Integrated Digital Environment

5th Simulation-based Acquisition /
Advanced Systems Engineering Environment
Conference
June 25, 2002

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IDE WG
http://www.acq.osd.mil/ide

Agenda

- Introduction
  - IDE Working Group
  - History / Evolution
- IDE
  - Definition / Concept
  - WG Influence
- Issues
  - Stovepipe IDEs
  - Data Standards
  - Industry Impact
  - Culture
  - Security
- Conclusion / Questions

IDE Working Group (WG)

- IDE Focal Points
  - OSD(AT&L), DCMA, Services
- Responsibilities
  - Defining / maturing the IDE concept
  - Coordinating Industry involvement
  - Coordinating Service efforts to orchestrate implementation
- Objectives
  - Influence Service activities
    - IDE guide, policy, pilots, Web site
  - Develop joint solutions w/ Industry
    - Solicitation language, Standards
  - Develop coordinated solutions
    - SBA, KM, JLC, AIA, …

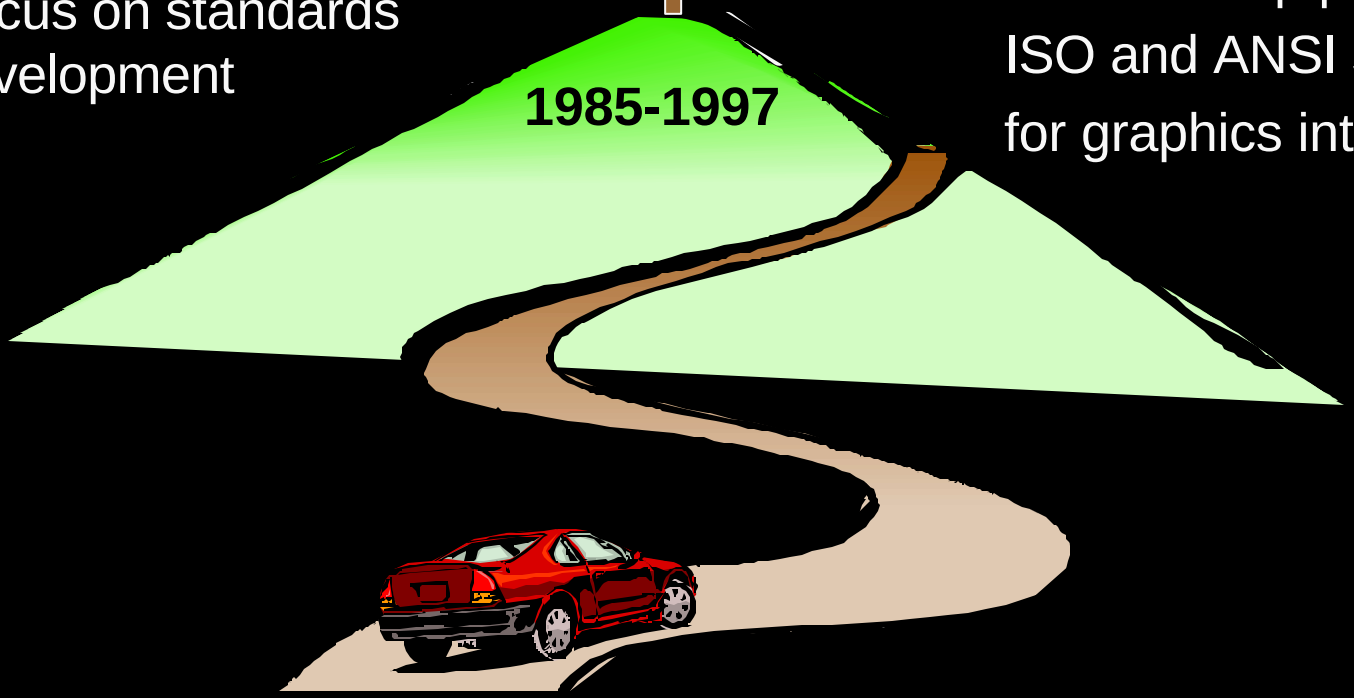
CALS

Lots of study – Little progress

Focus on standards development

1985-1997

Did not keep pace with ISO and ANSI standards for graphics interchange



IDE

Stovepipe solutions

PMs responsible
2002 goal

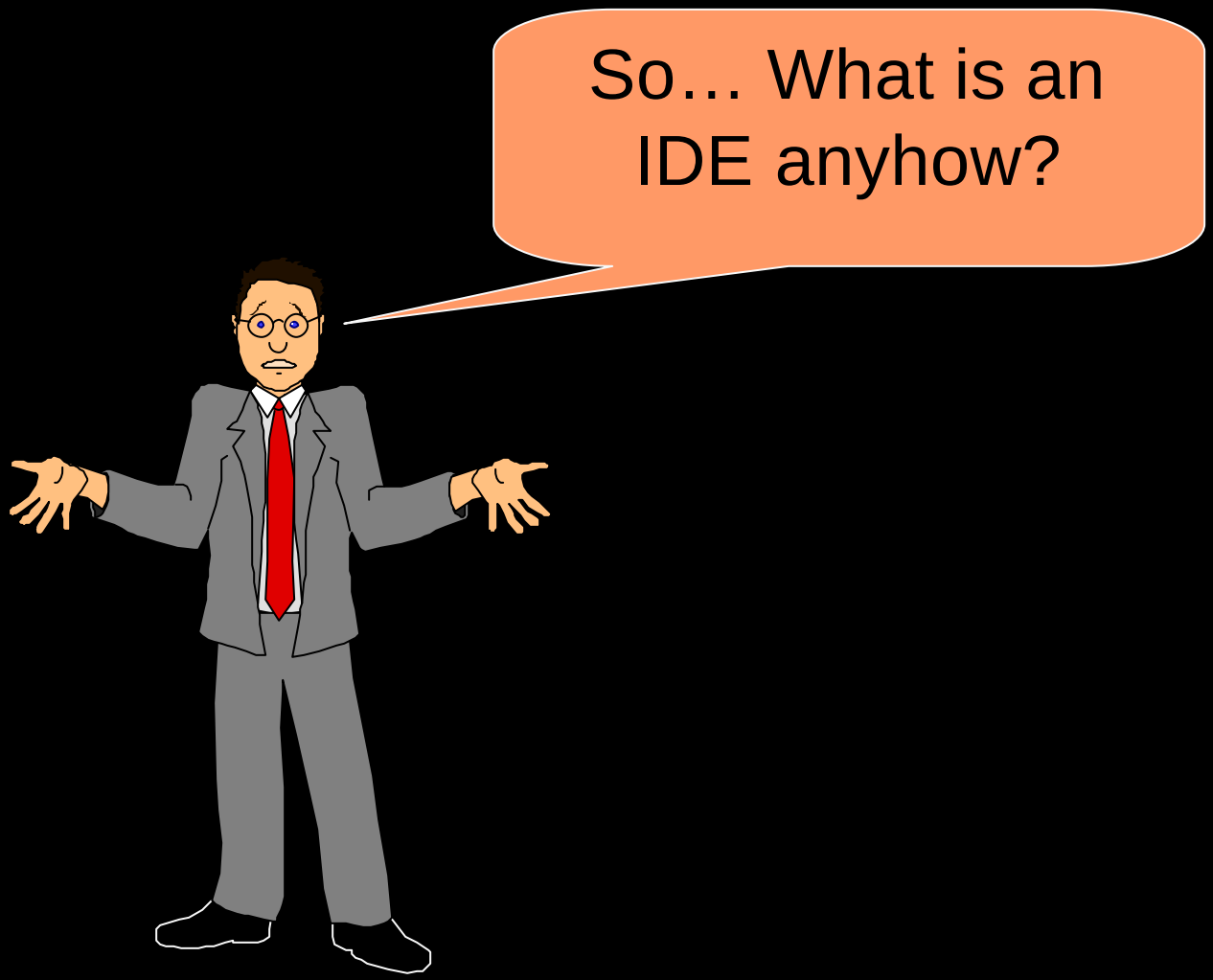
Access vs exchange
Web tools
Collaboration

Enterprise IDE

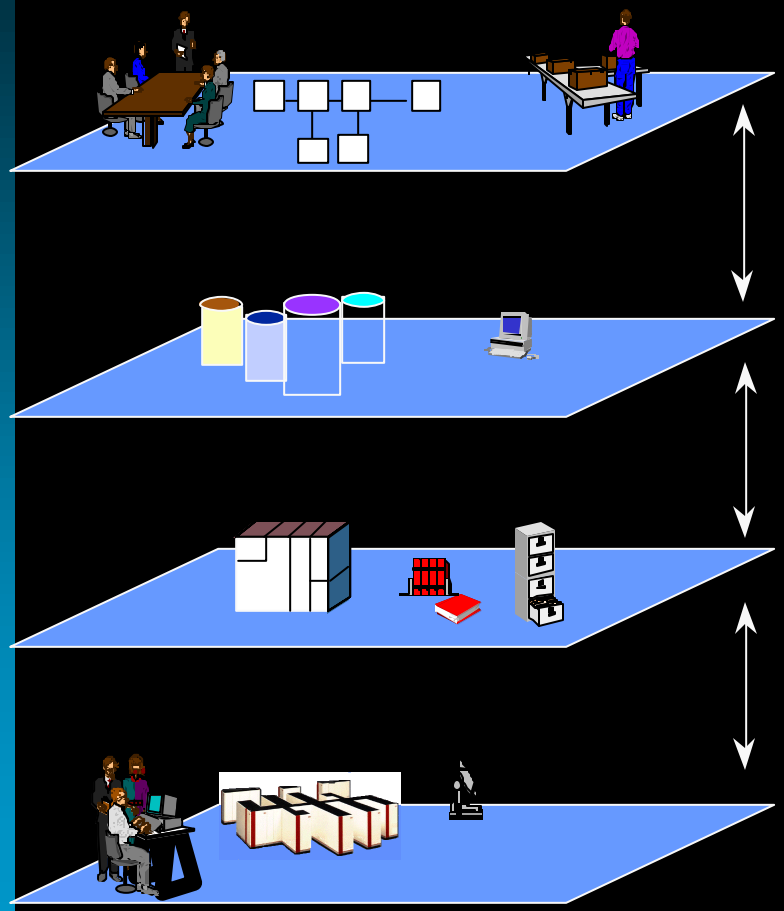
Eliminate stovepipes
Achieve enterprise interoperability
Promote collaboration

Focus on interoperability, collaboration & access

Open ended


So… What is an IDE anyhow?

