



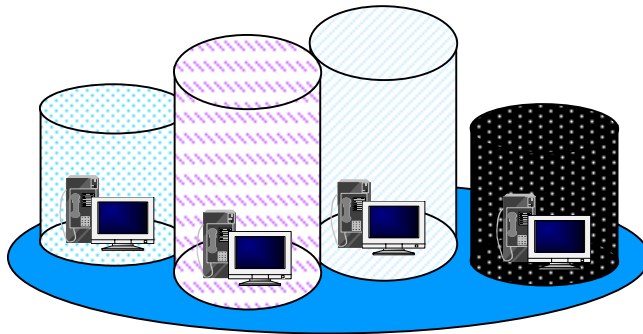
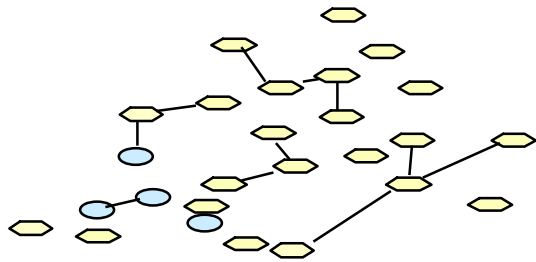
Power to the Edge Through Net Centricity

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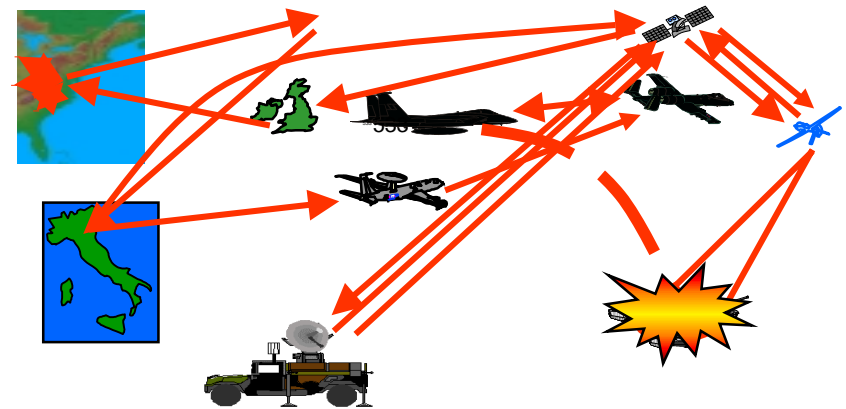
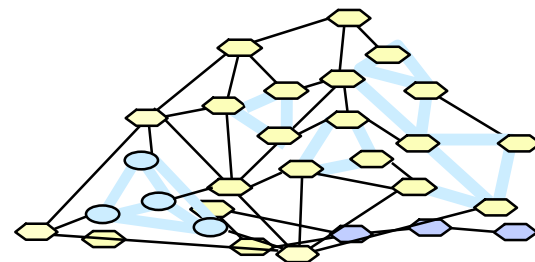
Network-Centric Warfare *A Fundamental Shift*

