order of magnitude improvements necessary to maintain the winning edge."

How is DII Measured (Cont.)?

- ● What Metrics Are Useful to Decision Makers to Define the Quality and Size of DII?
  - Real time required vs. time lag, type of information, footprint, manpower requirements, training requirements and users use/need of information
  - Cost (acquisition, O&S, life cycle cost, potential savings and reliability)
  - There are documented requirements

The DII working group in the short time available focused on the base level infrastructure and opportunities to reduce costs in development of this DII component. The group examined the question of how to measure this part of the DII relative to the benefits to the warfighter.

Some of the discussion topics used to frame the measurement question were telecommunication use, distance learning and distributed interactive simulation. All of these concepts are touted by their supporters as providing great benefits while achieving cost savings. The group examined the difficulty of actually measuring these cost/benefit trades. Examples were cited in which the benefit of telecommunications was assessed by promises of reduced temporary duty travel. Many participants expressed the view that the benefit actually achieved was being able to hold quick response meetings that would not otherwise have been held. Distance learning and Distributed Interactive Simulation (DIS) each face a challenge of finding new ways to evaluate life cycle costs. Distance learning increases the bill for the DII, while it decreases the bill for other standing physical infrastructure costs of training. The difficulty in measuring the trade-off highlights the weakness of current cost/benefit assessment methods. Further, the bill for new initiatives, like many other technology advances, was not necessarily a bill we knew was coming. Finding ways to measure cost savings and to value communication enhancements is a key analysis challenge.

How is DII Measured (Cont.)

- Do Any Metrics Tie DII Performance to Force Performance?
    - Functional measurements of deliverables are an effective measure of force performance
    - As these deliverables are impacted by DII measurements such as mean logistics delay time, readiness, availability, bandwidth and byte transfer rate help to monitor throughput
    - What are the inputs to the DII?
    - Standards, number of users to tie to the web, laws and joint technical architecture

Participants in the workshop noted several points involved in DII measurement. Often the infrastructure is required to be in place before value can be truly quantified. The network is best evaluated once deployed, but to quantify value it needs pre-evaluation. We are often in a catch-22 in this area. Spiral development and rapid prototyping of the infrastructure has parallels to software deployment. We must beware of doing operations analysis vs. analysis of systems — it is easy to get the cart before the horse. OMB Circular A-11 requires that all capital acquisitions must have a cost benefit analysis. The interaction between DISA and the services with regard to this requirement needs careful coordination. Budgeting and cost estimating are difficult because the factors are frequently difficult to identify or control at the local level.

There are two examples: When a system like a unmanned aerial vehicle is used to replace a fixed communications site, the infrastructure trade-offs include many factors that are easy to overlook. The cost of the maintenance support team may be ignored on the UAV side while the cost-avoidance of reaching the fixed site, preparing and protecting the site may be forgotten on the side of a fixed installation. Other costs often overlooked include the cost of removing sites, trailers, tech orders, etc. And secondly, for a communications squadron that does not have a maintenance shop and does not have a network shop you could POM in the O&M arena, but the offset may have come from the postal budget and any received value doesn't come back to manage the offset.

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How Should DII be Sized?

- Has DII Been Reduced in Proportion to the Force Structure?
  - The area is increasing in proportion to the force structure because DII is an enabler to allow other infrastructure to draw down
- What Offices and Data Systems Capture the Sizing and Quality Metrics for DII?
  - DISA is the responsible organization. Metrics are generally technical; however, user feedback is solicited. Service IT agencies have responsibility under their corporate information officer charters

Many participants noted the need for a DoD CIO to be able to evaluate the cost and benefit of AIS vs. Weapon Systems. For instance, questions like how many ships is the defense message system worth?

On the one hand, the level of available information threatens to swamp access to critical information. On the other hand, new and more productive opportunities for supporting military commanders may be blocked by the inability to properly size the pipe-line to users. To work through the sizing dilemma, decisions must be made about what information is essential, what is routinely needed, what is optional and what is unnecessary and may even be counter-productive. Although information requirements are dependent on the mission and the circumstances, new procedures for evaluating the links between military essentials and support functions need to be developed.

The role of the information specialist and the operations research analyst may converge but each has a unique perspective to bring to the assessment. Clearly better education and training of both information experts in ORSA techniques especially related to optimization and operations research analysts related to information network theory would be beneficial. The hallmarks of information-rich situations with a lot of uncertainty are not foreign to military OR analysts but the specific growth patterns of information technology capability is unprecedented.

How Should DII be Sized (Cont.)?

- How Is Capacity Compared to a Baseline?
  - It is estimated
- How Is the Efficiency Determined?
  - Efficiency is locally determined and varies from system to system. It is standard only within functional areas

Again referencing Dave Alberts, uncertainty regarding the quality and integrity requirements for information must be considered when assessment of sizing requirements are involved. The C^{4}IFTW vision is for a mix of information "push" and "pull" with the emphasis on the "push." It sometimes seems that the only certainly is that systems will not be used exactly as intended or under the conditions assumed in their design, development or testing.

Reliance on Commercial Off The Shelf (COTS) hardware and software is widely encouraged in the procurement of DII. However, as the number of users and the interlocking nature of the DII increases, system vulnerability also increases. DII sizing must take into account the parallel investment in computer security personnel and devices. Potential implications of penetrations and the possible wide reaching range of intrusions must be considered. This leads to the need for new analytic procedures for detection and "defensive decision aids" to detect, access and counter unauthorized use.

How Should DII be Sized (Cont.)?

- Are There Documented Requirements?
  - There are documented requirements but varies between agencies/organizations
- Would an Organization Based Viewpoint (Vice the OSD Program Element Mapping) Change the Sizing of DII?
  - Yes, DII is organizationally based to satisfy specific missions and not easily measurable by the OSD PE methodology

What Initiatives to Adjust DII Are Underway?

- How Is Outsourcing and Privatization Being Implemented?
  - Ongoing efforts, but fragmented
  - Example includes the AF information management manpower decrease under the Jump Start program

Project Jump Start is an AF initiative that was presented during the Symposium and used as a discussion focus by the working group: The AF/CVA tasked its functionals to review military essentialness and determine potential outsourcing and privatization candidates. Goal of Project Jump Start is to provide targets for MAJCOMs to identify best O&P candidates and help meet a $1.2 Billion O&P wedge. Current target is 110,000 support personnel, including 27,000 SC/IM positions. Excluded from consideration: 2-MRC, deployment forces/replacements, military essential, inherently governmental, HQ, unified commands and defense agencies. Air staff functionals have oversight responsibility to ensure wartime needs, military essentiality, inherently governmental functions and overseas rotation base needs are met. Project Jump Start is currently being validated by MAJCOMs using three criteria: "can be, could be, cannot be" outsourced/privatized

The Base Operational Support (BOS) O&P Efforts includes the following: the initial O&P efforts focus on BOS in commands like AETC, AFMC and the defense agencies, with the core/main operating bases remaining "blue-suit" and AF civilian. The MAJCOMs are encouraged to aggregate or bundle multi-functional and multi-base BOS contracts to save the maximum dollars and maintain standards. The MAJCOMs are expected to concentrate on prime areas where commercial markets are strongest or most competitive (software development and fixed base infrastructure). Regional contracts should be considered in the information technology arena to maximize architectural standardization and interoperability.

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What Initiatives to Adjust DII Are Underway (Cont.)?

- What Divestitures Are Being Planned? In What Areas Will DoD Try to Do Less With Less?
  - DoD experiences using defense agencies or joint organizations to solve these challenges have been disappointing to date
  - We should examine the lessons from the demise of JLSC, aspects of BMDO and DISA and identify the lessons that apply to DII

Other initiatives discussed by participants were the following: discussion areas included both communications and information infrastructure, visual information and maintenance personnel (military and civilian) located inside and outside traditional SC organizations which do not directly support present or future warfighters. Privatization of base communications facilities and infrastructure at non-core installations. The aggregate (base-wide and regional) activities not in direct support of warfighters such as telecommunications and data processing facilities, software activities (e.g., central design activities), office automation LAN administration and administrative customer support.

The group discussed extensions of the Air Force's "Model Performance Work Statement" that is modular in nature to allow for MAJCOM tailoring using concepts such as the following: professionalizing the network, putting standards like DEFCON and training people to follow them, pricing various levels of service; having organizations budget accordingly, by examining the three year replacement cycle and assumption that the costs will remain the same so you are getting greater capability at same cost and the study of the Bureau of Labor Statistics index of computer hardware prices.

What Initiatives to Adjust DII Are Underway (Cont.)?

- What Efficiencies Are Being Planned? In What Areas Will DoD Try to Do More With Less?
  - Continued movement toward COE in all services, e.g. Joint military pay programs, medical records, AF Jump Start and Army circuit bundling
  - Allowing "admin" and "QOL–enhancing" traffic to "ride on the backbone" of the warfighter's centric network in peacetime

Several documents and efforts that are addressing the need for comprehensive DoD communications and information goal were discussed during the meeting. Others have appeared during the time since the meeting while the report was being drafted. Two of the reference and new efforts include: the *Aspects of the Capital Programming* guide, supplement to the Office of Management and Budget Circular A-11 Part 3: Planning, Budgeting and Acquisition of Capital Assets, July 1997 and the *Initiation of an Integrated Product Team* by the Director, Communications OASD (C³I) to develop a Integrated Communications Strategy (ICS). This ICS will describe the strategy by which planning, policy review and program oversight may be coordinated across all DoD communications. The goal is to achieve a global, seamless, robust, integrated and secure information transport infrastructure.

What New Initiatives Should Be Considered?

- Identify Those Changes That Would Have the Greatest Impact on Improving DII
    - In the warfighting arena, enhanced worldwide connectivity (e.g. IRIDIUM and parallel investment in similar commercial capacities)
    - Internet 2 allows closer realization of key elements of the "paperless" organization (e.g. posting of tech orders, directives and mass mailing information

The working group again reviewed initiatives underway such as the following list and asked what would have the greatest impact on improving DII.