IDE Layers



Processes layer

Business Processes
Knowledge Mgt.
Culture
Policy

Applications layer

Collaboration Tools
Functional applications

Data layer

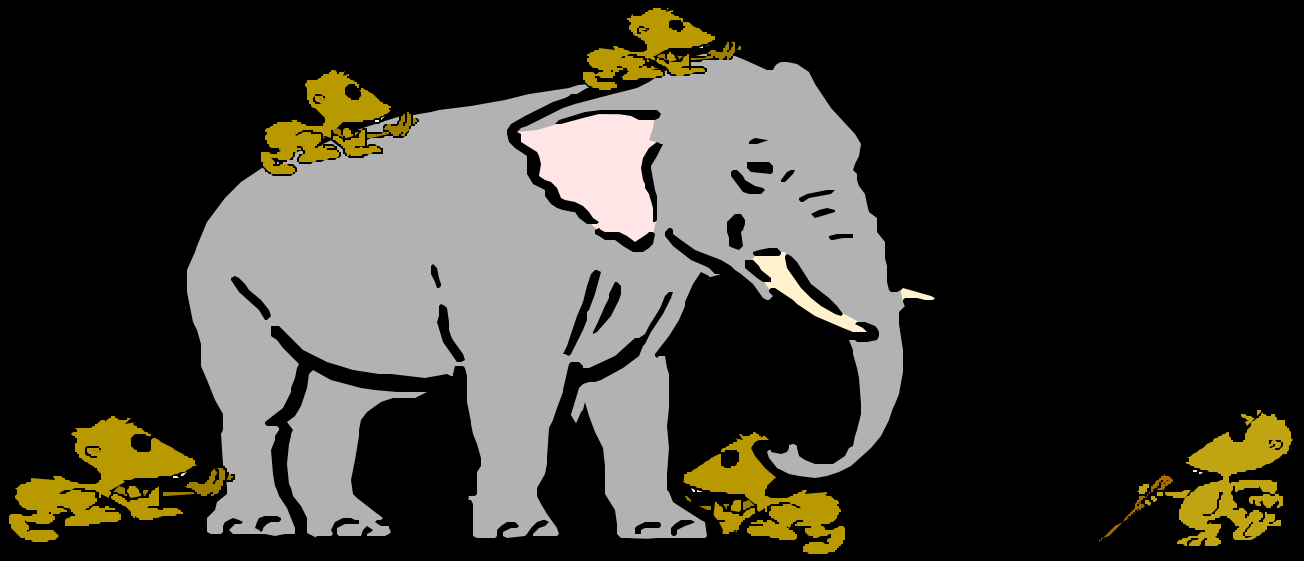
Data Standards
Data Models
Data Requirements

