

# The Blueprint

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The official News Letter for the Army Architecture Repository Management System (AARMS)

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## AARMS version 2.1 Release June 2nd, 2003

On Monday, 2 June 2003, AARMS version 2.1 will be released with the following modifications:

- Total OV-3 Module Re-Design and OV-5 interface modification
- Improved Standard Reports (All Operational Architecture Reports converted to new Report Writer tool)
- Table Manager ONN edit capability
- TOE assignment modifications to visualize TOE usage in an architecture and Core System Roll Up queries for accuracy

**The database maintenance will be performed between the hours of 0700-0730, Monday 2 June.** During this time, the AARMS database will not be accessible. AARMS users will simply log on to the system as normal beginning at 0800 hours, and be prompted to automatically perform the software update. Just follow the instructions on your screen.

## The New and Improved OV-3 IEM Module

In the previous versions of AARMS, the Information Exchange Matrix (IEM) began with the decomposition of the mission or capability into required functions and tasks by echelon to accomplish the mission or to fulfill the capability requirement. These tasks were then cross-referenced with established standard Information Requirements (IR) (Messages) that were categorized into Data Item Types (DIT). (figure 1) Each IR was assigned default performance parameters so the IEM fields would be auto-generated. AARMS 2.1 has shifted the methodology to generate a higher level IEM at the DIT level to better support the majority of the Operational

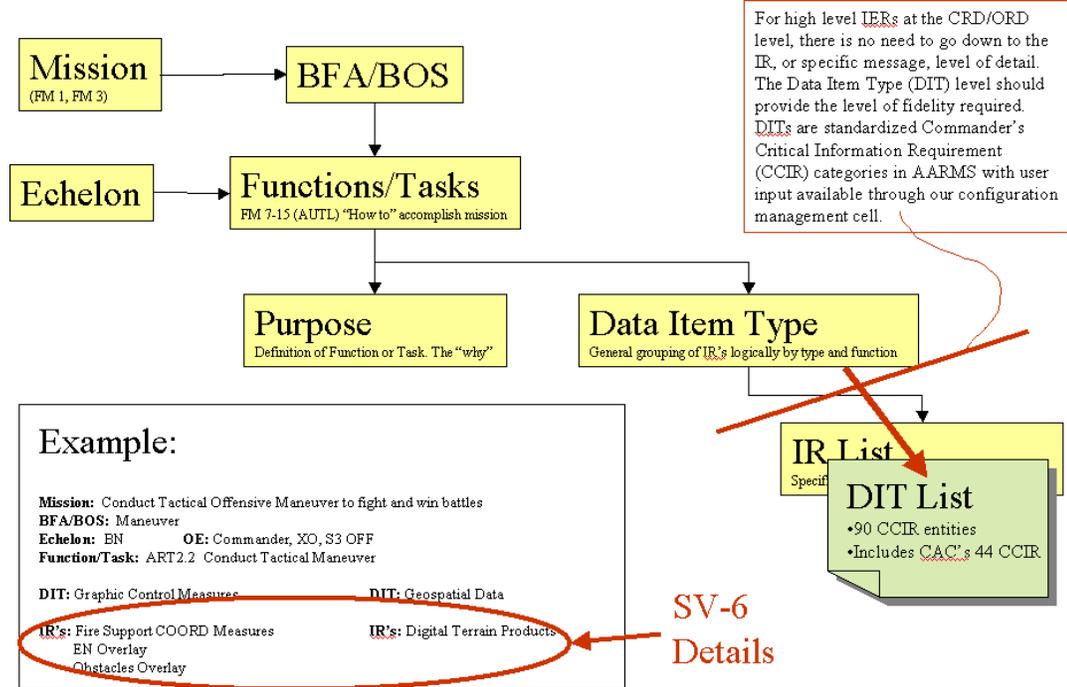


Figure 1

Architecture and program development community. (Changes shown in red in Figure 1) Instead of over a thousand IR combinations that had to be defined before hand into "Message Sets", the user will now have a more manageable (90 initially) DIT's to contend with that can be assigned easily to any task and Node on the fly. Also, the user will now have only the DIT's as Input and Output ICOM arrows for Activity Modeling. This will make it much easier to manage and track. The user will also have the ability to add additional DIT's to AARMS via table configuration management by the AIMD Table Manager. For example, the original 44 Critical Commanders Needs identified by CAC are included in AARMS as DIT's. DIT's are assigned default performance parameters like IR's so the IEM will be auto-generated as before. The user will still have the ability to edit the default values for the IEM with a new, easier to use editor.