Outsourcing and Privatization (O&P)

- AF — Jump Start
- Army — circuit bundling
- Internet 2
- Iridium and other examples of government support for commercial satellites

The group had difficulty in pinpointing a "best" direction and instead discussed the need for a combination of approaches. There was, however, an underlying view that a method of prioritizing the relative value of different DII investments was a critical need.

What New Initiatives Should Be Considered (Cont.)?

- Identify Constraints Blocking Those Changes
  - Policies, outdated contract processes and directives that bottleneck the ability to keep the capacity of systems at crisis response levels
  - Inability to measure the benefit of information vice weapon systems in the acquisition process
  - Stovepiped systems, lack of access to common system capabilities
  - Reluctance to allow "over access" to non-traditional users

Budgeting issues related to cost:

- There are relatively few R&D dollars in DII; technology refreshing every 18 months and faster but the FYDP cycle can rarely handle that speed

- Buying patterns have constrained buying for large purposes fits in the 3080 arena and unconstrained buying in 3400

How to balance these two was considered a major issue: 3080 builds a capacity to respond to conflict surges per the stock market concept. Participants discussed the concept of a multiple baseline system with variance allowed and the 3400 free to vary inside the normative parameters. With technology increases and cost coming down some program managers opt for a rule of thumb type of assumption that requirements for increasing capability will be met by maintaining fixed DII budgets

The issue is to consider what measure of effectiveness and measure of value we can use to deal with the evaluation of this rule of thumb or do we simply buy by the yard with a fixed cost? If so, then what is the fixed baseline determined by (e.g. the initial installation cost??) Question: What threshold amount per person, on the average, is reasonable to assume would be required to provide an adequate DII for the function of that person? The Gardner group says $13,000, the AF study said $6000 to $7000 and that the base level paid about half that amount.

What New Initiatives Should be Considered (Cont.)?

- Identify Actions and Those Responsible for Taking Those Actions, Which Would Remove Those Barriers and Constraints
  - CINCs
  - DISA,DoD's CIO
  - J-6, S-6 organizations

New initiatives to consider: A formalization of an analytic process that gives a good floor on which to build the estimate and to reference the POM-build. At the deployment level we need a common thread that allows interoperability, several ideas were discussed in this arena. The investigation of enterprise licensing across major DoD users so that core capabilities are all provided in a common operational environment and more specific scientific and technical level capabilities are made available through an upper-level, more costly license. The payment of one discounted license fee — but implies the need to measure analytically the cost/benefit. The redundancy for crisis required considerations, the convenience of web page but potential access and security problems lead to continued need for dedicated AIS. But if set up as an intranet, then this can be controlled by protocols. There are contracts tailored to buy refresh technology such as the DMS offerings that parallel what the commercial sector has to offer.

How Much Should DII Cost?

- What Cost Estimating Relationships Exist for DII?
  - Historical capacity vs. cost
  - Local vs. central
  - Existing vs. past contracts
  - Cost per user (Gartner Group Study)

The group discussed the concept of a baseline with dual flexibility. The first level that responds like the stock market and the second level with the possibility of several variants (levels of funding).

The group also explored the implications of requiring more visibility into 3400 spending and generally concluded that the benefit of flexibility at the "more" local level outweighed the cost of "investigating" and consolidating these costs; this returned us to the concept of a multiple level baseline. We discussed the requirement for providing decision support mechanisms to the decision maker to give greater visibility into the alternatives and the breakpoints at which further investment to gain greater capacity is wasted. The problem is in restricting the richness of the area by using set standards. One investigative issue seems to be to determine where standards enhance potential results and where would it merely stifle creativity/productivity.

Analytic issues include the following: How do you measure productivity in a DoD setting? Are the measures of use that were identified during the development of quality programs, workplace improvement programs and reengineering? Whether these measures can be linked to the questions of how well the DII enables or disenables these areas is worth evaluating?

How Much Should DII Cost (Cont.)?

- What Resources Are Used to Generate Output?
  - DII Definition
  - Central resource, long haul resources, training of personnel, HW/SW maintenance and logistics all generate outputs that impact cost
- How Are the Resources Divided Between Current Operations and Recapitalization?
  - Cyclic upgrade divides costs between ops and recapitalization proportionately. It varies per user and is affected by reuse capacity

When does it pay to put in a fixed system?

The factors include the following: Length of time, security, access (priority) and data availability. It was noted that expanding the requirement costs hits a point on the curve that affects the number of people and time availability. The curve is coming down but we keep getting more capability offered in terms of added dollars and the temptation to upgrade is hard to resist. The current cost of the people for maintenance and administration is the driver of the cost. Finding ways to get a reduced footprint in this respect is a important issue.

The group returned to the original discussion that process time is too long and explored the need for ways to streamline this part of acquisition which returns you to the 3400 level type or local purpose card context. For the larger and longer lead 3080 issues there are data labs and other opportunities.

An example was given of an EDS AF base assessment in which for the base DII $2 Million was budgeted but $8 Million was migrated in to beef it up. The contractor had hoped to show that they could replace the AF communication with outsourcing but what actually happened is it showed that it was probably even more costly because the cost of replacing military personnel with contract personnel and the acceptance of "shabby service" measured by network downtimes that lasted 3-4 days was not counted. Most businesses can estimate the cost of outage on a daily basis but DoD may not be able to link this since cost is not the main measure of effectiveness for DoD. Analysis to determine a measure of the cost of outage is an important need.

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How Much Should DII Cost (Cont.)?

- What Resources Are Used to Generate Output?
  - DII definition
  - Central resource, long haul resources, training of personnel, HW/SW maintenance and logistics all generate output that impact cost
- How Are the Resources Divided Between Current Operations and Recapitalization?
  - ◆ Cyclic upgrade divides costs between ops and recapitalization proportionately. It varies per user and is affected by reuse capacity

The group examined when system refreshment is advisable and participants indicated that they were on a total replacement over a 5 year plan but this implied that the high processing systems were trickle down. Several suggestions were made:

BLS concluded that there is a 6% deflation in prices if we let capability increase at the level it is occurring and if we hold capability constant that it is a 30% deflation. These are cost estimating measures currently in use at some of the cost agencies. Concepts that are being explored on the individual unit level include replacements of primary components, use of upgrade cards — but it was noted that there is a certain point of obsolescence at which the O&S increases substantially on a system. Some suggested that guidelines placed on the web to show "best business practices for replacement" that are tailored to military functions. The desk top 5 chair explained that the perception that you can buy cheaper locally is frequently based on buying a "different" less capable capacity. It was noted that the total ownership cost program as a DoD assessment is focused on equipment, systems and ships. It also has less clear use for communications systems. The member working on the development of evaluation tool sets to go on the web noted reported that they were being pushed to include high levels of data crunching capability on an ownership cost tool because they were using DBOF and maintenance data sets. This drives the hardware requirements to higher levels to use these systems. Requirements to push users to the web will force spiraling up to the higher denominator of web site technologies

How Much Should DII Cost (Cont.)?

- Conclusion
  - Disservice to user to capture universally but by function and mission is useful
  - Explore the concept of a finite number of multiple baselines with a variance allowed off each baseline.

The working group discussed the issue that currently the DII is stressed by trying to run as a business but it is not allowing the manager to control the size of staff. To be competitive, it may not be feasible. It is necessary to understand how to analyze comparisons like those between FedEx and US mail. The latter must support service to Guam and Chicago at the same rate but the other doesn't have this restriction. If FedEx takes only the lower cost market then it causes problems to those left with the high cost residual. DoD likewise does not have the freedom to choose to service only low "cost" markets.

Capital planning and budgeting includes: Information technology Capital asset planning is required by the Clinger-Cohen Act and is an integral part of each agencies capital programming process. In addition, agencies are required to develop information technical architectures under the guidance developed by OMB. One of the fundamental components of the ITA is identification of current systems — their performance and combined value with respect to missions, goals and business functions. In addition, performing risk and sensitivity analysis is a key component of capital planning. Considerations must be made for schedule, cost, technical obsolescence, feasibility, reliability and risk of project failure, dependencies between projects and the impact of encouraging a monopoly. There are many actions that are emerging under this system that will play out in the next year.

What Analysis Needs to Be Done?

- Where Is Analysis Needed to Determine Marginal Versus Average Cost?
  - Marginal cost may not apply in this case, if we are buying 10 ships it matters but the difference between the 500,000th computer and the 500,001st is irrelevant
- Where Is Analysis Needed to Determine How the Force Is Supported by the Infrastructure?
  - By function or mission through survey of users, about how their metrics are being impacted by information infrastructure

For instance, the need for DII is determined based on mission as identified in CINC/IPL but for the POM it doesn't translate well into trade-off against weapons systems. A broader analytic process for determining the service support requirements needs to be developed. For warfighting support DoD needs a DII battle lab environment where you try different options with groups and try to extract the unexpected benefits.

A possible metric might be bytes of vital information transmitted to the critical person in the shortest possible time during a wartime, but this doesn't take care of the requirements for base support DII.

Members suggested that the funding for DII 2A2CB Base COM, DISA enterprise shop, data dictionary is all over the map. There is no one program element where DII can be found. Further, no one has found it expedient to be able to count DII investment but some estimate it to be in the several billion dollar range. At the present time, if an organization makes the decision to have a web server in their office, the office will budget and pay for it. This decision is not captured in a fixed DII element.

What Analysis Needs to Be Done (Cont.)?

- Where Is Analysis Needed to Establish How Much Infrastructure Support Is Enough?
  - Presently the use of profilers to determine capacity utilization indicates if the DII can handle current traffic. As a future need, operational architectures are assessed or modeled to estimate needs (battle labs, EFX)
  - Note that for classified nets need a duplicate but separate effort
- What Investment Is Needed:
  - Large unfunded requirement but haven't articulated benefit for dollars spent
  - Economic analysis can help establish a baseline
  - Productivity investment fund can be used when a large payback requires an upfront investment

Seeking analytic methods may require rules of thumb versus specific methodologies. For instance, Oracle says if there is less than a 75% fit in a COTS code, they will do a new program. Do we have similar rule of thumb?