Infrastructure layer

Security
Network
Data storage/access

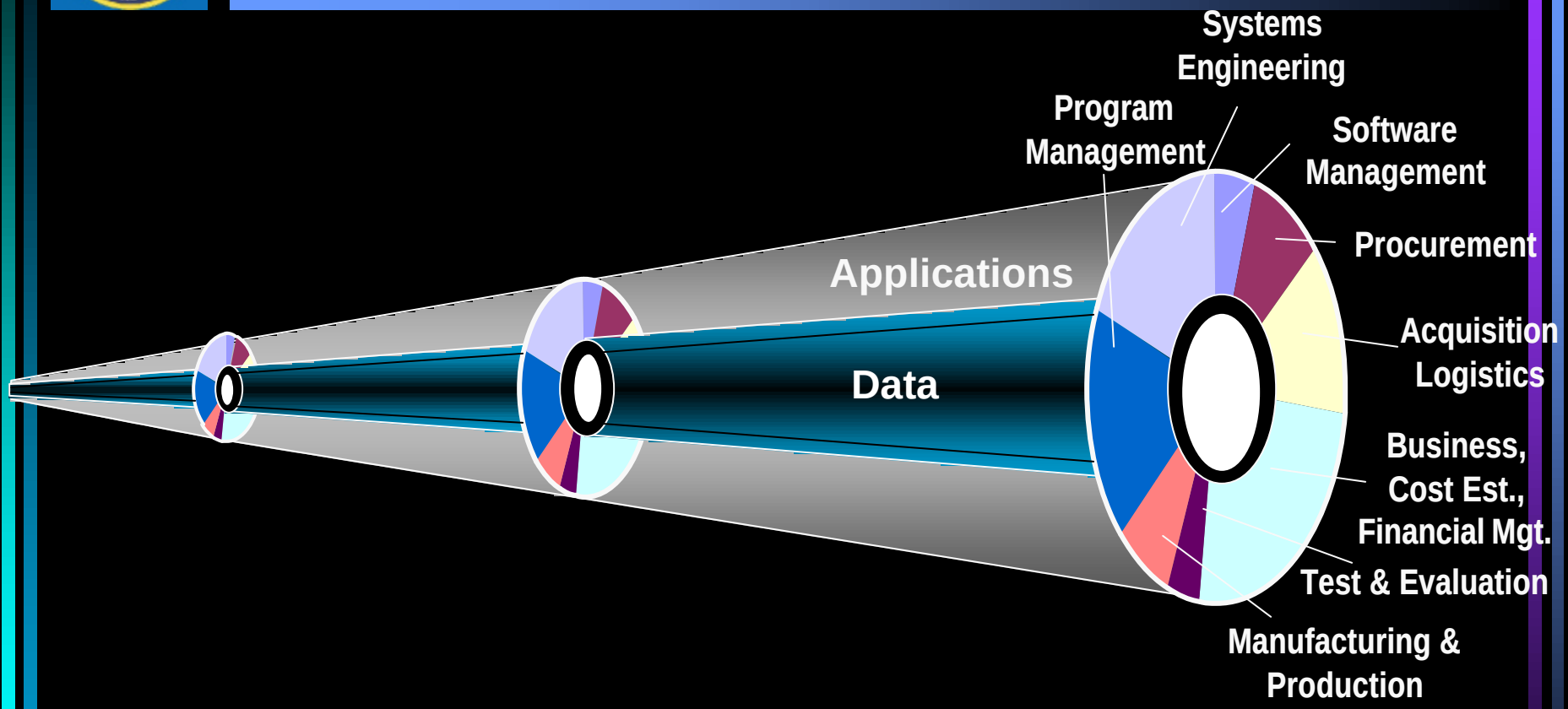
IDE Basics

- Definition: An electronic work environment providing secure access to needed information & web-tools to enhance productivity & decision-making …