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# The New OV-3 IEM continued:

AARMS users with a requirement for a more detailed, legacy style, Information Exchange Requirement (IER) will still have the capability to go to the more detailed IR level in the SV-6 (System Information Exchange Matrix) module. IR's are generally associated with Message Formats (VMF, USMTF, etc.). This information is generally not known until a system is applied against the Operational Requirement identified in the OV-3 in the OV-6. This capability will be included in a AARMS sub-release scheduled for the end of June 03. In order to support the Operational Architecture community as quickly as possible and to enable activity modeling to use the new DIT/ICOM method, the AARMS team felt it vital to release the OV-3 module as quickly as possible.

## The New OV-3 Module, How it works:

AARMS 2.1 continues to provide the user the flexibility to build the OV-3, Information Exchange Matrix, using either the output from Activity Modeling (using BPwin/AllFusion), or through a custom OV-3 module in the AARMS tool kit. As mentioned earlier, the new OV-3 module in AARMS makes use of Data Item Types (DIT's) that are generalized categories of Information Requirements (IR's) with default, standardized performance parameters. These DIT's are applied against needlines between a sending and receiving node. The AARMS OV-5 module allows the user to populate a BPwin/AllFusion activity model with DIT's for Inputs and Outputs and apply the results of the model to automatically assign DIT's to the needlines based on node functions. The OV-3 module allows the user to manually apply the DIT's to the needlines and generate multiple Information Exchanges between a pair of nodes. The OV-3 Module will not backwards fill an activity model to match any manual inputs.

Figure 2 depicts the original AARMS 1.0 and 2.0 OV-3 module. In the past, there were two ways to build the exchanges: a one to many and a many to one in terms of sending and receiving node/nodes. In AARMS 2.1, there is only one way with a modified, simple, single screen (figure 3). The user can now easily choose a receiving node from a drop down menu and **review and edit** the IEM entries for a highlighted needline without changing screens. *NOTE: If the OV-5 is used to generate the OV-3, the diagram will be auto-generated and all the OV-3 module functionality will apply.*

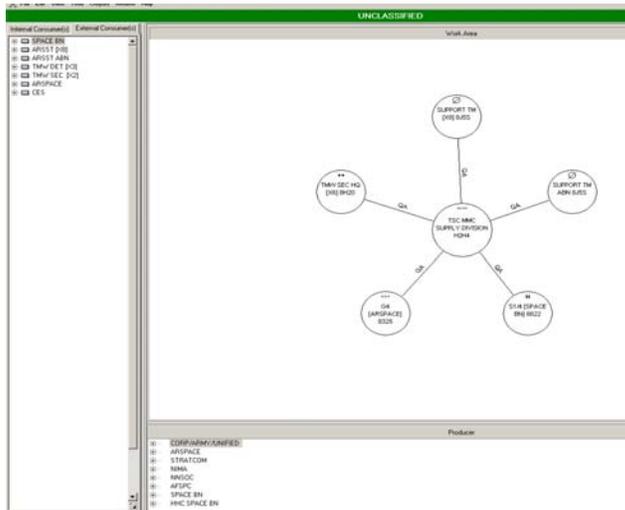


Figure 2: Original OV-3 Module

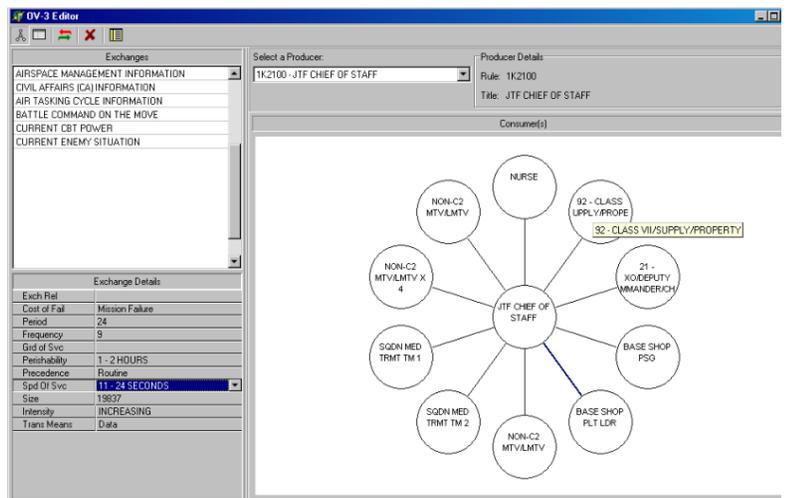


Figure 3: New OV-3 Module

The process of manually building the IEM is broken down into five simple steps using an Exchange Wizard tool (figures 4-8).