Participants in this workshop felt they had barely scratched the surface in identifying the types of analysis that needs to be done in the DII arena. They did feel that some method of measuring the timing of investments based on mission priority is important. An economic analysis can help establish a baseline from which general administrative and business support upgrades of systems but it is still critical to find a way to articulate the benefit of investment in the latest technology for mission direct needs.

Summary

- Aggregating Accountability and the Cost of the Last 400 Feet of DII Is Difficult but Critical to Completing Capability
- Analysis of Current Usage Will Help for Near Term Fixes but an Estimate of Future Must Exceed Requirements to Allow for Contingency, Crisis and Growth
- Need to Analyze User Requirements to Assess Next Level of Benefit for Dollar Spent on DII
- Investment Dollars, Even for High Payback Efforts Are Not Readily Available and Can Not Be Protected
- Analytic Efforts Will Be Only Marginally Beneficial Until a Major Structured Framework for DII Is Instituted by DoD

DoD investment in DII even with the governing directives of Circular A-11 and the guidance of the Clinger-Cohen Act is extremely complex. Analytic techniques can be employed to help locally optimize investments at the base-level, but a more global analytic application is complicated by the number of both interlocking and independent players. The first steps in gaining better insights into base-level DII are organizational and managerial. Next the information technology experts can propose network options. Cost analysts can develop life cycle estimates for systems but the larger picture will be clouded by the lack of clear identification of what constitutes benefits in these areas. Operations research analysts have a variety of promising methodologies to help address DII issues. It will take a fully integrated team effort, very high level initiative and an extensive time and resource investment to develop the knowledge-base required to understand DII at the level of more traditional DoD systems.

One Concept of DII Investment

Mission Priority

Mission
Direct

Mission
Support

Admin
Business
Support

3-5 years old   1 to 2 years old   Latest and fastest
Unit Cost and Technology Risk
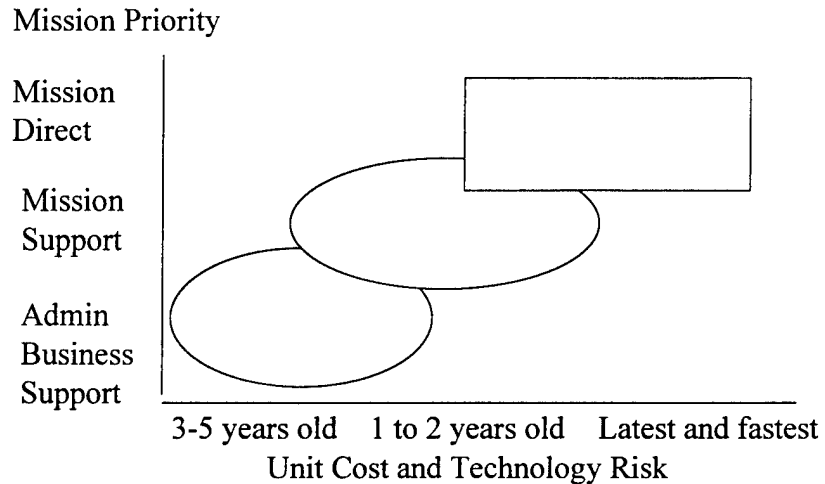
Follow on comments include the following: In the April timeframe, even as the final write-up for the DII working group was being finalized, a draft Phase I report on a DoD Integrated Communications Strategy (ICS) has been released for comment. "The ICS encompasses communications systems supporting the full range of military operations from peacetime training and intelligence collection to major regional conflict."

In the same time period, Ron Wilson of OSD/PA&E gave a presentation to the MORS Education Colloquium describing a concept of applying portfolio analysis to DII investment. The graphic shown on this page illustrates one idea on how priorities for investment might be made. Although the MORS Infrastructure Workshop DII Working Group did not develop a graphic of this type, a discussion of the issues raised by such a conceptual picture is consistent with the issues raised by the group.

WORKING GROUP REPORT

Topic Area: Central Personnel
Chair: Don Cymrot
Co-Chair: Col Tom Allen

Working Group List of Attendees

- This Working Group Included the Following People:
    - David Rodney (Center for Naval Analyses)
    - CDR Walter Bednarski (Navy Center for Cost Analysis)
    - Robert Houser (RGS Associates)
    - Lt Greg Hildebrand (Navy Center for Cost Analysis)
    - Leonard Cheshire (Navy Center for Cost Analysis)
    - LCDR Gary Rossi (Total Quality Team Pacific)
    - Richard Munro (SAIC)
    - Duane Gory (US Army Concepts Analysis Agency)
    - Vincent Canales (The Aerospace Corp)
    - Lowell Patrick (HQ AFMC/FMCE)
    - Al Robbert (RAND)
    - Jeff Keates (NAVAIR)

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What is Central Personnel?

- Resource or Personnel Policy Issue
  - Resources related to management/training of personnel or infrastructure as a whole
  - Personnel policies that affect overall cost of personnel in the infrastructure
- Our Main Focus Is Personnel Policies
  - Alternative work forces
  - Rotational base as a constraint
  - Needs for operational perspective

How is Personnel Overhead Measured?

- IDA Definition is a Starting Point But:
  - Driven by budget not function
  - Services are not comparable
    - Cost, count and operate differently
    - Admin Management:
      - Army — recruiting; Navy — visual info mgmt; AF — nothing
  - Not enough commonality for inter-service comparisons
- Technology May Blur the Distinction Between Forces/Infrastructure Over Time

How Should Military Personnel Overhead Be Sized?

- Tradeoff Between Savings in Personnel and Cost of Smaller Rotational Base
  - Billet reductions or cheaper civilians
  - Retention bonuses, recruiting, training, etc..
- Tradeoff Between Operational Perspective and Support — Area Expertise
  - Both needed but in what balance?
- Tradeoffs Between Cost and Quality

What Initiatives to Adjust This Area Are Underway?

- BRAC, Acquisition Reform, Regionalization, Etc.
- Smart Base, Smart Card and Jump Start
- Smart Ship, Reach Back and Other Manning Concepts
  - Reduces rotational requirements
  - Recruiting and training tail
- Large Push Toward A-76 Studies
  - Military proportion differs across services
  - Problem wiping out military option

Risk of Overestimating A-76 Savings

- Not Recognizing Costs Imposed on Personnel System
- Basing Estimates on Number of Studies Started
  - Only about half of studies are ever completed
    » 24/48 Month rule for completion
    » Poor incentives for completing studies
- Executing Large Ramp up Needed to Meet Goals
- Using Inappropriate Costs
  - Some savings are imputed costs that will not be realized in the short run
  - Using average instead of marginal cost

What New Initiatives Should Be Considered?

- Cross Service Regionalization
- Cross Service Common Function Consolidation
  - Training ranges, pilot training and OT&E
- Outsourcing QOL Services
- Community College for Technical Training
- Alliances With States/Other Government Agencies

More New Initiatives

- Tech Centers, Labs and Other S&T Functions
- Focused Divestiture of BOS (CE, Supply, Fuels, Etc.)
- Audit Past Outsourcing Efforts to Ensure Savings

Low Hanging Fruit May Already Be Harvested

How Much Should Personnel Overhead Cost?

- Difficulties in Measuring Marginal Costs
  - Poor quality data systems
  - Indirect costs most difficult to estimate
  - Even harder to distinguish between fixed and variable
- Central Funding Skews Decision Making
  - Military personnel is "free" to local commands
  - Cross account tradeoffs are difficult effecting choices of capital/labor, military/civilian and in — house/outsource
  - But, local decision makers have a narrow perspective

What Analysis Needs to Be Done?

- Improve the IDA Definition of Infrastructure
- Improve Estimates of Indirect Costs
- Improve Understanding of Impacts on the Personnel System
- Develop a Way to Make Users Recognize the Full Cost
- Link Performance of Personnel in the Infrastructure to Military Outcomes

Some General Observations

- Insights From the Civilian Labor Force
  - Shift from blue collar to white collar work
  - Significant increases in management/ professional
  - Implications for officer/enlisted ratios
- Technology Affects Organizations Too
  - Shifting line between forces and infrastructure
- Political and Sociological Dimension

Summary

- Cannot Measure Infrastructure to Common Standard Either Cross Services or Over Time
  - Look at functions not just resources
  - Do we need cooks in operational units
- Infrastructure Cuts Must Be Done Within the Context of the Overall Personnel System
  - Leads to over estimation of outsourcing saving
  - Could reduce retention/readiness

Summary (Cont.)

- Poor Visibility of the Cost of Personnel (and Everything Else) Makes Optimal Tradeoffs Difficult
  - Accounting system is broken
  - Historical budget data but not expenditure
- Tooth/Tail Ratio Should Not be Used as a Policy Driver
- Civilian Analogies May be Useful

Next Steps

- Functional Managers
  - Update/improve IDA database
  - Incentivize local decision makers
  - Continue to pursue activity-based management
- Analysts
  - Improve estimates of indirect costs
  - Improve estimates of impacts on personnel system
  - Find links between resources in the infrastructure and military outcomes
  - Find appropriate civilian analogies

Backup Slide

Sizing Process for Infrastructure

- Is the "Requirement" Really Required?
- Measure the Cost/quality
- Benchmark Quality: Availability, Cycle Time and Customer Satisfaction
- Specify Target Quality Level
- Explore Alternatives: Cost/Quality Through Civilian Substitution, Outsourcing Divestiture
- Analyze the System–Wide Effects
- Select and Monitor

WORKING GROUP REPORT

Topic Area: Working Capital Fund Process Model

Chair: Jeff Bennett

Co-Chairs: Dr. Greg Parnell, FS & Gregg Burgess

This is the outbriefing report of the Working Capital Fund Process Model Working Group from the DoD Infrastructure MORS Mini-Symposium held at Williamsburg VA, 27-29 December, 1998.