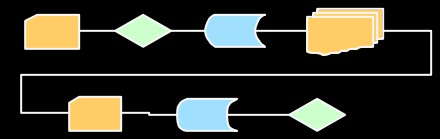
… but it depends on how you look at it

Data View



Program Life Cycle

Program View

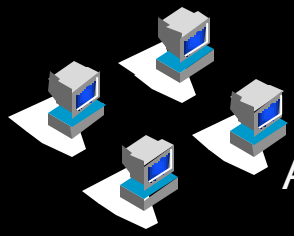


Business Processes

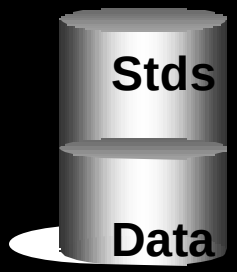
Functional Teams

Supporting

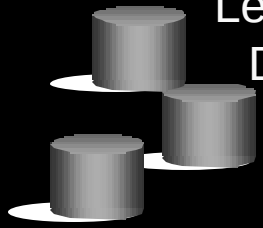
Functional Organizations



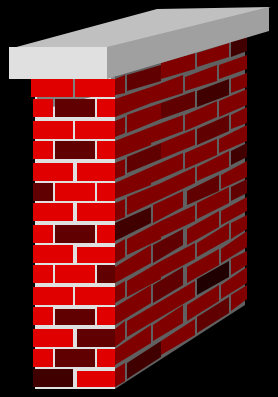
Software Applications



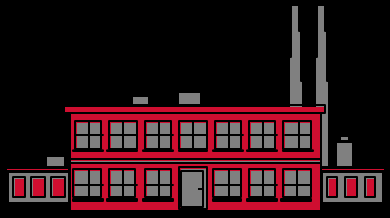
Distributed Data Repositories



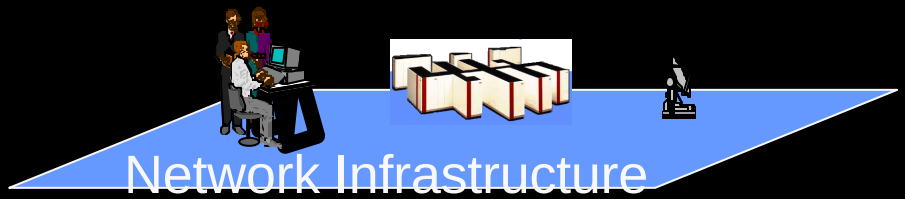
Legacy Data



Warfighter



Industry



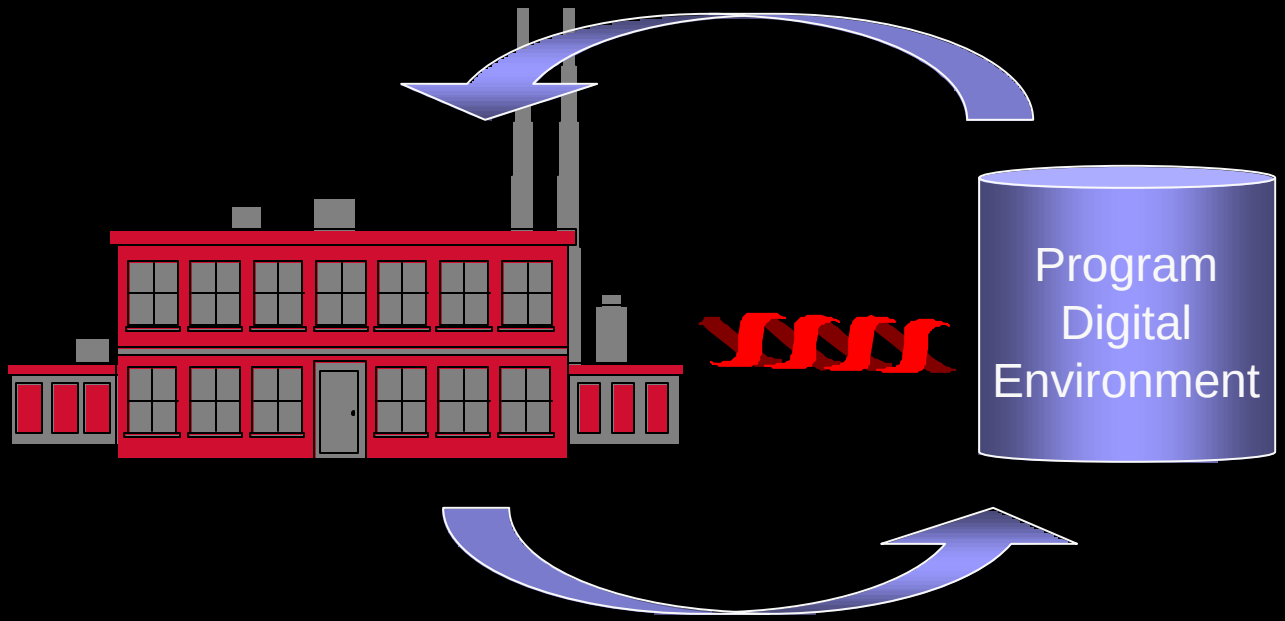
Network Infrastructure

Industry View

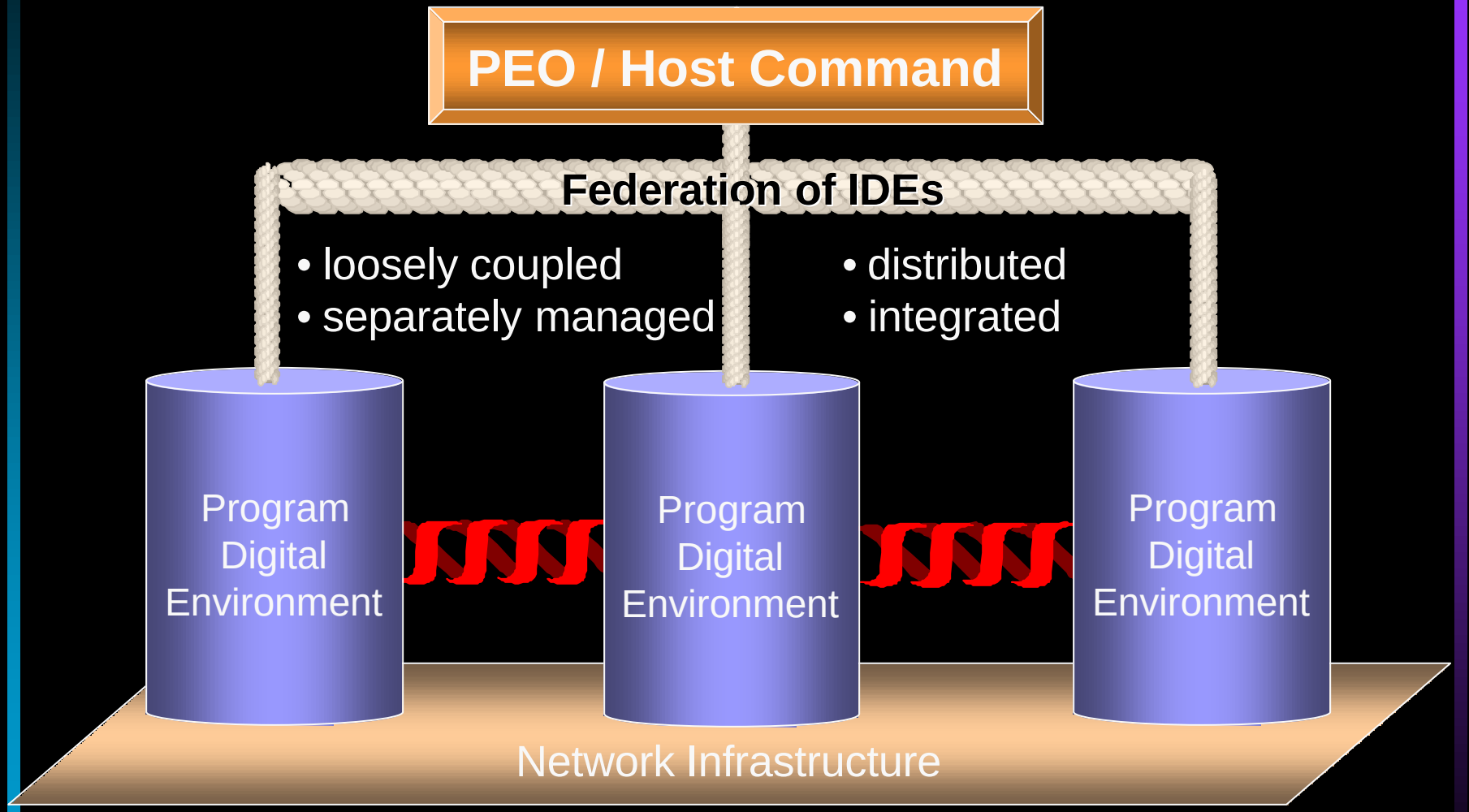
Industry – Major impact on IDE content & effectiveness