Platform-Centric



Traditional stove-pipe approach

Network-Centric



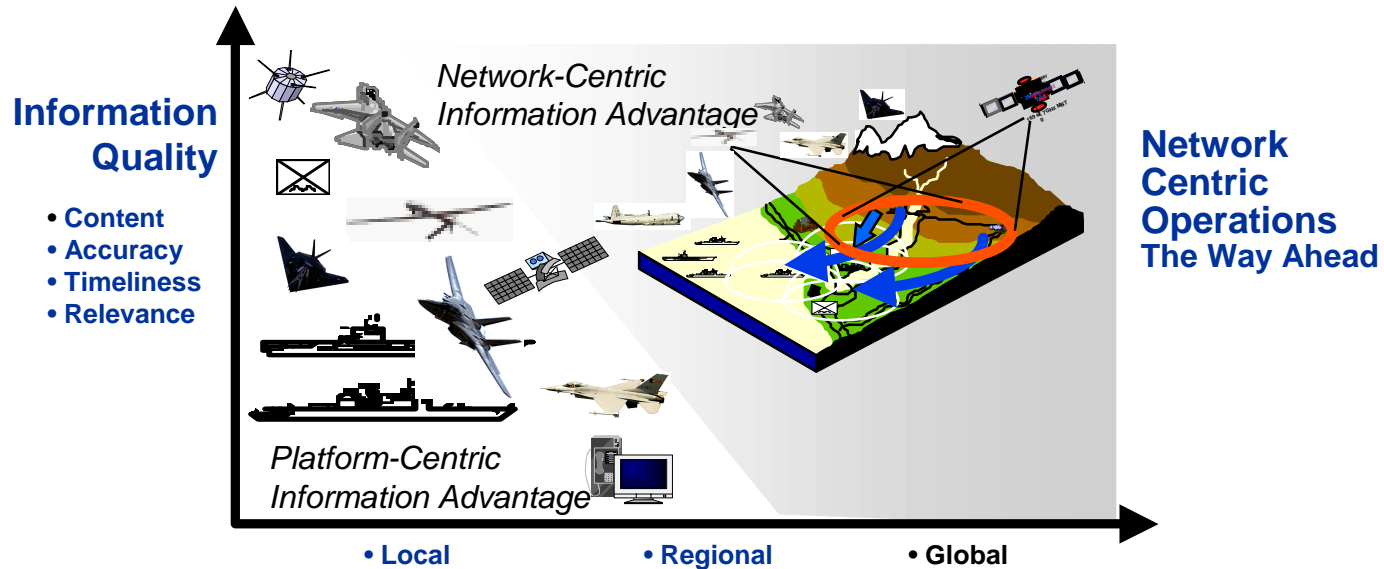
Fused information available on the net



Defense Transformation

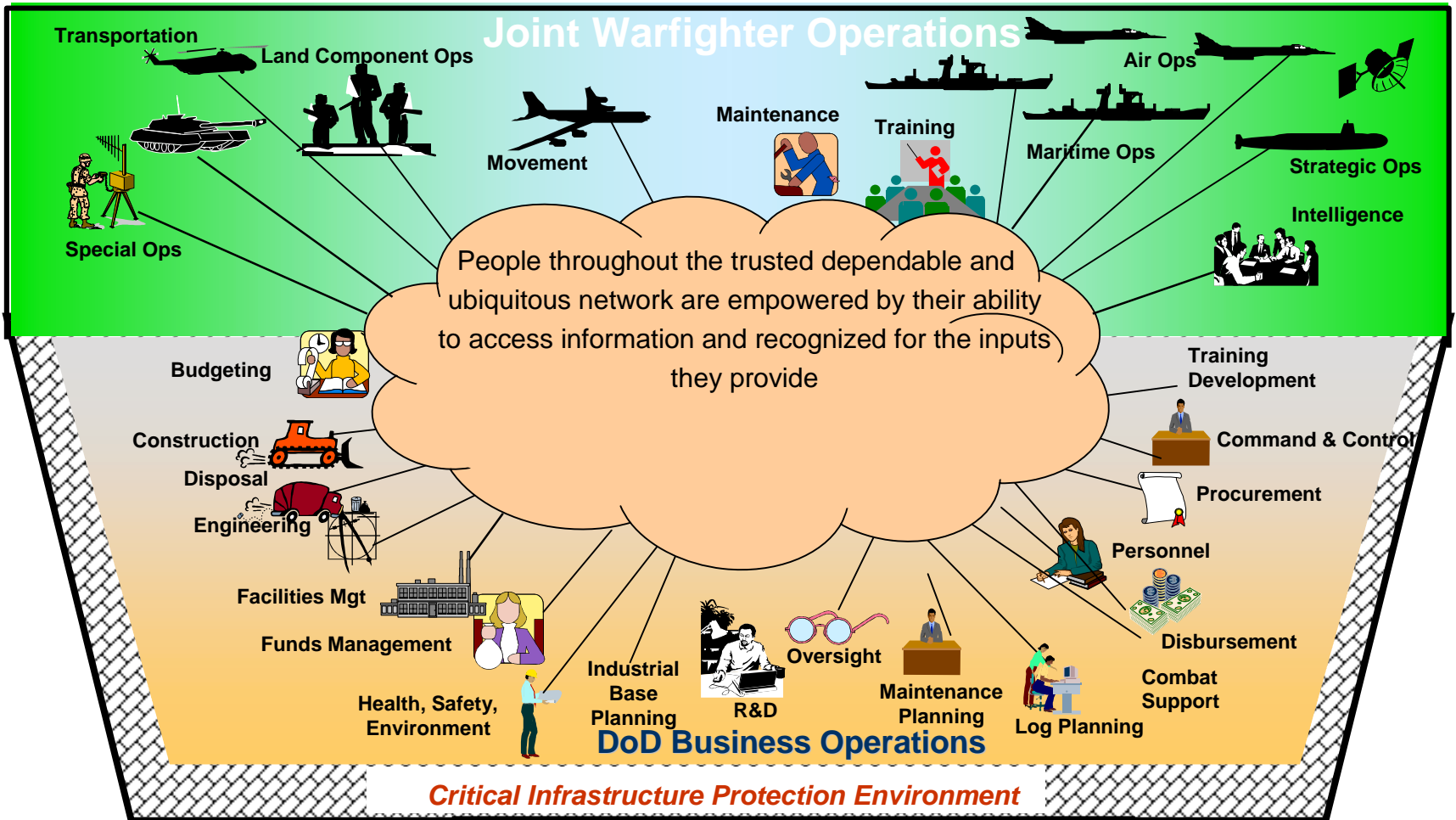
“The two truly transforming things, conceivably, might be in information technology and information operation and networking and connecting things in ways that they function totally differently than they had previously. And if that's possible, what I just said, that possibly the single-most transforming thing in our force will not be a weapon system, but a set of interconnections and a substantially enhanced capability because of that awareness.”