The working group consisted of representatives from OSD, Army, Navy, Air Force, DoD FFRDC's and private industry.

Discussion Overview

- Is There a Need for a Working Capital Fund Policy Model?
- Can Such a Model Be Developed?
- What Are the Model Inputs and Outputs?
- What Are the Policy Variables?
- What Analysis Needs to be Done?

The working group addressed these five questions. The outline for this report follows the order of these questions.

Is There a Need for a Working Capital Fund Policy Model?

- Working Group Validated the Need for a Working Capital Fund Policy Model
  - Repeated occurrences of unprogrammed working capital fund losses
  - Policies causing price fluctuations to customers
  - Migration from procurement accounts to O&M
- Recommend Separate Model for Each Business Area

The working group was in unanimous agreement that a model was needed for working capital fund business areas. The three primary reasons for such a model were the following: To better understand the repeated occurrences of losses that the working capital fund business areas experience. To assess and minimize the annual price fluctuations that customers must face. To assist the SecDef and military departments in their efforts to stop the migration from the procurement accounts to O&M.

Because of the differences in business area operations the working group recommended that a separate model be developed for each business area.

Is There a Need for a Working Capital Fund Policy Model? (Cont.)

- Working Group Recommended Value Proposition:
    - "Provide a quantitative tool for resource managers, programmers, and comptrollers to understand and assess the effects of working capital fund policy and programming changes."

In order to stay on task the working group developed this value proposition. The model should serve as a tool to improve communications between the three communities (resource managers, programmers and comptrollers). The goal of such a model would be to ultimately enable OSD and the services to better focus discussions on policy decisions and funding requirements.
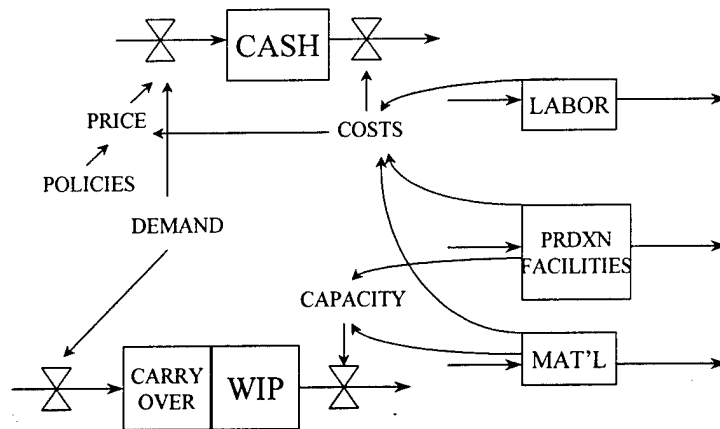
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Can Such a Model Be Developed?

- Generic Demonstrator Model Exists (Developed Using Software *I Think*)
- Incorporates Many Input and Output Variables Recommended by the Working Group
- Allows Policy and Programming Excursions

A demonstrator model was actually developed over the three weeks before the Mini-Symposium by the Working Group's co-chair, Gregg Burgess using the software package *I Think*. The model was shown to the working group after the group developed it's own set of inputs, outputs and policy variables.

The demonstrator model had many of the input and output variables the the working group recommended before the model was demonstrated.

The model demonstration included a policy excursion.

Generic Demonstrator Model: Top Level Relationships

What Are the Model Inputs?

- **Demonstrator Model**
  - Demand (orders)
  - Cost of goods
  - Pay rates
  - Work force
  - Other operating costs
  - Capacity
  - Multiple years
  - Cash levels
  - Backlog

- **Development Required**
  - Accounting changes
  - Required level of end of year funds
  - Obligation restrictions
  - Economic projections
  - Performance measures

This chart provides the list of model inputs developed by the Working Group. The column on the left displays those inputs that were incorporated into the demonstrator model. The column on the right shows the Working Groups recommended model inputs that were not part of the demonstrator model.

The demand or orders input parameter generated the most discussion. Several factors that influence demand were recommended such as: ops tempo, force structure, requirements, appropriated funding, a mix of supply and maintenance, congressional restraints and intra-DWCF transactions.

The group recommended these factors that influence demand not be incorporated into the model, rather the model would start with a "scrubbed" demand.

The one exception to the position of beginning with "scrubbed" demand was the working group's desire to model congressional restraints related to the public/private mix for depot maintenance.

What Are the Model Outputs?

- Demonstrator Model
  - Price
  - Price changes
  - Surcharge
  - Gain or loss
  - Funded backlog
  - Capacity utilization
  - Supply demands
  - Trends
  - Cash levels

- Development Required
  - Performance
  - Business Projections
  - Quality of service
  - Unfunded backlog

This chart provides the list of model outputs developed by the Working Group. The column on the left displays those outputs that were incorporated into the demonstrator model. The column on the right shows the Working Groups recommend model outputs that were not part of the demonstrator model.

The demonstrator model allows for the time series display of output variables, an mandatory attribute from the Working Group's perspective.

What Are the Policy Variables?

- Policy Variables in Demonstrator Model:
  - Time period of stabilized price
  - Recoup prior year loss and over different time periods
  - Direct funding of costs (excess capacity)
  - Change corpus/cash balances
  - Material inventory size

This chart and the next provide the working groups recommended policy variables. The policy variables on this chart was incorporated into the demonstrator model.

These policy variables are all directly linked to the computation of price by the business area. For example the third bullet, Direct Funding of Costs, would fund with direct appropriations either all or part of a cost that is currently collected in a good or service's price. The example of funding excess capacity with direct appropriation is a policy area that has received much discussion.

What Are the Policy Variables? (Cont.)

- Short Term Development:
  - Unit cost changes (restrictions)
  - Capacity/efficiency of manpower restrictions
  - Fund backlog restrictions (3 months)
  - Long term development
  - Quality of service
  - Optimal policy (cost, efficiency, product)
  - Depot maintenance public/private restrictions

The policy variables on this chart were not incorporated into the demonstration model. The short term versus long term development time were estimates made by the developer of the demonstrator model after discussion about the policy variables with the Working Group.

Short term means one to two days of development work (and could mean one or two hours) and long term means one to two weeks.

The optimal policy variable would be more of a methodology of using the model to achieve either minimum cost, minimum price fluctuations or some other optimal outcome.

What Analysis Needs to be Done?

- Develop Additional Input and Output Parameters Not in the Demonstrator Model
- Develop Additional Policy Variables Not in the Demonstrator Model
- For Deployment to a Specific Business Area:
  - Development of parameter values
  - Model calibration

The input and output parameters not incorporated into the demonstrator model should be reviewed and prioritized. It is expected that the order of development be influenced by the business area chosen for model prototype.

The same goes for the policy variables not in the demonstrator model.

The Working Group recommended that the model be prototyped in at one of the twenty-nine working capital fund business areas.

Time must be allowed for further model development of inputs, outputs and policy variables. In addition, time must be allotted for the setting of parameter values and model calibration.

Summary

- Working Capital Fund Model Is Required to Support Policy and Programming
- Working Group Generated a Set of Potential Inputs, Outputs, and Policy Variables
- Model Development Is Feasible, a Generic Demonstrator Model Exists

The Working Group strongly supported the idea of developing a working capital fund model to support policy and programming decisions.

The Working Group also developed an initial set of inputs, outputs and policy variables.

A demonstrator model was developed to show that such an effort is feasible.

Next Steps

- Find a "Champion" for Further Development:
  - Start with Navy (Code N81)
  - Next present to the Service Programmers (Mil 4)
  - Next present to OSD PA&E
- Prototype Model to a Specific Business Area
- Overtime Build a Capability to Model Intra-DWCF Transactions

As with any new initiative this model needs a champion for funding support and a prototype business area.

The Working Group recommended that the Mini-Symposium's sponsor in the Navy (N81), be the starting place to find the champion. That briefing should be followed with briefings to the service programmers and OSD (PA&E).

Once models are developed to support multiple business areas the integration of the models would provide the ability to iterate the model to assess intra-DWCF transactions (over one-third of the DWCF's total business).