– Evolution of CITIS

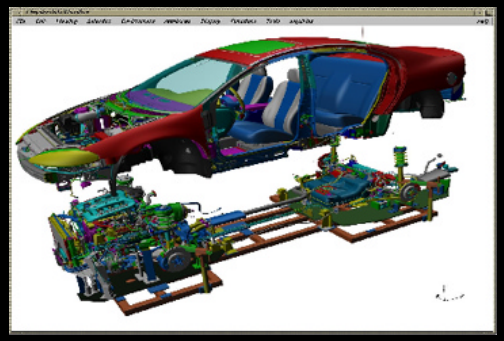
– Government/Industry collaboration & exchange

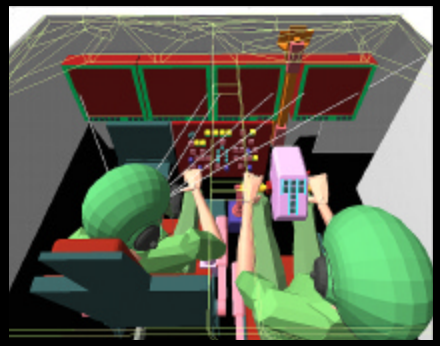


PEO VIEW


PEO / Host Command
Federation of IDEs
• loosely coupled
• separately managed
• distributed
• integrated
Program Digital Environment
Program Digital Environment
Program Digital Environment
Network Infrastructure

SBA View

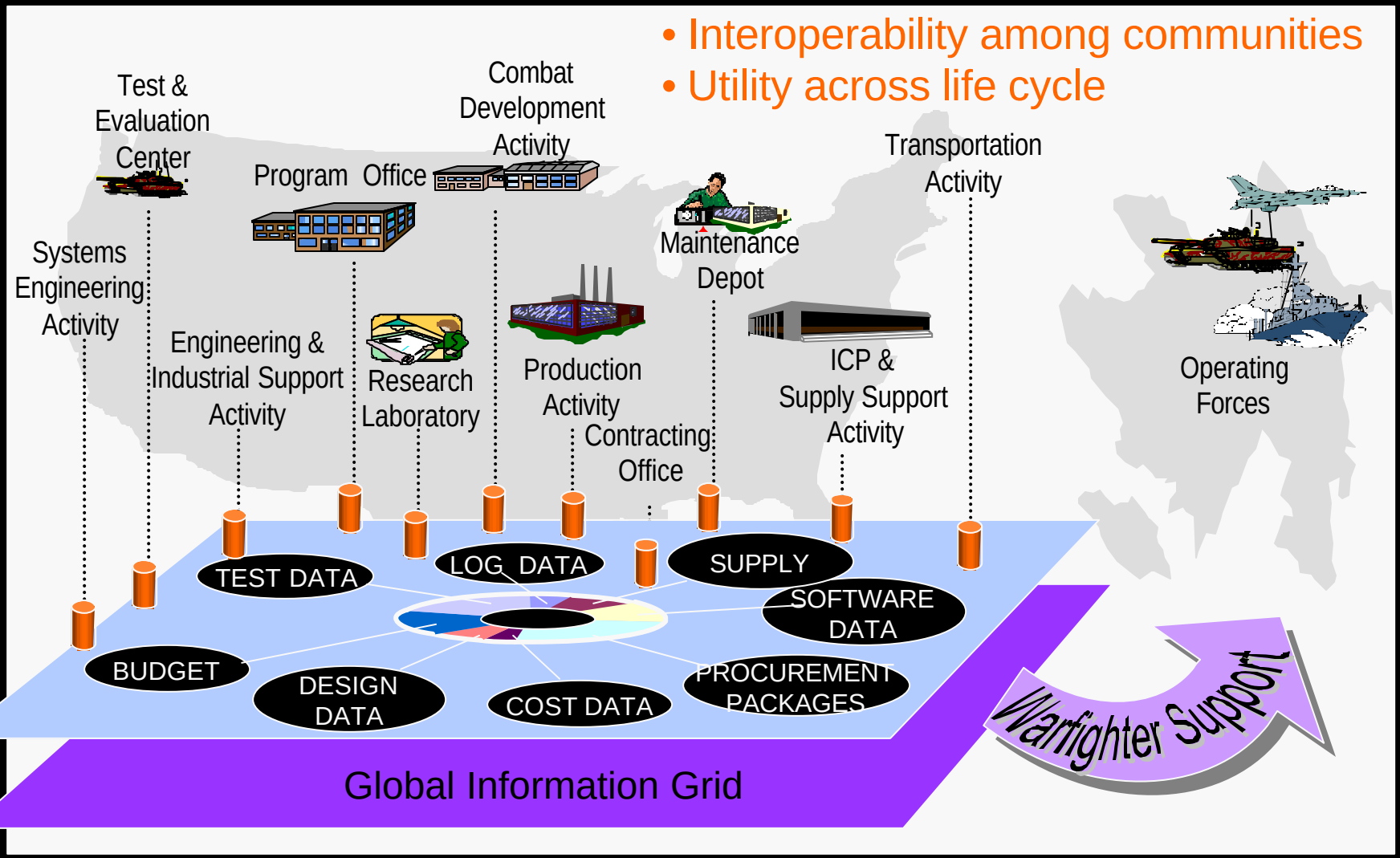




- Virtual design and development
- On-line collaboration
- Man-in-the-loop experimentation, integrated training development
- Collaborative design for maintenance, supportability, training, prototyping, test, and evaluation
- Digital exploration of system design alternatives by all stakeholders
- Optimize designs across all functions - supportability, cost, performance, human interface, training, testing, manufacture, …

