



RAPIDS – An Overview



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What's the Problem?



- ❖ **Current software development process is not efficient enough to support the warfighter**
 - **Can't keep up with technology**
 - **Can't keep up with changing fleet needs/ROEs**
- ❖ **Current system designs make reacting to ever changing needs cost prohibitive**
 - **Continuous code “face lifts” are stretching our financial skin**
 - **Systems tailored for particular platforms are ill-suited for distributed computing**



Instigators



- ❖ **Installation timelines are lengthy**
 - **D-30/FRP will guarantee obsolescence**
- ❖ **Requirements and POM processes are slow and bureaucratic**
 - **“I wanted that *last year*”**
- ❖ **Code re-use in the DoD is virtually non-existent**
 - **Each new initiative spawns a duplicate copy of similar functionality**



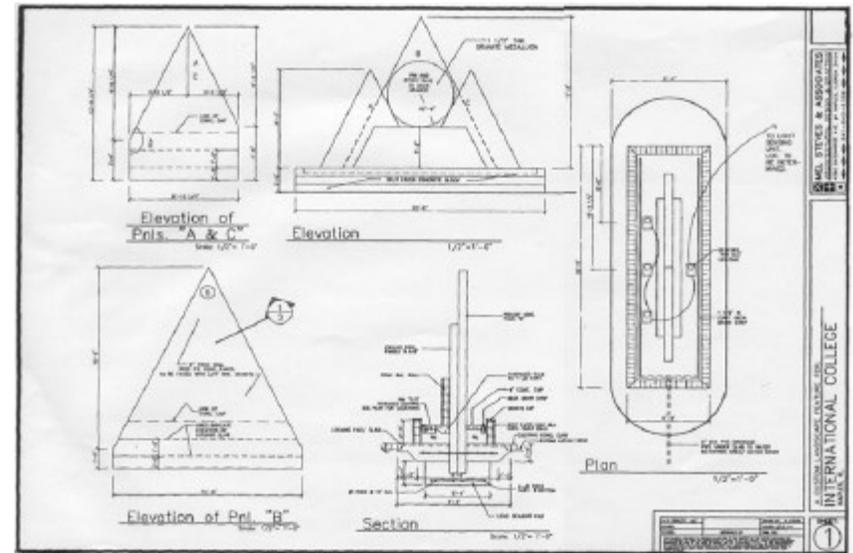
What is RAPIDS?



Reusable Application Integration and Development Standards



versus



Building Codes and Building Materials



RAPIDS is



❖ Development Guide

- Provides detailed coding guidance and code samples**
- Covers CORBA, Java, web services, web portals**

❖ Virtual Parts Store

- Web-based repository of code “snippets”**
- Allows acceleration of development and reduced costs**

❖ Open Source Initiative/Legal Language

- Collaborative web site for developers using source and object level code – DISA’s CollabNet**
- DFARS supported RFP and contract language, CLINs and DIDs**



RAPIDS Objectives



❖ Maximize Flexibility

- Structure code that can be customized by others “however you want”
 - *IT-21 and Changing ROEs*

❖ Maximize Reuse

- Build-in reusability from the beginning, to implement “by whomever you want”
 - *Virtual Parts Store*

❖ Maximize Portability

- Implement standards carefully to promote reuse across multiple architectures “wherever you want”
 - *Current Standards Insufficient*



What Is C2ERA?



❖ **Command and Control Enterprise Reference Architecture**

- A technical design pattern for enterprise integration
- Developed by USAF Electronic Systems Center (ESC) Hanscom