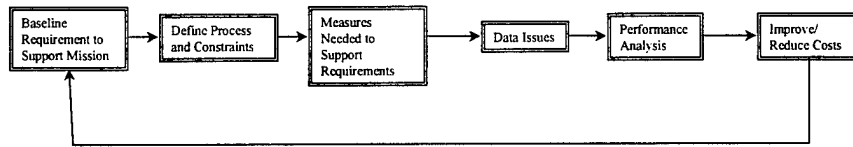# WORKING GROUP REPORT

Topic Area: Real Property Maintenance

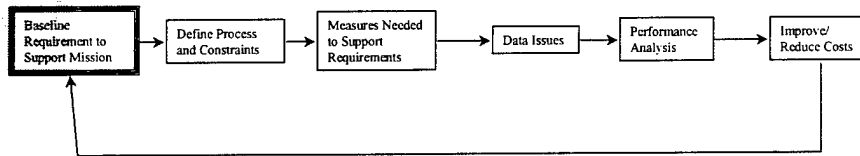Chairs: Nancy Moore

Dennis Baer

Background

- Expanded Scope to All Installation Support
- Developed Prototype Process for Analyzing Each Activity
- Need Different Analysis at Different Levels
  - Links of data and analysis needed between all levels
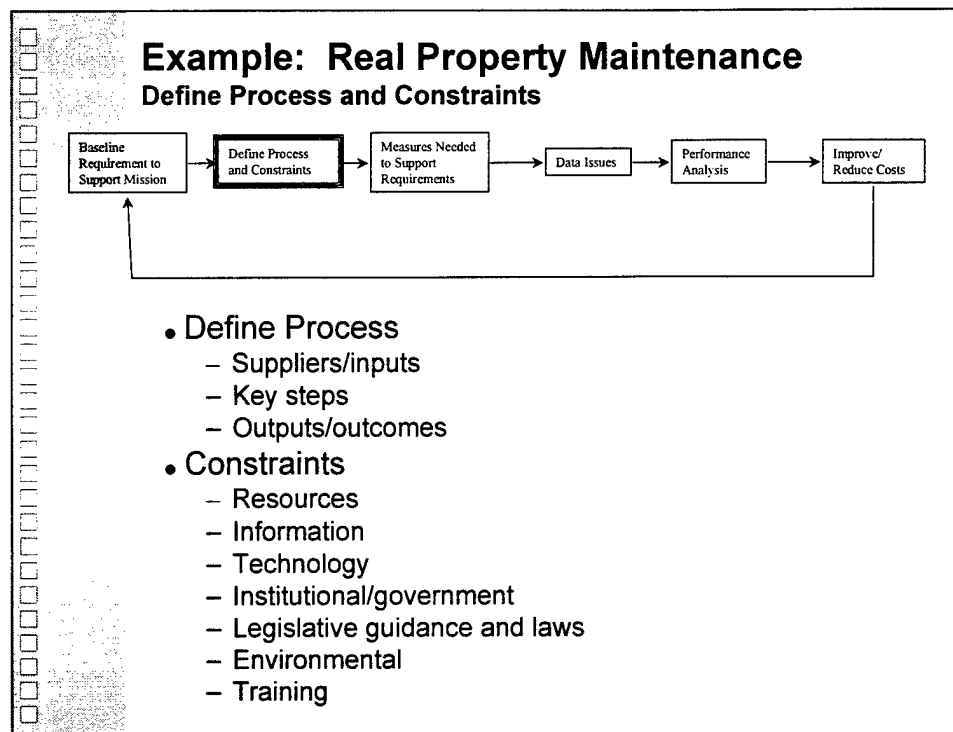
The Analysis Process

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┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│ Baseline     │→  │ Define Process│→  │ Measures     │→  │ Data Issues  │→  │ Performance  │→  │ Improve/     │
│ Requirement to│   │ and Constraints│   │ Needed to    │   │              │   │ Analysis     │   │ Reduce Costs │
│ Support Mission│   │              │   │ Support      │   │              │   │              │   │              │
│              │   │              │   │ Requirements │   │              │   │              │   │              │
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Example: Real Property Maintenance
Baseline Requirement to Support Mission

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│ Baseline     │   │ Define Process│  │ Measures Needed│ │ Data Issues  │   │ Performance  │   │ Improve/     │
│ Requirement to│→ │ and Constraints│→│ to Support    │→ │              │→  │ Analysis     │→  │ Reduce Costs │
│ Support Mission│  │              │   │ Requirements  │   │              │   │              │   │              │
└──────────────┘   └──────────────┘   └──────────────┘   └──────────────┘   └──────────────┘   └──────────────┘
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- Requirement — Maintain Property Required to Support the Mission and Quality of Life in Adequate Condition
  - Capacity
  - People
  - Equipment
  - Needs
  - Capability

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Example: Real Property Maintenance
Define Process and Constraints

- Define Process
  - Suppliers/inputs
  - Key steps
  - Outputs/outcomes
- Constraints
  - Resources
  - Information
  - Technology
  - Institutional/government
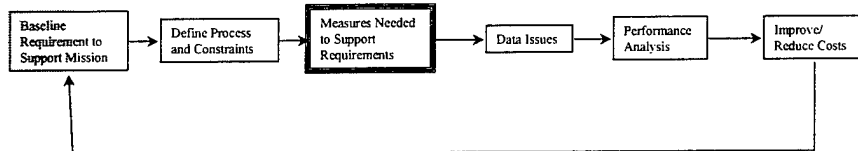 - Legislative guidance and laws
  - Environmental
  - Training

Once the requirements supporting the mission are clearly understood the Real Property Maintenance Manager (RPMM) needs to define key processes that support the mission. This process includes selecting the suppliers and inputs (e.g. material, people, equipment and facilities — supplied internally or externally). Key steps in each process need to be identified, that lead to all possible outputs and outcomes.

The RPMM also needs to identify all constraints that will affect cost and performance. Constraints includes resources, information, technology, any institutional/government processes, legislative guidance and laws (e.g the 50/50 rule for organic vs. commercial depot maintenance), political sensitivity, safety, security, environmental and training.

Some constraints can be influenced or changed through focused effort by the RPMM.
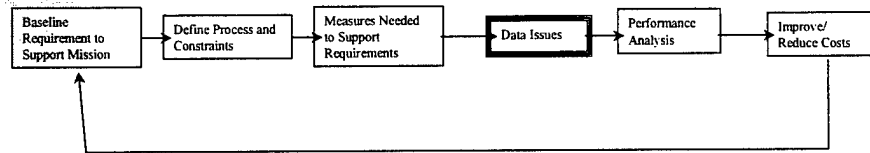
Example: Real Property Maintenance
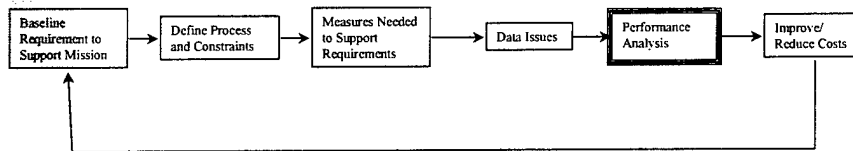### Measures Needed to Support Requirements

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│ Requirement to│→ │ and Constraints│→│ to Support    │→ │              │→  │ Analysis     │→  │ Reduce Costs │
│ Support Mission│  │              │   │ Requirements  │   │              │   │              │   │              │
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- Cost Per Area
- Cost Per Person
- Cost Per Service
- Planned Versus Actual Preventive Maintenance
- Service Response Time
- Number Of Unscheduled Maintenance(s)
- Cost Per Unit of Plant Replacement Value
- Overhead Percent (Measure of Direct vs. Indirect)
- Condition of Property
- Customer Satisfaction (Mission Quality of Life)

Example: Real Property Maintenance
Data Issues

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┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌────────────┐   ┌────────────┐   ┌────────────┐
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│ Requirement to│→ │ and          │→ │ to Support    │→ │            │→  │ Analysis    │→ │ Reduce Costs│
│ Support Mission│  │ Constraints  │   │ Requirements  │   │            │   │             │  │             │
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- Better Satisfaction of Data (Surveys May be Inaccurate)
- Actual Condition
- Backlog
- Understand Differences in Structures/Definitions by Service for Comparison
- Cost Definitions (Burdened vs. Unburdened, Military Personnel Included)
- Normalize Data to Capture Different Definitions and Business Practices Among Services

Example: Real Property Maintenance
Performance Analysis

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┌──────────────┐   ┌──────────────┐   ┌──────────────┐                  ┌──────────────┐   ┌──────────────┐
│ Baseline     │   │ Define Process│  │ Measures Needed│  ┌──────────┐  │ Performance  │   │ Improve/     │
│ Requirement to│→ │ and Constraints│→ │ to Support    │→ │ Data Issues│→│ Analysis     │→  │ Reduce Costs │
│ Support Mission│  │              │   │ Requirements  │  └──────────┘  │              │   │              │
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- Benchmark Within Organization, With Other Services and With Public and Private Sector
- Use Caution About Definition and Business Rules

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Example: Real Property Maintenance
Improve/Reduce Costs

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┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│ Baseline     │   │ Define Process│   │ Measures Needed│  │              │   │ Performance  │   │ Improve/     │
│ Requirement to│──▶│ and Constraints│─▶│ to Support    │──▶│ Data Issues │──▶│ Issues       │──▶│ Reduce Costs │
│ Support Mission│  │              │   │ Requirements  │   │              │   │              │   │              │
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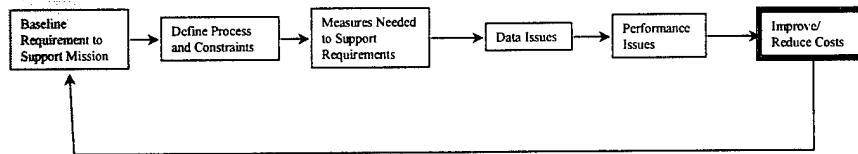
- Identify Best Practices/Providers (e.g. Bundling Across Regions or Activities)
- Consolidate, Reduce Excesses, Reengineer
- Recommend Changing Constraints
- Incentives to Managers (Commanders)/Personnel to Reward Improvement (Not Necessarily Monetary)

Prospective New Initiatives

- Regionalization Across Service Boundaries
- More Tangible Recognition (Quarterly Updates) of Savings (e.g. Visible Measurement and Acknowledgment of Base Contributions to Modernization)
- Good Communications Between Provider and Customer
- Treating Internal Providers More Like External Providers
- Need to Collect Data on Actual Performance of Internal and External Providers
- Adopt More Effective Costing
- More Strategic Planning and Analysis of Outsourcing and Privatization (i.e. Bundling to Match Markets and Capture Economies of Scale and Scope, Better Source Selection)

Impediments to Estimating Savings and Improving Performance

- Strategic Process of Doing A-76 Studies
- Better Access to Innovative Performance Work Statements (PWSs) and Contractor Cost Data Throughout DoD
- Need DoD-Wide Lessons Learned From Specific PWSs As Well As Access to Innovative Private Sector PWSs
- Lack of Flexibility
- Conflict Between External and Internal Contracting
- Can't Link Data and Factors From Top-Down and Bottom-Up Analytic Processes
- Installation Support Reduction Is Often Discontinuous (i.e. Can't Cut Out .5 Building — Have to Consolidate
    - Step function or integer solution

Summary

- Most Interesting Issues
  - No reliable estimates of savings from outsourcing, privatization, regionalization, consolidation and disposal
  - Do not have data or tools to do predictive analysis at high management levels
  - Can't directly correlate installation support to mission and change in force structure
- Findings/Conclusions
  - The only way to get insight into the impact of cuts is to perform cross–site analyses by area and over time
  - Need to start now to get data, better tools, skills and perform analysis to get better estimates of requirements and expected savings
  - Private sector data on savings is not sufficient to draw conclusions on savings and may not apply to DoD

Next Steps

- Need to Select Some Prototype Sites and Activities to Collect Data and Develop Analytic Tools to Test the Applicability of Tools to Improve the Quality of Savings Estimates to Other Sites and Activities
- Organize Data in a Way That Facilitates Comparison and Analysis
- Need to Collect Data on Current Initiatives (e.g. Housing, Utilities) to Evaluate the Effectiveness of Programs

How Should Installation Support be Measured?