Enterprise View

- Interoperability among communities
- Utility across life cycle



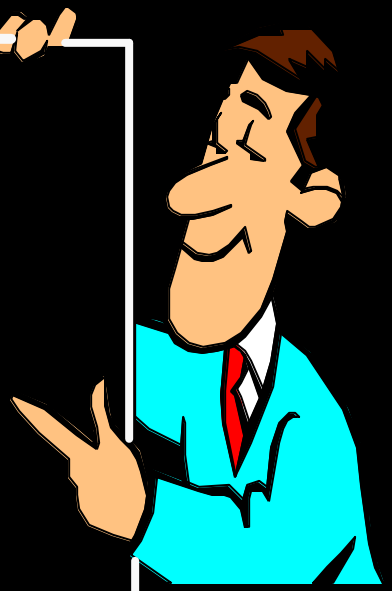
Functionality

SBA Enabler

- ✓ Interoperable Access, Exchange, and Storage of digital data / documents
- ✓ Document / Configuration Management (vaulting, versioning, etc.)
- ✓ Application Functionality (earned value, product data management, scheduling, procurement, etc.)
- ✓ Collaboration (bulletin board, workflow, chat, shared workspaces, concurrent engineering, virtual design and prototype, etc.)
- ✓ Network Services (security, connectivity, accessibility, availability, e-mail, etc.)

Issues

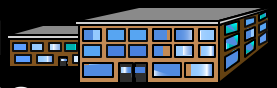
- Stovepipe IDEs
- Data Standards
- Industry Impact
- Culture
- Security