Secretary Rumsfeld - Aug 9, 2001





Transformation of the DoD Enterprise

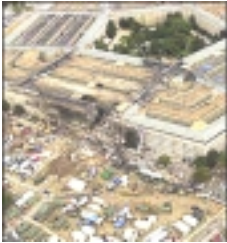


Implement the Global Information Grid



Asymmetric Threat Spectrum

The Global Information Grid must operate in a non-traditional and asymmetric threat environment



Kinetic Threat to Critical Infrastructure Facilities

- ◆ Covertly emplaced explosives
- ◆ Projectile delivered explosives



Chemical/Biological Threats to Support Personnel

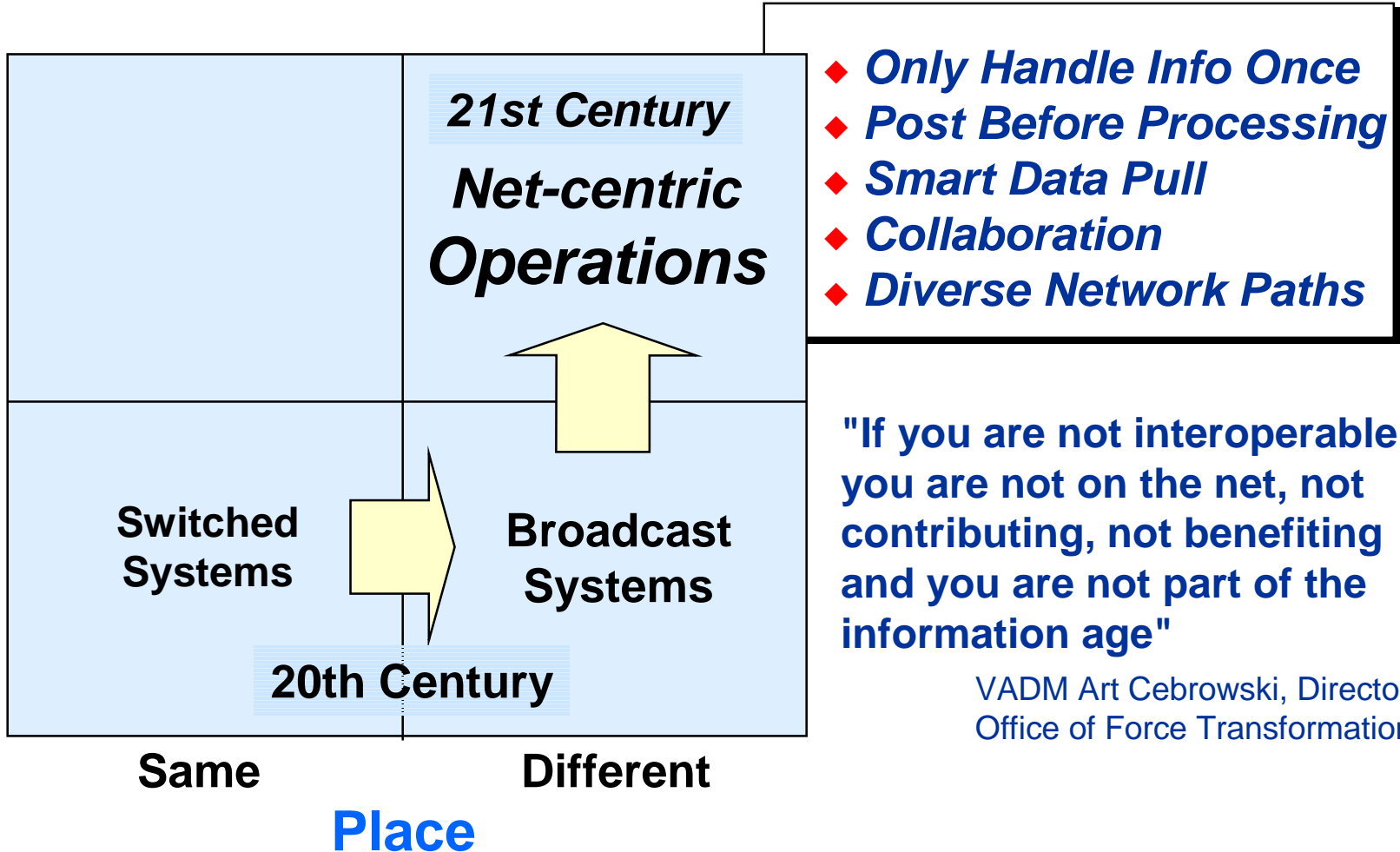
- ◆ Aerosol delivered persistent chemical/biological agents
- ◆ Insider delivered biological agent

Information Threat to Networks and Computing Systems

- ◆ Disclosure of operations/business details
- ◆ Deception causing loss of confidence in a system
- ◆ Denial of system resources to support an operation/business
- ◆ Usurpation of system resources for criminal purposes