**STEP 1:**(figure 4) The user selects the producing node and launches the Exchange Wizard by double clicking on the node circle in the work space. The user will select the activity list he wishes to use (such as AUTL version XX, or UJTL version XX) then selects a task or activity from that list that the producer will need to perform. The user will work one activity at a time for each producer. In the example in Figure 4, the user has selected ART 2.4, Conduct Direct Fires

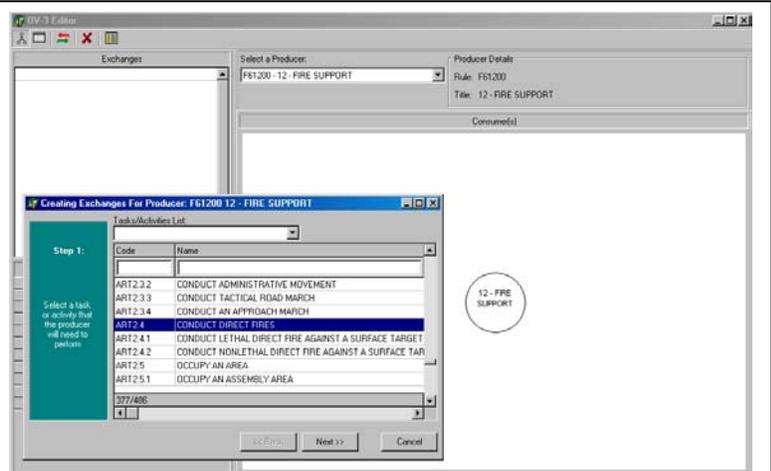


Figure 4: Exchange Wizard Step 1

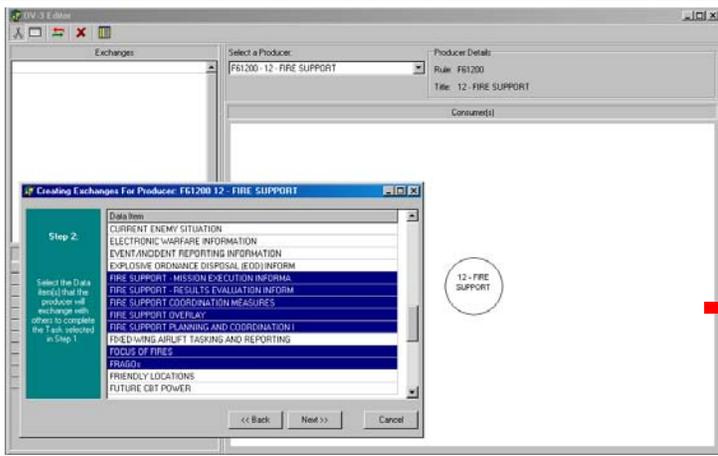


Figure 5: Exchange Wizard Step 2

STEP 2: (figure 5) The user selects the Data Item Type(s) (DIT) that the producing node will exchange with other nodes in the architecture to complete the task selected in Step 1. The user may select more than one DIT to create an “Exchange/Message Set” for a particular task.

