DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

26 AUG 2003

SAAL-ZR

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Policy for Standardization of Collaborative Environments for Weapon Systems Acquisition Programs

Effective immediately, the following policy is implemented for all programs under the oversight of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA(ALT)) and the U.S. Army Materiel Command (AMC), Research Development and Engineering (RDE) Command.

As part of its Transformation, the Army is making fundamental shifts in its organization, its business processes for weapon systems acquisition and logistics support and its management and use of information concepts and technologies. The Future Combat Systems (FCS) program directly advances the Army's Transformation objectives by its use of an Advanced Collaborative Environment (ACE) for product development and logistics support. It is our intent to build on the success of the FCS ACE and to incrementally develop an Army ACE that provides a common, collaborative, digital environment that can satisfy a high percentage of the life-cycle data management needs of our acquisition programs. The concept of an Army ACE is an evolution of the previously mandated Integrated Data Environment (IDE) for sharing information and tracking program management and product life-cycle data. The FCS Program office has established its FCS ACE to support all functions of an IDE with enhancements for digital product data management of systems complexity and support for modeling and simulation throughout the weapons system development life cycle.

To achieve the efficiencies of FCS across the Army acquisition community, all programs under ASA(ALT) and AMC RDE Command oversight are directed to initiate action to standardize on the Army ACE architecture. Exceptions must be approved by ASA(ALT) (with AMC concurrence) and be incorporated in appropriate architecture documentation. Implementation steps follow:

The FCS ACE is designated as the prototype architecture for the Increment One implementation of the Army ACE. The intent is to build on the FCS ACE experience with its web centric architecture; integration with Army Knowledge On-line (AKO); use of commercial tool suites; and use of industry standards to integrate with disparate collaborative environments. To ensure the right programs establish the right levels of integration and interoperability with the FCS ACE, we are directing the Program Manager (PM) FCS to establish the data requirements for participating programs. On publication of these requirements, we are directing that all programs with the requirement to interface with the FCS conform to these requirements.

I direct the Program Executive Office (PEO) Enterprise Information Systems (EIS) to establish and lead the Army ACE effort. The PEO EIS will coordinate with the PEO community, RDE Command, AMC G-3 and other organizations to evolve the Army ACE architecture. The PEO EIS will establish and lead an Army ACE Governance Board to identify requirements and work to resolve any issues related to architecture, data, data management and the incorporation and use of industry standards, processes and interfaces germane to the Army ACE solution. The PEO EIS will ensure that the Army ACE conforms to the Army Knowledge Management Strategy by linking to AKO and ensuring that the embedded data seamlessly transitions to the evolving logistics data architecture and suite of enterprise logistics systems. The PEO EIS will update the Director, Army Enterprise Integration, to ensure that the approach taken is appropriately integrated with other Army enterprise integration efforts. The PEO EIS will produce a coordinated Army ACE functional requirements document and business case in time to support the competition for funding in the Fiscal Years 2006-2011 Program Objective Memorandum (POM) process.

Within PEO EIS, PM Acquisition, Logistics and Technology Enterprise Systems and Services (ALTESS) is designated to be the implementing agent for the Army ACE and is directed to establish the ACE in conjunction with the Acquisition Information Management (AIM) infrastructure. The PM FCS-Simulations will work with PM ALTESS to establish an initial assessment of the resources and personnel required to complete this mission and recommend an implementation schedule to the ACE Governance Board. The Army ACE will be centrally funded and developed over time to effectively support evolving mission needs.

All programs under ASA(ALT) and AMC RDE Command oversight will plan for an orderly integration to the Army ACE as its capabilities come online and implement changes to existing IDEs, Knowledge Centers and other automation support capabilities necessary to ensure legacy programs can effectively interface with the Army ACE. All programs, new or existing, must develop IDEs that easily support transition to or integrate with the ACE. Upgrades made to existing capabilities will be limited to those for mission critical operations and those for interface and integration into the Army ACE.

If you have questions, please contact Deputy Program Executive Officer, Army Enterprise, COL Wells Barlow, commercial at 703-806-4200 or e-mail: wellsford.barlow@us.army.mil or LTC Steve Bristow, PM FCS-Advance Collaborative Environment, commercial at 703-362-8986 or e-mail: james.bristow@us.army.mil.