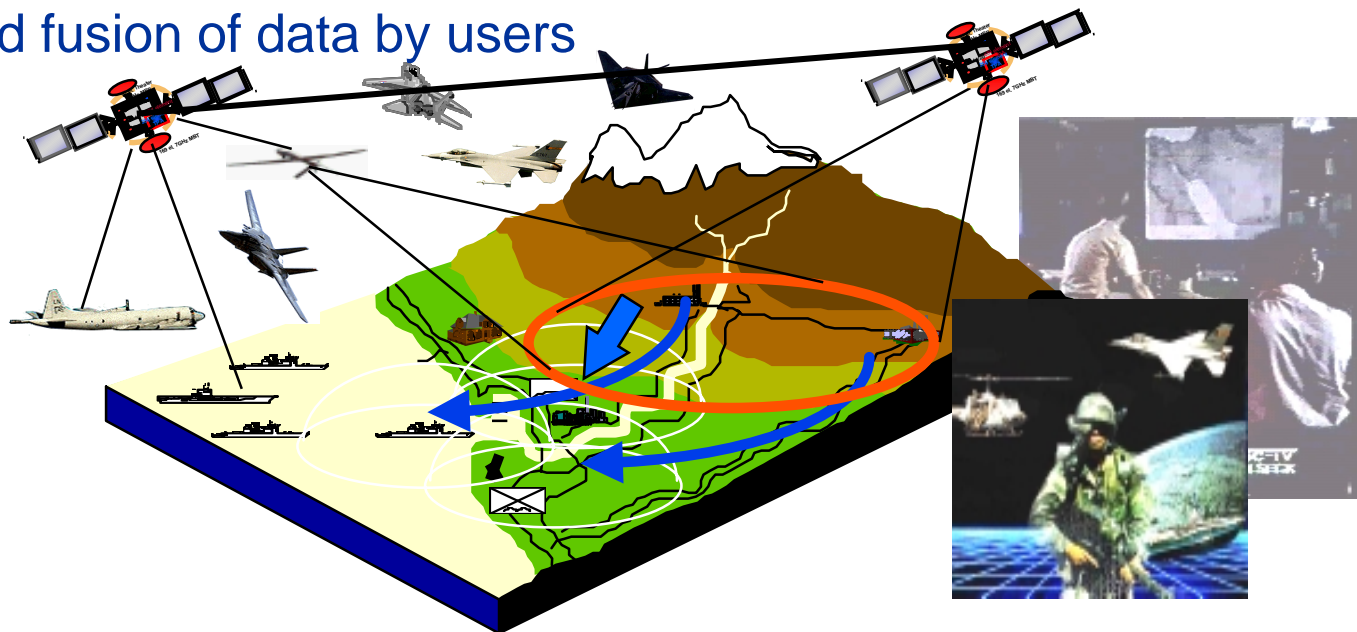
Information Technology - Enabling Transformation



High Leverage Net-centric Investments

An integrated net-centric transformation effort:

- ◆ **GIG Bandwidth Expansion**--Provides ubiquitous, secure, robust optical IP foundation network
- ◆ **SATCOM**--incorporates mobile/tactical users and global intelligence services via optical cross links and EHF up/downlinks
- ◆ **Horizontal Fusion**--means/tools to enable the smart pull and fusion of data by users





DOD Data Emporium (Including XML Registry)

<http://diides.ncr.disa.mil/xmlreg>



DOD Data Emporium
<http://diides.ncr.disa.mil/shade>

- ◆ **Fosters Interoperability through Data Component Re-use**
- ◆ **Three instances available**
 - ✓ Open to the Internet
 - ✓ Unclassified but password protected
 - ✓ Secret, open to SIPRNET
- ◆ **Search/Browse Filters**
 - ✓ Across or within namespaces
 - ✓ By Information Resource Type
 - ✓ By Sub-string in Name, Definition, Comment
 - ✓ By Submitter
 - ✓ By Status
 - ✓ By Version
 - ✓ By Domain Descriptions
- ◆ **On-Line Submission & Verification**
- ◆ **On-Line Administrative Features**
- ◆ **Subscription to Components**

One-Stop Data/Metadata Shopping for SIS Developers!



Software Topics



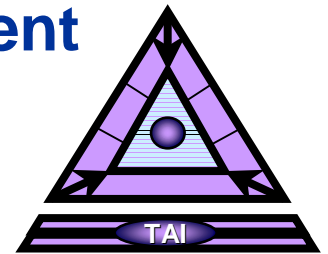
Software Issues are Important within DoD

- ◆ **DoD faces challenges in managing SIS programs**
 - ✓ Interoperability and legacy system integration
 - ✓ Systems of independently-evolving systems
 - ✓ Requirement escalation
 - ✓ Fiscal and regulatory instability
- ◆ **OSD has taken initial steps to address these**
 - ✓ Moved the Software Intensive Systems organization to OUSD(AT&L)ARA to link it with acquisition
 - ✓ Sponsored the Tri-Service Assessment Initiative to identify issues in SIS program success and failure
 - ✓ Piloting software technology to support SIS programs
 - ✓ Reviewing/Updating SIS-related policy and guidance
 - ✓ Improving software education and training for acquisition workforce
- ◆ **OSD SIS Tracks:**
 - ✓ Monday, 10:00-12:00, Track 1, Ballroom A
 - ✓ Tuesday, 1:00-4:30, Track 1, Ballroom A



Independent Expert Program Reviews (IEPRs)