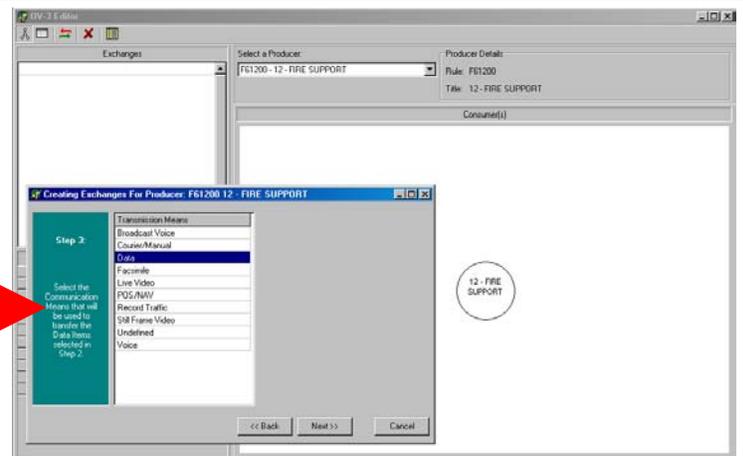


Figure 6: Exchange Wizard Step 3

STEP 3: (figure 6) The user selects the Communication Means (CM) (Data, Voice, Video, etc) from the standard CADM listing that will be used to transfer the Data Items selected in Step 2. More than one Communications Means may be selected and an Exchange entry on the OV-3 will be created for each combination of DIT and CM

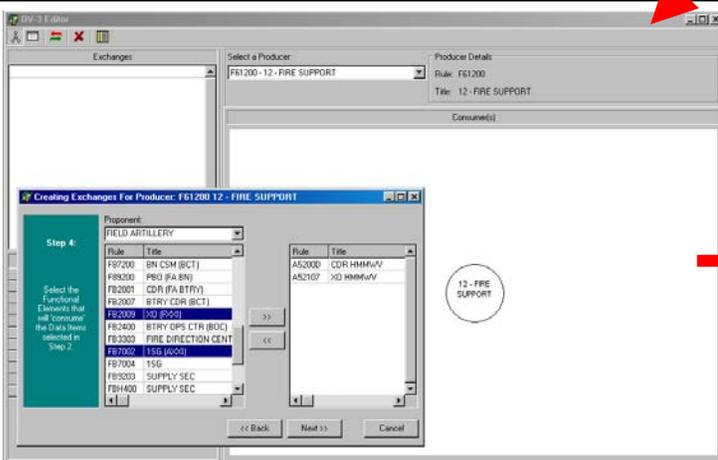


Figure 7: Exchange Wizard Step 4

STEP 4: (figure 7) The user selects the Functional Elements (nodes) that will consume the Data Items selected in Step 2 in support of the task selected in Step 1. More than one consumer may be selected and will receive the identical “Exchange/Message Set” in the OV-3. A needline will be auto-generated in the diagram for each consumer selected.

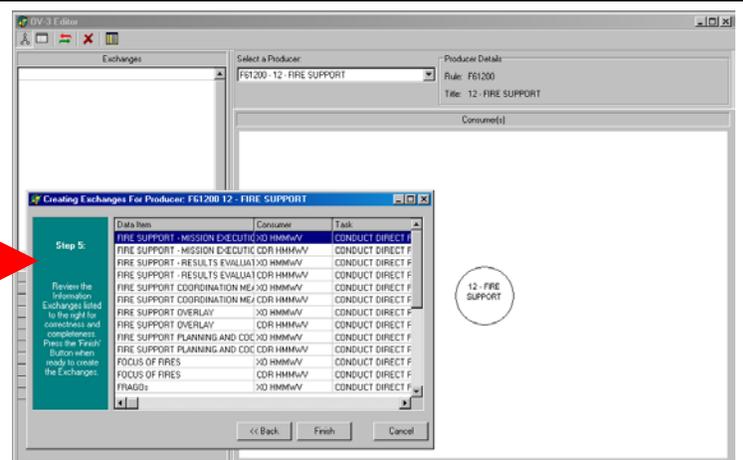


Figure 8: Exchange Wizard Step 5

STEP 5: (figure 8) The user can review and edit the Information Exchanges listed in the display box for correctness and completeness. By selecting the <Finish> button when ready, the user will create the actual entries for the OV-3 tables.

Figure 9 depicts the completed exchange diagram that results either from using the Wizard, or auto-generated from the OV-5. By “clicking” on the needline between nodes, the user can see the summary exchange data for each “IER” bundled to the needline. The user may also edit from this screen.

Look for more detail instructions on the use of the OV-3 module in the AARMS Users Guide located on the AIMD Web Site: [www.aimd.gordon.army.mil](http://www.aimd.gordon.army.mil) The Users Guide should be revised by 6 June 03 with the latest changes.