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Enclosure

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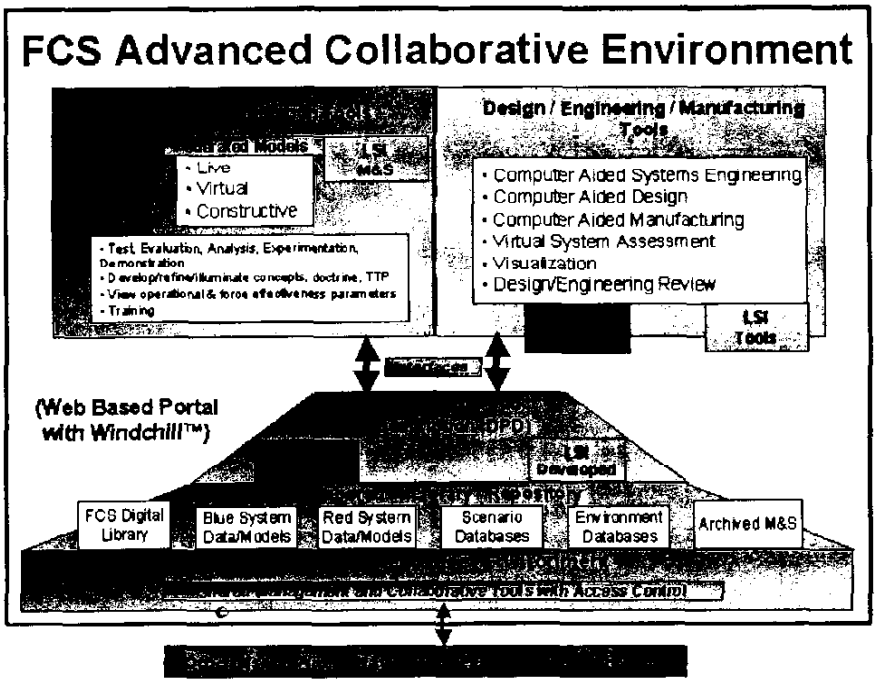
FCS ACE Architecture Summary

1. FCS Advanced Collaborative Environment: The FCS ACE Architecture will serve other programs/suppliers/stakeholders as the prototype architecture to define capabilities and interfaces for those programs that adopt or interface to the Army ACE Increment One. The FCS program is currently developing a Joint Technical Architecture–Army (JTA-A) compliant architecture document including the architecture views of the FCS ACE. PM FCS–Simulations, as the manager of the FCS ACE, is tasked to prepare that document and will publish it through the FCS Knowledge Center on AKO.



FCS ADVANCED COLLABORATIVE ENVIRONMENT
Color Key: Green = Government lead. Tan = LSI lead.
Blended = Shared. White = Detailed info only.

For its foundation, the FCS ACE is a an internet based Web Centric Architecture that provides access to a robust integrated data environment built on server hosted commercial off the shelf (COTS) applications and industry standards. Tailoring of applications is minimized to permit other programs/suppliers/stakeholders to replicate or interface to the FCS ACE capabilities as appropriate. Users are provided the capabilities of FCS ACE applications without loading software applications on local computers.

The following list provides the current deployed capabilities of the FCS ACE that will serve as the prototype for Increment One of the Army ACE:

WEB Portal Access Capability

Portal Capability

a. Single sign-on, role based access control.

b. All applications server hosted–no client software

c. Linked to Army Knowledge On-Line for access and publishing released, but limited distribution data

WEB Based Virtual Meeting Capability

a. Ability to host virtual meeting to share desk top application (i.e. share MS Office suite of tools)

b. Archives: presented materials, viewer comments, and attendees

Collaborative Project Environment

Collaborative Project Work Space Capability

a. Support to collaboration of draft work products

b. Multiple level access control methods

c. Integration of projects to schedule

d. Visualization of Computer Aided Design (CAD) models

e. Version history of data objects / documents / etc.