- ◆ **IEPR = an independent assessment of the state of health of a software-intensive program to identify issues and provide recommendations**
- ◆ **IEPRs are a tool for SIS program managers to identify and manage risk – not for oversight**
- ◆ **AT&L sponsors the Tri-service Assessment Initiative**
 - ✓ Conducted 33 IEPRs since inception in 1998
 - ✓ Established the value of IEPRs
- ◆ **DoD policy now requires ACAT ID/IC programs to conduct an IEPR before Critical Design Review**
- ◆ **AT&L formed an IEPR Working Group to bring together all IEPR organizations and develop guidance/consistency**





IEPR Systemic Analysis

- ◆ **Goal: Benefit from IEPR lessons learned to improve SIS acquisition as a whole**
- ◆ **Analyze trends across IEPRs to identify patterns that impact SIS programs**
- ◆ **Develop corrective action strategies (update policy, education, etc) to mitigate occurrence of these systemic patterns**
- ◆ **Systemic findings and corrective actions will be provided through various channels: DoD, PMs, Conferences**
 - ✓ See Tri-service Assessment Initiative Systemic Analysis presentation, Tuesday, Track 1, 1:50-2:30pm



DoD 5000.2-R Policy on Capability Maturity Model (CMM)

- ◆ **Current policy established in October 1999**
- ◆ **Applies to contractors performing software development or upgrade(s) for use in an ACAT I or ACAT IA programs**
- ◆ **Encourages contractor selection based on:**
 - ✓ Domain experience
 - ✓ Past performance
 - ✓ Mature software process
- ◆ **Requires evaluation of software process maturity:**
 - ✓ SEI SW-CMM Level 3 criteria, or equivalent model
 - ✓ Risk mitigation plan for deficiencies
 - ✓ Equivalent evaluation tools must be approved
 - ✓ Must be performed on business unit proposed to do the work
 - ✓ Reuse of evaluation results within a two-year period encouraged



Process Improvement Policy Evolution

◆ In the near term....

- ✓ Clarify guidance to allow use of CMMI under the current policy
- ✓ Goal is to issue this early in 2002



◆ Taking the longer view...

- ✓ Evaluate the effectiveness of policy addressing the use of process models
- ✓ Continue to track the transition and implementation of CMMI
- ✓ Educate and train DoD workforce on process improvement



Practical Software and Systems Measurement (PSM)

- ◆ **PSM helps program managers identify program information needs and specify appropriate measures**
 - ✓ guidance, tools, training, workshops, and a qualified technical team
 - ✓ Material available from www.psm-sc.com and the book by Addison Wesley
- ◆ **OSD is one of the sponsors of PSM**
- ◆ **DoD policy requires all programs to use a software measurement process in planning and tracking**
- ◆ **PSM provides detailed “how-to” guidance that coordinates with:**
 - ✓ ISO/IEC 15939, Software Measurement Process - international standard on measurement
 - ✓ CMMI Measurement and Analysis Process Area - evaluation of measurement process



Y2K - It's Not Over

- ◆ **Date Windowing used by 80% of systems to correct Y2K problem**
- ◆ **Windowing Drawbacks**
 - ✓ Temporary fix uses embedded software to convert dates from 2-digit to 4-digit format during real-time operation
 - ✓ 2- digit format expected to cause problems as early as 2005, continuing until 2050
- ◆ **DoD policy memo: Permanently replace date-windowing software with 4-digit date formats. Schedule to be addressed in each organization's next POM.**
- ◆ **Federal Information Processing Standard (FIPS) Pub 4-2, defines acceptable 4-digit date format**
- ◆ **ASD C3I Guidebook "*Repairing Latent Year 2000 Defects Caused by Date Windowing*" will be available online:
www.armysoftwaremetrics.org**

Source: Dep Director ASD C3I (I&A)
Dr Ray Paul; 703-602-0980 ext 143
Raymond.Paul@osd.mil



DoD Enterprise Software Initiative

ESI Working Group Co-Chairs

Jim Clausen: 703-602-0980 ext 169
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Floyd Groce: 703-607-5658
groce.floyd@hq.navy.mil



Enterprise Software Initiative (ESI)



Background

- ◆ **Project begun June 1998 by DOD CIO and Component CIOs to save money on COTS software:**
 - ✓ VISION: “Point & Click IT Shopping at Lowest Cost.”
 - ✓ MISSION: Software Asset Management.