Stovepipe IDEs

Guidance

Functional Communities

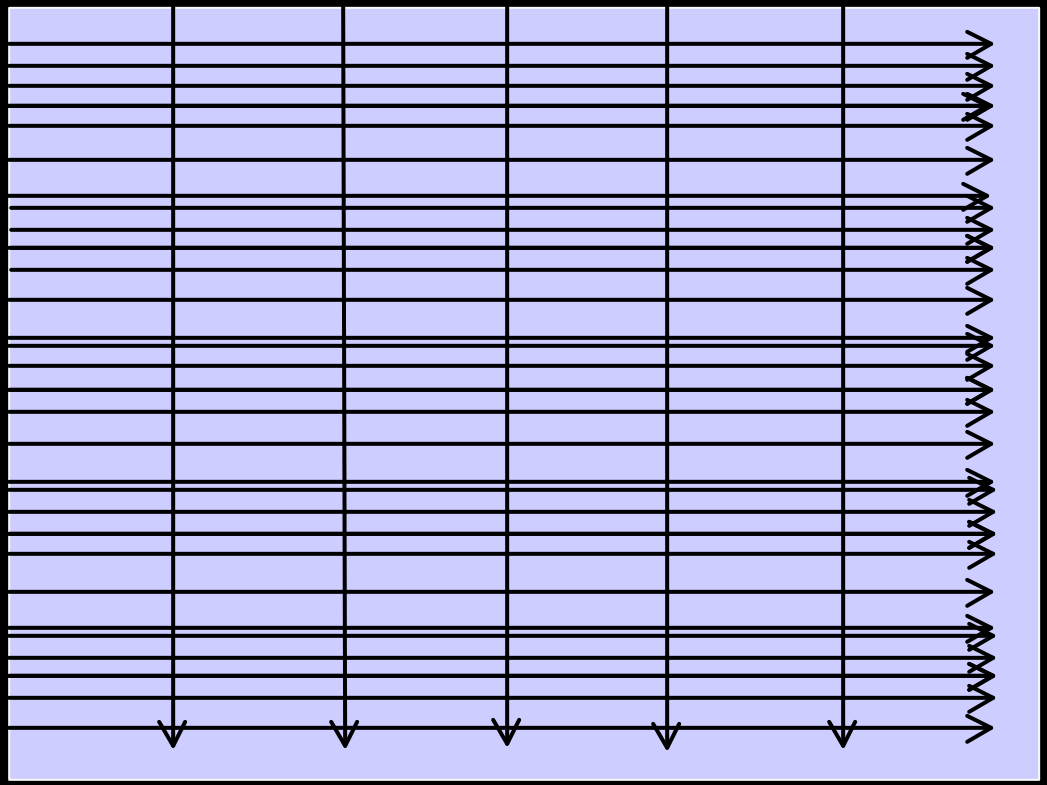


Standards
- Dictionaries
- Data Models
- Meta-data

Program Offices

Consistency In Business Sectors

Industry

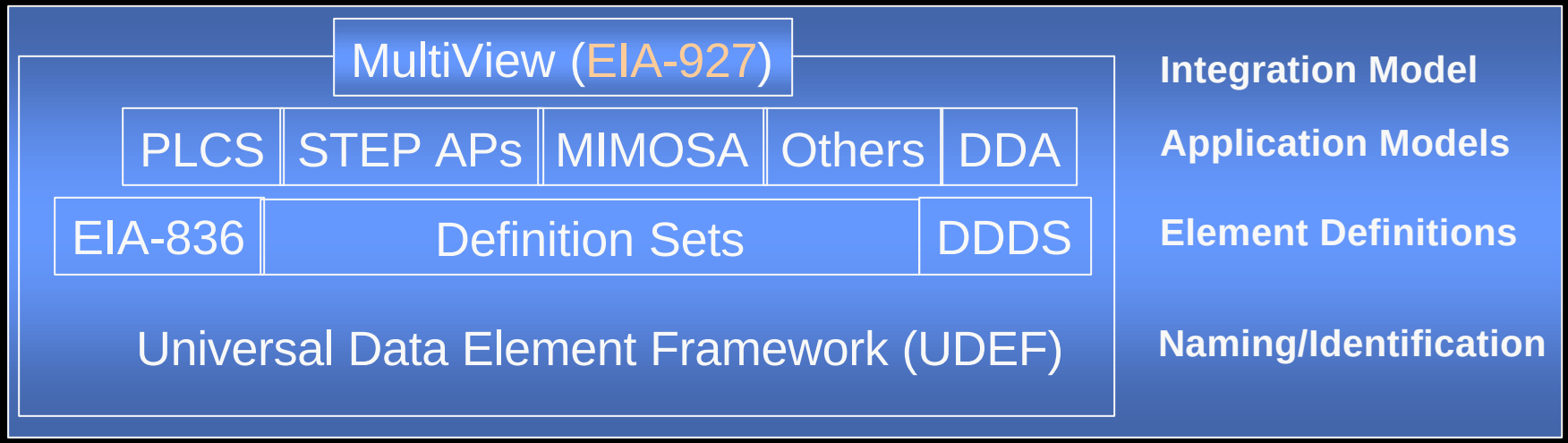


Warfighters

Acquisition Life Cycle

Data Standards

Problem: Many ongoing developments, no management process



IDE WG influence:

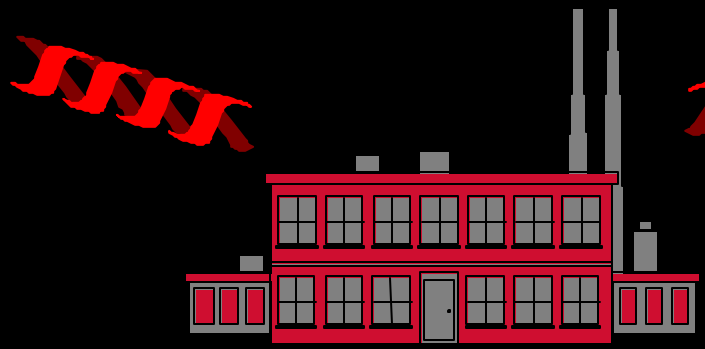
- Coordinate w/ standards development groups
- Establish / evaluate pilots
- Develop implementation guidance
- Enable data mapping between standards

Industry Impact

Industry – major impact on IDE content & effectiveness

Solicitation – drives government / industry interface

– e.g. access rights, functionality, data deliverables, data structure



Program Digital Environment

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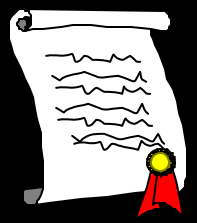
Solicitations w/ directed solutions drive multiple solutions & higher cost!

Solicitation



- Aerospace Industries Association (AIA) WG
- Solicitation:
  - define required functionality / capability / environment
  - without directing unique vendor solutions
- Separate the what from the how
- Put the what in the contract
  - Data / document deliverables
  - Required functional capabilities
  - Interoperability requirements
- Put the how in the Trading Partner Agreement (TPA)
  - Access or exchange
  - Data and Data Interface Standards

Culture

- Resistance to change
  - Pace of technology advancement
  - “Not invented here”
  - Workforce age
- Over protection of data
- “Program-centric” acquisition process
- Institutional unwillingness to
  - accept consequences of risk
  - invest today for future savings

Security

- Speed bump or Road block?
- 9-11 impact on progress

MEMORANDUM FOR Information Assurance Managers

SUBJECT: Request for Impact of Port 1433 Block

Background: Port 1433 is commonly used by Microsoft's SQL Server. A number of exploits are known for this service. It is also known that many administrators do not set a password for the 'SA' account. This administrator account can be used to log on to the SQL server and execute arbitrary SQL commands. Using these commands, the user can read and write files and execute code. There is a new self-propagating worm that takes advantage of SA accounts without passwords.

The Army **plans to block port 1433 at 1400 today, 22 May 2002**. If your organization requires use of port 1433 beyond the NIPRNET or your installation boundary (i.e. beyond the Army Security Router), please define your requirements by COB today, 22 May 2002.

Input Sought

- **SBA Community can speed IDE maturity** by:
  - Identify preferred standards
  - Influence development of key standards
    - Data - dictionaries, attributes and syntax
    - Data models - organization of & relationships among data
  - Develop policies / guidance
    - To promote use of preferred standards
    - To achieve interoperability across program boundaries
  - Identify / fund new pilots
  - Evaluate / promote ongoing pilots
    - LEAPS
    - EIA 927
  - Promote culture change
  - Contribute to solicitation language development

Conclusion

- IDE concept
  - continues to evolve
  - is a key SBA enabler
- Substantial progress achieved
  - long way to go
- Rate of SBA progress depends on
  - progress in Culture, Standards, Security, IDE Solicitations, Reducing Stovepipe IDEs
- Success critical to cost, schedule, performance
  - of acquisition and sustainment

Questions ?