- Each Area Will Require Different Techniques for Measurement
- We Can Easily Measure Total Costs and Value but Not Detailed Activity Costs
- Appropriate Measure Is a Function of Management Level
- Need Output and Quality Measures As Well As Cost

How Should Installation Support be Sized?

- Use Benchmarks As Well As Requirements/Missions and Constraints for Each Particular Area
    - Within organization
    - Between services and within DoD organizations
    - With other relevant public and private sector organizations

What Actions are Underway to Adjust Installation Support?

- Activity Based Costing (ABC)
- A-76 Competitions (Waivers), Privatization, Reorganizations, Consolidation and Disposal
- Army Developing Benchmarks
- Defining Service Areas
- Comparing With Commercial Benchmarks

What New Initiatives Should be Considered?

- Regionalization Across Service Boundaries
- More Tangible Recognition (Periodic Updates) of Savings (E.G. Visible Measurement and Acknowledgment of Base Contributions to Modernization)
- Good Communications Between Provider and Customer
- Treating Internal Providers More Like External Providers
- Need to Collect Normalized Data on Actual Performance of Internal and External Providers
- Adopt More Effective Costing (e.g. ABC)
- More Strategic Planning and Analysis of Outsourcing and Privatization (i.e. Bundling to Match Markets, Capture Economies of Scale and Scope and Better Source Selection)

How Much Should Installation Support Cost?

- Can't Answer Before Doing Detailed Requirements Validation and Benchmarking Studies

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What Needs to be Done?

- Define Service Requirements, Activities and Levels
- Develop Measures of Cost, Quality and Output by Service Activity
- Compare Each Facility's Activities With Respect to Measures Above Within DoD and With Other Public and Private Sector Organizations
- Examine What Drives Differences in Cost and Performance
- Develop Dynamic Target Benchmarks for Managing Each Activity
- Encourage Improvements Through Effective Competition

WORKING GROUP REPORT

Topic Area: Department–Wide
Administration
Chair: Mark Mohler
Co-Chair: Col Greg Parlier

Defining Defense–Wide Administration (DWA)

- The Activities That Provide Funding, Equipment and Personnel to Non-Operational Departmental Headquarters and Activities (IDA Infrastructure Category 2A2FD)

Defense–wide activities cover not only the internal OSD and service HQ functions but also the support that underwrites the operation of other HQ. For example, the Army personnel that are assigned to OSD or to DNA would fall under this category. While they are assigned outside their service they are still funded from service resources.

To a great degree this reflects activities that center on Pentagon operations and the suspicion is that much of the personnel will be service and OSD Staffs, although only a small number of the PEs that are actually mapped into DWA.

DWA Activities

- Service, OSD and Selected Defense Agency Headquarters
- Support to Other Defense Organizations, Federal Agencies and Service Acquisition Executives
- Management of International Programs
- Support to NATO Infrastructure
- Public Affairs
- Security Investigative, Criminal and Judicial Activities

DWA Activity Issues

- Program Element (PE) Assignments Predominantly From MFPs 09 (Admin) and 06 (R&D)
- Analysis Is Difficult Because of Limitation and Vagaries of PE Assignments and Non-Inclusive Assignments (e.g. DISA, NSA, DECA, Etc. Excluded)

DWA Funding

FY99 POM Data (Normalized *FY98 Millions*)

179
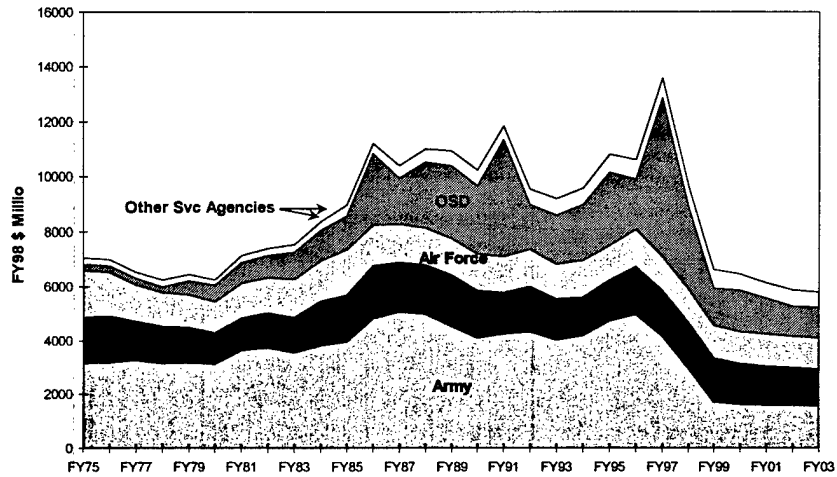
DWA Manning
FY99 POM Data

180
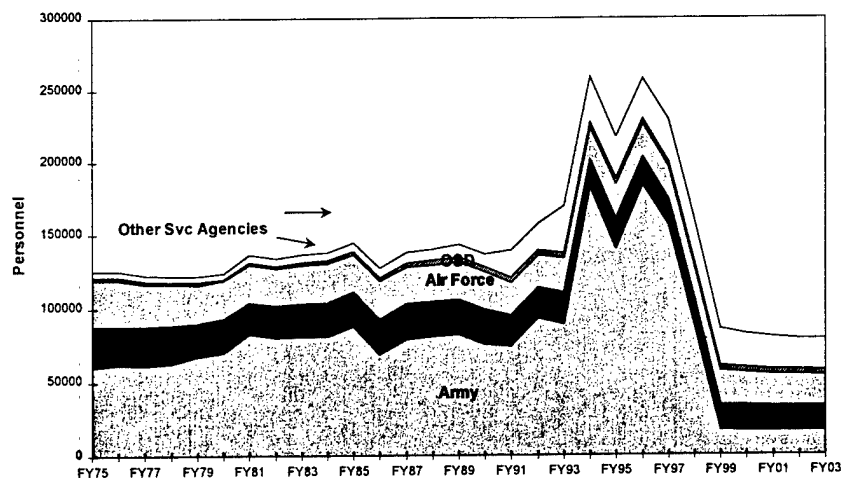
Sizing DWA
What Is Driving DWA Today

- DWA is Sized by Congress and OSD/Service Mandates and Management Prerogatives to Meet Those Mandates
    - Currently there appears to be redundancy in management oversight in each layer
    - DWA is sized In part by complexity of forces and missions, more than size of force

Currently DWA is sized by Congress and OSD/service mandates that must be addressed by departmental HQ. Layers of oversight and fiscal management have evolved over the years and contributed to its growth. Is there still a need for all of this?

Size of force is not the primary driver of DWA size; it is also sized by the complexity of forces and missions. Thus parametric estimates of DWA size is not appropriate. Therefore CERs will not work.

Sizing DWA

How DWA Should Be Sized in the Future

- Desegregate DWA
- Break DWA Into Functional Elements
  - Departmental HQ management
  - Support to departmental HQ
- Go Beyond Historical Trends, Which May Offer an Incomplete Picture for Future Sizing
- (It Is Not Business As Usual)

In the future, DWA must be desegregated into categories to be more appropriately sized. Current IC definitions blend departmental HQ and support functions into DWA, which is often mistaken as only HQ.

Across the board sizing of DWA is not appropriate. For example, reimbursables such as FMS, are not funded by DoD's budget and therefore should be considered separately.

Historical trends tell us where we are today but do not necessarily provide guidance for future sizing. The revolution in business affairs is not business as usual.

Sizing DWA
How DWA Should Be Sized in the Future
<u>Core</u>

- Highlight Core Functions (e.g., Policy, Resources and Communications)
- Identify and Assess Redundancy — Benchmark Performance Measures Across Services and Other Federal Agencies
- Recognize Individual Component's Approach to Doing Business (e.g., 'Fencing', Flexibility and Complexity)

DWA needs to refocus on the core functions of policy, resources and communications up and down the chain. Recent Defense Reform Initiatives Directives (DRIDs) are a good first step but there is a need to reduce redundancy in the multiple layers of oversight and financial management. Attention needs to shift to performance based measures. While there may be shortcomings in IC definitions, benchmark should be developed to identify cost drivers and differences across the services. Examination of other federal agencies should also be considered. The hidden costs (e.g., total headcount including contractors) in DWA should be understood.

Nonetheless, each service should retain flexibility in their approach to doing business.

Sizing DWA

How DWA Should Be Sized in the Future

<u>*Other*</u>

- Address Reimbursables Separately (e.g., FMS, DFAS?)
- Review Mandates for Administrative Support to Defense Forces (e.g., Security and Audit Programs)
- Identify Performance Measures to Understand the Value of the Defense-Wide Products and Services to Enhance Efficiencies

Likewise mandates for support services (e.g., DFAS) need to be reviewed. There should be a shift to performance measures in order to understand the value of the defense–wide products and services.

Each support activity needs to be examined separately and performance measures determined.

Initiatives Underway

- DRIDs
  - Performance contracts with defense agencies
  - Outsourcing and privatization
  - Infrastructure divestitures and restructuring
  - HQ downsizing (10-25%?) — OSD, defense agencies (JCS, C4I, DISA, DECA) in transition
  - Defense Acquisition University to National Defense University

To implement the SecDef's Defense Reform Initiative (DRI), a number of DRIDs are being developed and signed. While DRIDs will cover numerous topics that are department–wide HQ administration, some of these are identified in this chart.

Initiatives Underway (Cont.)

- Government Performance and Results Act (GPRA)
  - Strategic plans and performance plans
  - Future linkage of performance to budget
- Section 912 Response — Defense Science Board Task Force
  - Acquisition workforce reductions
  - Acquisition reform

The GPRA requires all executive branch departments and agencies to develop strategic plans and annual performance plans that will be linked to their budgets. While still in the infant stages of learning how to respond to this statute, the message is clear that a performance–based planning, programming and budgeting process will have to be developed. This is bound to affect HQ functions and responsibilities.