- ◆ **Goals of ESI:**
 - ✓ Obtain buy-in for DOD enterprise-wide software agreements.
 - ✓ Reduce the acquisition and support costs of software by leveraging DOD buying power.
 - ✓ Provide the best, most flexible suites of Joint Technical Architecture (JTA)-conforming software to the DOD enterprise.
 - ✓ Create a funding mechanism that encourages the use of DOD-wide software initiatives.



Enterprise Software Initiative (ESI)



Background

- ◆ “Quick Hit” strategy - capitalize on large software agreements already in place with Services & Agencies.
- ◆ DoD CIO Guidance & Policy Memo: No. 12-8430 of July 26, 2000*
 - ✓ Visit ESI Website first: <http://www.don-imit.navy.mil/esi>.
 - ✓ OK to buy elsewhere, if appropriate, unless there is DOD inventory.
 - ✓ Establishes roles and responsibilities.

* Working toward DFARS rule and 5000 series update



Enterprise Software Initiative (ESI)

Accomplishments



- ◆ Enabled over \$1 billion in DoD cost avoidance.
- ◆ Over \$220 million in sales throughput.
- ◆ Winner of the IRMCO 1999 Best Federal IT Team Award.
- ◆ Finalist for the 2000 CIO Council Excellence.Gov Award.
- ◆ ESI Team now 90+ strong IT & acquisition professionals from 28 Services & Agencies.
- ◆ First IT initiative approved by the BIC.



Enterprise Software Initiative (ESI) *Benefits*



- ◆ **Discounts from 10% to 86% off GSA FSS prices.**
- ◆ **17 commercial software publishers available on DOD ESI Enterprise Software Agreements (ESA).**
 - ✓ Several DOD ESA are in process, including DOD-wide agreement for Microsoft desktop and server products.
- ◆ **10 Product Categories (Lead Service/Agency):**
 - ✓ Business and Modeling Tools (Army)
 - ✓ Collaboration Tools (Army)
 - ✓ Database Management (Army)
 - ✓ Enterprise Architecture Tools (Army)
 - ✓ Enterprise Management (USAF)
 - ✓ Enterprise Resource Planning (Navy)
 - ✓ Information Assurance Tools (USAF)
 - ✓ Office Automation (Navy)
 - Sec 508 Tools
 - CAC Middleware
 - ✓ Operating Systems (DISA)
 - ✓ Records Management (USAF)



Virtual IT Marketplace (VITM) *Background*



- ◆ **Currently Defense customer has numerous stand-alone alternatives to shop for IT products and services. The VITM will:**
 - ✓ Build on ESI 'quick-hit' effort and provide a roadmap to develop and implement an integrated e-business solution for delivering IT products and services.
 - ✓ Combine state-of-the-art technology, industry best practices, and best price IT products and services to provide "point and click" comparison shopping.
 - ✓ Be financially self-supporting with cost of operations funded through sales.

- ◆ **VITM to be a service of GSA Advantage!**
 - ✓ GSA has experience with similar online catalogs
 - ✓ Costs to implement, operate and maintain VITM included in existing 1% fee paid to GSA on each sale.
 - ✓ Services may incur investment to integrate Services' related portals if required.



Virtual IT Marketplace (VITM) *Benefits*



- ◆ **Expanded access to premier IT products and services.**
 - ✓ Incorporates flexible purchasing options, such as spot buying, to obtain best prices.
 - ✓ Builds on GSA schedule product offerings.
 - ✓ Leverages Advantage! infrastructure.
- ◆ **Common business rules and technology infrastructure.**
- ◆ **Open to all Defense Agencies, Military Services and Defense Contractors.**
- ◆ **Improved IT delivery through streamlined procurement process, greater visibility of purchasing activity.**
 - ✓ Could provide visibility into IT expenditures.
 - ✓ Foundation for savings estimate.