Action Tracking Capability

a. Ability to assign, track and manage action items

Integrated Program Calendar Capability

a. Ability to view single integrated calendar for entire program

b. Ability to synchronize between program and users desktop calendar

Program Management Applications Capability

a. Ability to give on demand earned value data

b. Ability to provide a comprehensive integrated schedule

c. Ability to track program risks

Collaborative Library / Repository

Document Management Capability

a. Data, document, and object configuration management (Based on a Product Lifecycle Management (PLM) application)

b. Work flows for release of data and documents objects

Product Data Management Capability

a. Change management capability

b. Ability to create complex workflows

c. Ability to trace requirements to product data

d. Ability to manage bills of materials with serial and date effectivity

e. Ability to produce light weight neutral format views of CAD data models

Requirements Traceability and Management Capability

a. Ability to trace requirements to specifications

b. Create a hierarchy of requirements

Distributed Product Description

Product Description Capability

a. Single, application-neutral, and logically unified SoS representation (product structure)

b. Ability to connect physically distributed systems (that may be composed of data from physically distributed servers) using original source data, controlled replication of data from the authoring source, or federated data using proxy objects

c. Ability to provide several views of information to support a full range of program activities:

(1) A logical flow of documents between organizations and phases,

(2) A physical view describing models and their characteristics,

(3) A performance view describing model behaviors,

(4) An interface view describing model relationships

(5) Bill of Materials listing

Interface to/from Modeling and Simulation Tools

Modeling and Simulation Interface Capability

a. Ability to manage modeling and simulation (M&S) inputs, results, and models–this is not a simulation execution environment

b. On-line planning, tasking, monitoring, synchronizing of M&S events

c. Streamline data preparation and accreditation

d. Configuration Management of models

e. Fast delivery of output in useful form

f. Traceability from requirements to decisions

Interface data to/from Engineering Design and Manufacturing Tools

Engineering Tools Interface Capability

a. Interface to CAD Tools – Mechanical CAD (MCAD) and Electrical CAD (ECAD) applications for managing and viewing data

b. Ability to manage CAD data (MCAD and ECAD)

c. Ability to visualize CAD data in a light weight viewer

d. Computer Aided Software Engineering (CASE) Tools and data

(1) Ability to manage software modules and builds

(2) Ability to manage multiple builds.

2. Army ACE Integration Approaches:

Initially there will be three implementation approaches that can be used by the programs under ASA(ALT) and U.S. Army Materiel Command Research Development and Engineering Command: (a) Integrate through software and/or hardware additions to their existing IDE architecture to connect to the Army ACE. (b) Adopt (not integrate architecture) the Army's ACE Architecture or (c) Accept the Army ACE to centrally manage program data.

In the "integration" approach, a program would deploy additional elements to their existing IDE architecture and infrastructure to allow their existing IDE to communicate with the Army's ACE. The interchange of data would be accomplished using either Industry or Army data interchange standards. In the case that where an interchange standard has not yet been developed, it will be mutually defined.

The "adopt" approach for the Army ACE architecture is best for new large-scale programs or legacy programs with an expected extensive industry infrastructure. It is foreseeable that new (i.e. ACAT I) large-scale programs will require implementation of their own local ACE for their specific program needs using the FCS ACE as the prototype architecture. This approach allows new programs the ability to implement an ACE based on the FCS ACE prototype while at the same time providing the ability for the data sharing with other programs. This approach also provides a repeatable process for programs to integrate to one another and share data amongst the various programs. For legacy programs this approach provides the benefit of allowing the Army to take advantage of the data that has been produced, without having the expense of re-hosting the data. It also allows legacy programs to view other program data.

The "accept" approach is for programs that are not large enough to require the implementation of an ACE. Rather the Army ACE will host their data. This gives small programs the advantage of very sophisticated collaborative environment from the first day of the program. This approach will require that these small programs conform to the particular business process, tools and capabilities of the Army's ACE.

3. FCS ACE integration Approaches and Data Requirements from Unit of Action Supporting PEOs:

PEO GCS is the lead PEO for the FCS equipped Unit of Action and requires support from other Army PEO's providing equipment in support of the Unit of Action Operational Requirements Document. The FCS Systems of Systems approach requires data from other PEOs to be provided to the FCS ACE as well as the future Army ACE. As the FCS Program expands to draw information from other programs within the Unit of Action, PM FCS will establish and publish the data requirements and interface connectivity required to collaborate within the FCS ACE.

The following represents a sample list of that data, to be tailored at the Project/Product Office level:

Requirements data

Product data

Modeling and simulation data

Test data