Section 912 of the National Defense Authorization Act of FY98 requires the SecDef to submit a plan of how he will reduce the acquisition workforce and his initiatives for acquiring weapon systems more quickly, more cheaply and with higher quality. A task force under the Defense Science Board has been set up to develop this plan that is due to Congress by 1 April 1998. The outcome of this plan will affect how the defense–wide administration is sized and what functions are to be performed.

Possible New Initiatives

- Regionalize Support Service HQ Functions
    - Single agent management per geographic region for common functions — economies of scale
    - Eliminate duplicative support functions

One initiative that could be pursued over and above current initiatives is to review opportunities for putting common HQ support services (for a single geographic region) under single management, a partnership, to gain economies of scale.

Possible New Initiatives (Cont.)

- Adjust HQ Size
  - Reconcile Title 10 with RMA
  - Increase outsourcing and reliance on contract services
  - Increase use of IT
  - Automating procurement for small efforts

Another initiative would be to perform business process reengineering on HQ enterprises and functions to determine functions that can be transferred to lower level HQs, field activities, contracted or outsourced. Increased use of IT, such as personalized teleconferencing, could reduce the HQ operating costs. Also, the burdensome task of contracting the numerous small efforts could be automated to further reduce operating costs,

Accelerate acquisition reform initiative implementation at OSD.

Possible New Initiatives (Cont.)

- Determine True Costs of HQ
  - Actual staffing (permanent + training + service loans + contract supplements)
  - ABC
  - FYDP reform
  - Metrics for distinguishing reduction savings from budget reallocations
- Savings to Remain With Organizations Improving Efficiencies

One of the basic and most important initiatives that could and should be done is to determine the actual and fully-loaded cost of doing HQ business. Many HQ organizations are staffed with not only permanent billets but have numerous" shadow" billets to don their mission. These "shadow" billets consist of personnel detailed from lower HQ and field activities, on training assignments or loans from contracted services.

The ABC approach is a promising method to get a handle on the true costs of the mission and would be a stepping stone for complying with GPRA.

Knowing these costs provide a benchmark from which actual savings can be determined and will also permit savings to be returned to the initiating organizations. This is key to incentivizing organizations to identify how to achieve efficiencies.

Findings

- Definitions
    - HQ mission/function/requirements are not defined consistently for all defense component activities
    - Any analysis must recognize the inherent complexity differences among the components

Definition:

DWA includes HQ and service support to FMS, DFAS, DNA, SIA, DIS, FEMA, DIA, DCAA, DLA and DODIG.

Because of this complexity, there is no simple way to define or analyze DWA.

Not all defense agency administration is included in DWA.

Benchmarking:

There are multiple DoD/service databases with inconsistent definitions that do not cross–track. Most of this data is financial/budget information.

Financial data does not provide information about performance.

Billeting data does not provide information about contractor support, "loaned" personnel, reimbursables, etc.

Although DoD can apply some of the "best" business practices, there are legal and mission based constraints that limit the full application of these principles.

Findings (Cont.)

- Benchmarking
  - Multiple data sources and definitions
  - Financial data inadequate to indicate performance
  - Full work force not billet counts
  - DoD: not a profit–based business — some activities unsuited for business practices

Recommendations

- Disaggregation of DWA
  - Apply analysis to component parts/agencies
  - Identify/define consistent mission/functions/requirements

Disaggregation:

Because of the broad ranging components/agencies in DWA, analysis of DWA in the aggregate is not useful.

For each activity, mission/function/requirements need to be defined.

Focus on business process reengineering vs. money:

Once the mission/function/requirements have been defined, an analysis of duplication, including those efforts that are accomplished at multiple levels need to be evaluated.

Performance metrics, tied to functional requirements and GPRA goals need to be defined.

All data requirements need to be fully defined and central, relational databases established (enhance communication/reduce staffing requirements).

Recommendations (Cont.)

- Focus on Business Process Reengineering vs.
  Budget Money:
  - Rationalize or eliminate redundancies
  - Establish performance metrics
  - Define data requirements
  - Minimize and coordinate data collection
  - Embrace ABC and Total Ownership Cost (TOC)

TERMS OF REFERENCE
MORS/SCEA MINI-SYMPOSIUM
DoD INFRASTRUCTURE: WHY IT IS & WHAT DOES IT COST?
27-29 JANUARY 1998 in Williamsburg, Virginia

1.   Goal:

Identify unresolved issues, data, and processes that are needed to establish the requirements, and associated costs, for some test areas within the DoD infrastructure.

2.   Background:

During the Bottom Up Review, the Office of the Secretary of Defense established a definition of DoD's Infrastructure based on the Program Elements (PEs) in the Future Years Defense Program. This mapping of the PEs has been updated regularly as a working document. The purpose of the map was to help OSD estimate the size of the infrastructure, and to monitor its draw down. The overall draw down concept was to reduce force structure and personnel end strength as quickly as possible to the targeted levels, stretch the life of existing systems, and to draw down the infrastructure in time to allow for modernization while accommodating a reduction in Total Obligation Authority (TOA). A significant part of the infrastructure came down with the force structure. Another portion is still being reduced as a result of the Base Realignment and Closure (BRAC) process. However, infrastructure has not come down to a level that allows for modernization at the rate needed to replace our aging warfighting systems. During the Quadrennial Defense Review (QDR), the goal for infrastructure reduction ranged between $10B and $30B per year to pay for modernization. The final QDR report does not estimate the infrastructure savings that will accumulate from the QDR decisions. However, it does call for two additional BRAC rounds, a further reduction of 109,000 civilian and military personnel, and a reengineering of the remaining infrastructure—to include outsourcing—that will make the remaining portion more efficient.

This mini-symposium will look at DoD's Infrastructure, covering the outputs of the infrastructure, how the infrastructure supports the force structure, and how much it costs. The focus will be how to move forward in reducing the infrastructure. The history of previous draw down efforts will be used to illuminate the way forward.

3.   Objectives:

Draw on research and analyses that have been conducted to date concerning DoD Infrastructure. This should include a presentation by OSD/PA&E on how they define the infrastructure and estimate its cost to produce required outputs. Briefings by the Military Departments (MilDeps) should focus on their own infrastructure reduction activities. USD/A&T will be invited to speak for the Defense Agencies (DAs). A background briefing on how Defense Working Capital Funds (DWCFs) are managed needs to be included so that participants understand the pricing mechanisms and metrics associated with industrially funded activities.

The mini-symposium needs to help lay a foundation for analyses that support drawdown decision making. It is highly desirable that senior leadership understand the consequences of the draw down options so that they can make the best choice among what are frequently unattractive alternatives. The community will be challenged to identify the data and processes that are needed to establish the requirements for infrastructure. As mentioned in the QDR report, many areas of the infrastructure are sized by Congressional regulation. It is important that DoD know how to size these areas if the regulations are changed.

One of the problems associated with generating savings from the infrastructure has been the problem of marginal costs being significantly lower than average costs. Consequently, program estimates have tended to be optimistic about savings, since average costs are easier to calculate than marginal costs. In fact, the data to estimate marginal cost is frequently not available. One of the purposes of this mini-symposium is to identify the areas where cost data are needed or methodologies need to be changed.

4. Structure of Participation:

The mini-symposium will start with a series of six presentations on the first day to ground the participants in a common definition of the infrastructure and to provide a context for Working Group sessions on the second day. The invited speakers will form a panel of discussants to ask each other questions or answer questions from the floor. Participants will be asked to support a single Working Group that is focused on an issue associated with one of the infrastructure categories used in the QDR report or to participate in a DWCF programming Group. The infrastructure Groups (focusing within one of the areas: Installation Support, Force Management, Central C4I, and Central Personnel) will be responsible for working on ways to determine how to size the infrastructure in the morning and the associated costing in the afternoon. The DWCF Group will focus on the data required to link FYDP programming to DWCF business plans in the morning and will build a process flow model of how DWCF prices respond to changes in demand and commodity prices. The meeting will conclude the morning of the third day with each Group finishing left over issues and developing a five slide summary of their findings. The Working Group chairs will meet in the afternoon to write the final report.

5. Agenda:

Program Staff will meet the evening of January 26th to discuss required products and to discuss techniques for Group facilitation. The mini-symposium will consist of a three-day, unclassified, meeting, 27-29 January 1998. The first day will be devoted to invited speakers. Working Groups will meet on the second day to address specific aspects of the infrastructure. On the third day, Groups will finish their work and build a summary presentation of their area that will be given to the sponsors and the programming community. The Working Group chairs will write the final report on the afternoon of the third day.

Monday, January 26th
1630 -1900   Early Registration, Conference Center Lobby, Williamsburg

| | Marriott |
| 1830 - 2000 | Organizing Committee/Working Group Chairs/Advisors Meeting |

Tuesday, January 27th
Opening

0700 - 0830	Registration, Conference Center Lobby, Williamsburg Marriott
0800 - 0810	Program co-chairs welcome, Dan Nussbaum and Dan Barker
0810 - 0850	Welcome by MORS president and SCEA president, Jerry Kotchka and Neil Albert
0850 - 0900	Administrative remarks, Dick Wiles
0900 - 0945	OSD/PA&E — Changes in the Infrastructure since 1989, Dave McNicol
0945 - 1030	USD(A&T) — Defense Agencies: Sizing what the customer needs?, Nancy Spruill
1030 - 1045	Break
1045 - 1130	LMI — Re-engineering DoD's Infrastructure, John Christie

Working lunch

1145 - 1215	Lunch Served
1215 - 1300	DWCF Tutorial — Jeff Bennett
1300 - 1315	Break
1315 - 1400	Army — Infrastructure Initiatives, Craig College
1400 - 1445	Navy & Marine Corps — Infrastructure Initiatives, Mark Mohler
1445 - 1500	Break
1500 - 1545	Air Force — Infrastructure Initiatives, Jake Henry

1630 - 1700	Working Group Topic Summary
1700 - 1715	Charge to the Groups
1715 – 1900	Mixer

Wednesday, 28 January

What is infrastructure & How much
is enough?
0800 - 1145   Separate sessions for Working Groups

Lunch

1200 - 1300   Working Group chairs session with co-chairs, open time for
participants

What should it cost?
1315 - 1700   Separate sessions for Working Groups

Thursday, 29 January

Develop Working Group Summary
0830 - 1000   Develop summary for Group

1000 - 1130   Discussion on what analysis needs to be done to support
draw down decisions

1130 - 1145   MORS/SCEA close done in Groups by the advisors

Lunch
1200 - 1300   Working Group chairs session with co-chairs, discussion of
final report

Final Report Session
1300 - 1600   Working Group chairs and co-chairs write final reports with
their advisors; turn in at departure

6.   Products:

A final report with scripted briefings of the invited presentations on the first day with comments
by the discussants, the Working Group reports, and the critique of the results by the advisors at
the end. A presentation of the results will be built, and offered to the MORS sponsors, the Mil-5
programming community, and at the annual MORS and SCEA symposia in 1998.