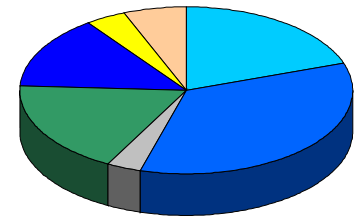
Thank you!



Back-up Slides



FY 2003 Defense Budget Balanced Program to Advance President's Priorities



\$379.3 Billion

- ◆ **Fight and win war on terrorism**
- ◆ **Maintain morale and readiness of the U.S. military**
- ◆ **Transformation: to create military for the 21st Century**
- ◆ **Continue to improve DoD management operations**



Enabling the Warfighter to Win



ASD(C3I)/DoD CIO Goals

- ◆ **Make information available on a network that people depend on and trust**
- ◆ **Populate the network with new, dynamic sources of information to defeat the enemy**
- ◆ **Deny the enemy advantages and exploit weaknesses**



CMM use in DoD



- ◆ **1988-1991** Sponsored SW-CMM for source selection and developer process improvement
- ◆ **1994-1995** Developed SA-CMM for acquisition process improvement. Used by sustainment community and a few proactive Program Offices
- ◆ **1998-2001** Sponsored CMMI project to integrate SW and SE models
- ◆ **1999** Required use of SW-CMM level 3 criteria for evaluating developers for large acquisitions
- ◆ **2000-2001** Helped add Supplier Sourcing to CMMI models
- ◆ **2001-2002** Supporting transition of CMMI



Enterprise Software Initiative (ESI) *Benefits*

Physical

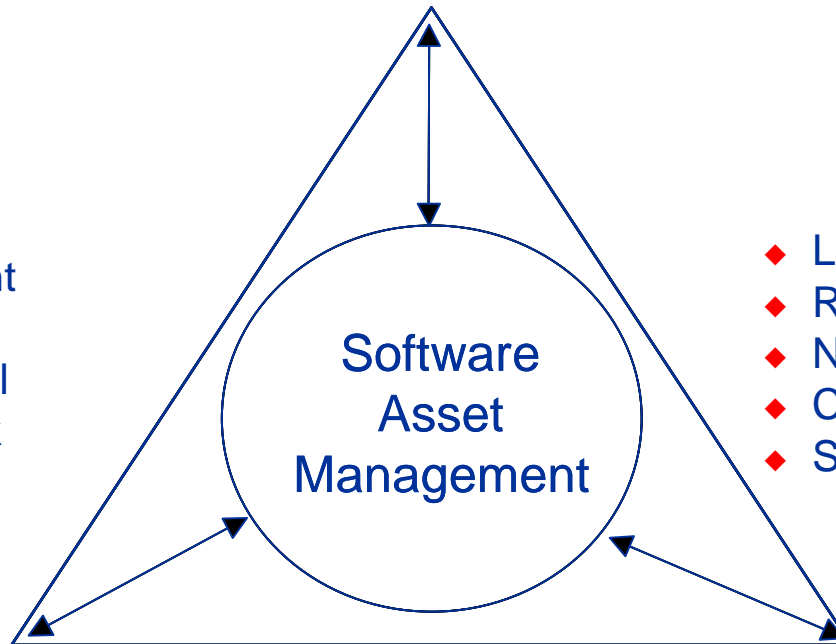
- ◆ Inventory Management
- ◆ Electronic Distribution
- ◆ Version Tracking
- ◆ License Tracking
- ◆ Usage Monitoring
- ◆ Refresh/Retirement

Financial

- ◆ Procurement
- ◆ Budget
- ◆ Cost Control
- ◆ Chargeback

Contractual

- ◆ License Compliance
- ◆ RFP Preparation and Review
- ◆ Negotiations
- ◆ Contract Maintenance
- ◆ Supplier Management



Source: GartnerGroup

||| A Framework for Software Asset Management Programs, GartnerGroup Research Note, June 8, 2000, Truglio-Kirwin, M., and Adams, P.