❖ **Goals**

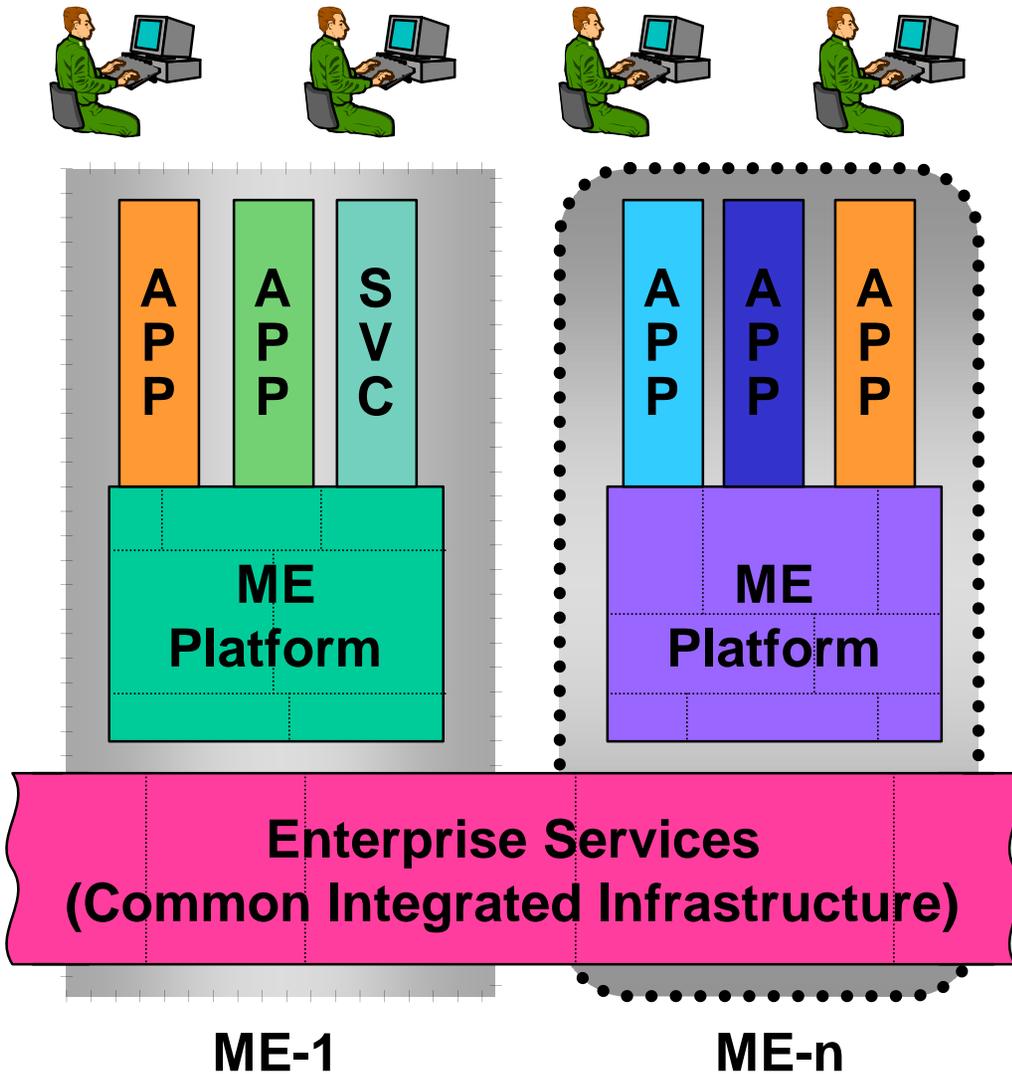
- Support Managed Element (ME) [a.k.a. C2 Node] evolution & technology insertion
- Provide services for loose coupling between MEs and applications
- Provide standard ME-wide and enterprise-wide infrastructures and services

❖ **Approach**

- Change how we organize C2 enterprise acquisition
 - Manage programs and systems as components of MEs
- Change how we build the individual C2 applications
 - Don't build separate infrastructure for each system
 - Deliver applications that share an ME Platform and a Common Integrated Infrastructure



C2ERA “System” Diagram



- Three technical components
 - Mission applications and services
 - Managed Element Platform
 - Local infrastructure
 - Enterprise Services
 - Common Integrated Infrastructure (CII)
- Independent acquisition management for each component
- Enterprise-imposed integration guidelines for consistent behavior across components



RAPIDS + C2ERA = NESI



- ❖ **Network-centric Enterprise Solutions for Interoperability (NESI)**
 - **Joint effort merging Navy PEO C4I's RAPIDS with Air Force Electronic Systems Center's (ESC) C2ERA**
 - **Defines common network-centric architecture as well as software component implementation guidance for enterprise integration/interoperability**
- ❖ **Institutionalizes common practices within PEO C4I and ESC with the goal of extending throughout the services and Joint community**
- ❖ **Enables intra- and inter- service interoperability to reduce duplicative and stove piped systems**
- ❖ **Provide a superset of the GCCS FoS ERA technical criteria**



Stakeholders/Alliances



❖ Joint Navy - Air Force Lead

- **Navy Lead = PEO C4I & Space**
- **Air Force Lead = Electronic Systems Center (ESC)**

❖ Collaborating with

- **Other Navy organizations (SPAWAR, PEO IWS, PEO IT, PEO W, NAVSEA, NAVAIR)**
- **DISA (GIG-ES, NCES)**
- **Joint Community (JTRS, FIOP, GCCS FoS)**
- **Other Air Force organizations (AF/XI, AF-CIO, C2C)**
- **Marine Corps**
- **Army's Future Combat System (FCS)**



Next Steps



- ❖ **Complete MOAs with**
 - **US Air Force**
 - **US Army**
 - **DISA (RAPIDS as NCES foundation)**
- ❖ **Deconflict and combine OA, RAPIDS, C2ERA, FORCEnet Architectures and Standards, and NEADG**
- ❖ **Extend to Allied Partners**
- ❖ **Develop metrics to measure use and utility**



Your Help



❖ Review the RAPIDS Development Guidance

➤ Download from

- <https://neadg.spawar.navy.mil>
- <https://rapids.spawar.navy.mil>

❖ Provide feedback on community source development processes

- Intellectual Property
- Collaborative development
- Code repositories

❖ Stay tuned... CLIP and JTRS Clusters 3 / 4 RFPs



Questions??