7. Organizing Committee:

Co-Chairs: Dan Barker and Dr. Daniel Nussbaum
Site Coordination: LT Gregory Hildebrand, USN
Final Report Coordination: Capt Mara McNeill
Administration: MORS Office

Working Group Chairs:

Topic	Area	Chair	Co-Chair
Real Property Maintenance	Installation Support	Nancy Moore	Dennis Baer
Department-Wide Administration	Force Management	Mark Mohler	Col. Greg Parlier
Defense Information Infrastructure	Central C4I	Col. Bob Carr	Jackie Henningsen
Infrastructure overhead associated with developing military operators	Central Personnel	Don Cymrot	Col. Tom Allen
Process Model for Working Capital Fund Programming	WCF Group	Jeff Bennett	Greg Parnell Gregg Burgess

8. Fee Structure:

The Mini-Symposium/Workshop will be held 27, 28, 29 January 1998 at the Williamsburg Marriott, 50 Kingsmill Road, Williamsburg, VA 23185, 757-220-2500. The fee is $195 for Federal Government employees and $370 for all others and includes $20.00 for the luncheon Tutorial on Defense Working Capital Funds on Tuesday.

9. Read Aheads:

OSD/PA&E has provided the following material for participants as read aheads:

1.) The April 1997 proceedings from DoD Infrastructure Resources: A Symposium on Infrastructure Programming from the Logistics Management Institute.

2.) The OSD/PA&E definition of DoD Infrastructure from the Institute for Defense Analyses Paper P-3113.

Internet Links:
Quadrennial Defense Review report   http://www.defenselink.mil/topstory/quad.html
National Defense Panel report   http://www.dtic.mil/ndp/
Defense Reform Initiative   http://www.defenselink.mil/dodreform/index.html

10.   Six Slide Summary Format:

Slide One: How is the Area Measured?

How does the area support forces? What are the timelines between changes to the infrastructure area and changes to the forces? What are the metrics useful to decision makers that define the quality and size of the area? Are there any metrics for this area that tie infrastructure performance to force performance? What are the inputs to the area?

Slide Two: How Should the Area be Sized?

Has the area been reduced in proportion to the force structure? What data systems capture the sizing and quality metrics for the area? Who owns them? How is the capacity of the area compared to a baseline? Who does it? How is the efficiency of the area determined? If there are requirements established for the area, where are they documented? Are there resource differences between the OSD program element mapping of the area and an organization-based viewpoint? How does this affect sizing the area?

Slide Three: What Initiatives to Adjust the Area are Underway?

How is outsourcing and privatization being implemented? What divestitures are being planned? In what areas will DoD try to do less with less? What efficiencies are being planned? In what areas will DoD try to do more with less?

Slide Four: What New Initiatives Should be Considered?

Identify those changes that would have the greatest impact on improving the area. Identify constraints blocking those changes. Identify actions, and those responsible for taking those actions, which would remove those barriers and constraints.

Slide Five: How Much Should the Area Cost?

What cost estimating relationships exist for the area? What resources are used to generate output? How are the resources divided between current operations and recapitalization?

Slide Six: What Analysis Needs to be Done?

Where is analysis needed to determine marginal versus average cost? Where is analysis needed to determine how the force is supported by the infrastructure? Where is analysis needed to establish how much infrastructure support is enough?

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ACRONYM LIST

AADC	Area Air Defense Commander
ABC	Activity Based Costing
AFB	Air Force Base
AGF/LCC	Army Ground Forces/Land Component Command
AIS	Automated Information System
AMPHIB	Amphibious
APN	Aircraft Procurement Navy
ASD (C3I)	Assistant Secretary of Defense (C3I)
AV	Aviation
BLS	Beaureu of Labor Statistics
BMAR	Backlog of Maintenance and Repair
BMDO	Ballistic Missile Defense Office
BOS	Base Operating and Support
BQ	Base Quarters
BRAC	Base Realignment and Closure
C3	Command, Control, Communications
C3I	Command, Control and Communications Information
C4IFTW	Command, Control, Communications and Computers Intelligence for the Warrior
CAIV	Cost as an Independent Variable
CDI	Civilian Drawdown Initiative
CE	Communications - Electronics
CER	Cost Estimating Relationships
CG	Commanding General
CINC	Commander-in-Chief
CINC/IPL	Commander-in-Chief/
CIVPERS	Civilian Personnel
CLF	Commander, Landing Forces or Commander, Logistics Force
COE	Corps of Engineers
CONUS	Continental United States
CORM	Commission on Roles and Missions
COTS	Commercial Off The Shelf
CP	Central Personnel
CSAF	Chief of Staff, Air Force
DARPA	Defense Advanced Research Projects Agency
DBOF	Defense Business Operating Fund or Defense Based Operating Funds
DCAA	Defense Contract Auditing Agency
DCMC	Defense Contract Management Command or Deputy Chairman Military Committee
DD	Navy Destroyer
DDG	USN Guided Missile Destroyer

DeCA	Defense Commissary Agency
DEFCON	Defense Condition
DepSecDef	Deputy Secretary of Defense
DFAS	Defense Finance and Accounting Service
DIA	Defense Intelligence Agency
DII	Defense Information Infrastructure
DIS	Distributed Interactive Simulation
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DLSA	Defense Legal Services Agency
DMC	Defense Management Council
DNA	Defense Nuclear Agency
DoD CIO	DoD Chief Information Officer
DODIG	DoD Inspector General
DOPMA	Defense Officer Personnel Management Act
DoN	Department of the Navy
DRI	Defense Reform Initiative
DRID	Defense Reform Initiative Directive
DSAA	Defense Security Assistance Agency
DSS	Defense Security Service
DSWA	Defense Special Weapons Agency
DTSA	Defense Technology Security Administration
DUSD (I&CP)	Deputy Under Secretary of Defense
DWA	Defense Wide Administration
DWCF	Defense Working Capital Fund
EDS	Electronic Systems Data Corporation
ESL	Expected Service Life
ESOP	Employee Stock Ownership Plan
FM	Financial Management
FYDP	Future Years Defense Program
GOCO	Government Owned, Contractor Operated
GPRA	Government Performance and Results Act
HELO	Helicopters
HQDA	Headquarters, Department of the Army
HQ	Headquarters
HW/SW	Hardware/Software
I3A	Installation, Information, Infrastructure and Architecture
ICS	Integrated Communications Strategy
IDA	Institute for Defense Analyses
IT	Information Technology
JCS	Joint Chiefs of Staff
JV2010	Joint Vision 2010
LAN	Local Area Network
LHA	Light Helo Squadron (ASW)
LMI	Logistics Management Institute

MAJCOM	Major Command (US Air Force)
MILCON	Military Construction
MilDep	Military Department
MILPERS	Military Personnel
MILSPEC	Military Specialty
MIW	Mine Warfare
MOP	Measure of Performance
MP	Military Personnel
MYP	Multi-Year Plan
NAVSTA	Naval Station
NAWC	Naval Air Warfare Center
NIMA	National Imagery and Mapping Agency
NSA	National Security Agency
NSWC	Naval Special Warfare Center
O&M	Operations and Maintenance
O&P	Outsourcing and Privatization
O&S	Operations and Support
OCONUS	Outside Continental United States
OIG	Operations of the Inspector General
OMB	Office of Management and Budget
OPNAV	Operations Navy
OPS TEMPO	Operational Tempo
ORD	Operational Requirements Document
ORSA	Operations Research/Systems Analyst
OSIA	On-Site Inspection Agency
OT&E	Operational Test and Evaluation
OUSD/A&T/API	Office of the Under Secretary of Defense /Acquisition and Training
PA&E	Program, Analysis and Evaluation
PCS	Permanent Change of Station
PDM I & II	Program Decision Memorandum
PE	Program Element
PEO	Program Executive Officer
PERS TEMPO	Personnel Tempo
PNSY	Portsmouth Navy Shipyard
POM	Program Objectives Memorandum
PPBS	Planning, Programming and Budgeting System
PPV	Public/Private Ventures
QDR	Quadrennial Defense Review
QOL	Quality of Life
RDT&E	Research, Development, Test and Evaluation
RMA	Revolution in Military Affairs
ROTC	Reserve Officer Training Course
RPM	Real Property Maintenance
S&T	Science and Technology

SC	many meanings
SCN	Ships Construction, New
SECAF	Secretary of Air Force
SecDef	Secretary of Defense
SF	Standard Form
SLEP	Service Life Extension Program
SOF	Special Operations Forces
SSN	Social Security Number
STP	Software Test Plan
TBMD	Theater Ballistic Missile Defense
TC	Treaty Compliance
TOA	Total Obligational Authority
TOC	Total Ownership Cost
TRA	Threat Reduction Agency
UAV	Unmanned Aerial Vehicle
WHS	Weapons Hold Status
WPN	Weapon Procurement (Navy)