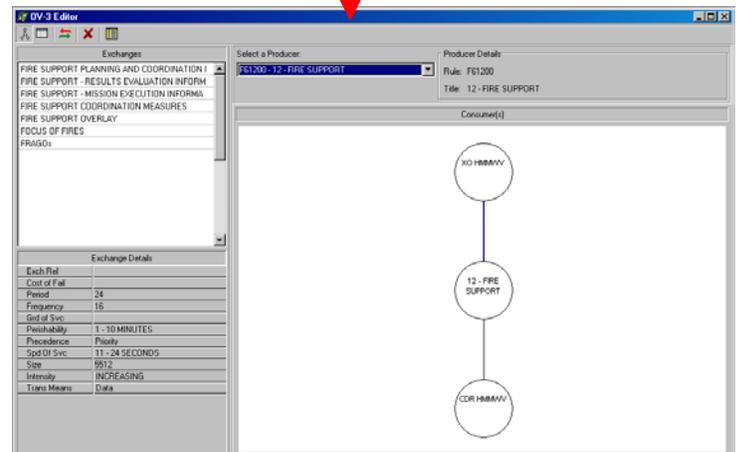


Figure 9: The completed Exchange Diagram (Low Level OV-2)

## Activity Modeling Using AARMS 2.1

Activity Modeling in the AARMS environment just got easier. AARMS is currently designed to work with the All Fusion (nee BPwin) IDEF0 Modeling Tool. The models project dictionary is populated with comma separated value (csv) files created by the AARMS OV-5 module containing the standard AARMS listings of Data Item Types (DITs), Tasks/Functions (AUTL/UJTL), generic Operational Element (OE) codes used to represent nodes, and the option of using Functional Elements (FE) for nodes specific to an architecture project. These values are then applied to the Input, Control, Output, and Mechanisms (ICOM) arrows to define the actions associated with a given task or function (Figure 10). AARMS also has the ability to accept User Defined Tasks that are not AUTL/UJTL based, but must be associated with an AUTL/UJTL task. The AARMS Users Guide provides more information on this feature.

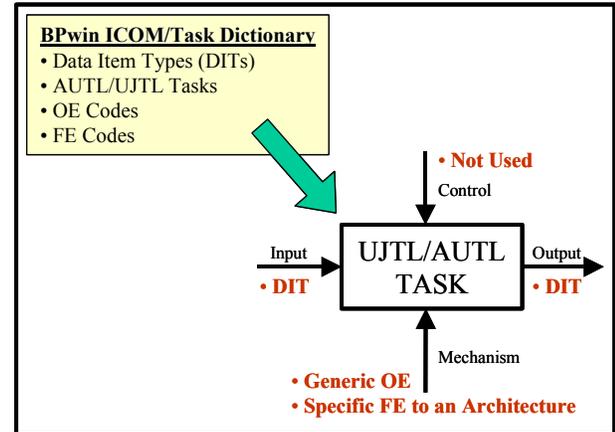


Figure 10: AARMS / BPwin Interface

Since AARMS 2.1 uses DIT's to bundle Information Requirements (IR), the choices for Inputs and Outputs is more manageable and still provides the fidelity required in the OV-3. Control arrows are generally not used in Operational Architecture modeling and are not used in AARMS. The mechanisms, or who performs the task/function is assigned either a generic OE code, or a specific FE code. The beauty of using the generic OE code is that an activity model can be built, saved, and applied against many different architecture projects as a base line model. The AARMS software will assign specific FE's used in a architecture project to the generic OE's used in the model when the model is applied against the project. In this case, if FE's are used in the project that do not use any OE's in the model, no exchange will be created in the OV-3 generated from the model. If the user chooses, he may select to use only the FE's in his architecture in the activity model. This makes the activity model specific to an architecture project, but ensures all the FE's and tasks are captured in the OV-3.

For Mission Thread projects, it is recommended that an activity model be created for each thread. These series of smaller, more manageable models can be integrated via the OV-3, and stand alone as OV-5 products unto themselves.

## AARMS-4 Development Update

AARMS is rapidly moving towards the goal of providing a true ARMY repository system to support Army sponsored architecture development. AARMS interface capabilities with the DoD Architecture Repository System (DARS) is vital to this goal. DARS will be a Repository System of System (SoS) where each service can store approved architecture products and port back and forth to working service specific repositories. AARMS is a member of this Repository SoS. AARMS-4, currently under development will make this goal a reality and become DARS-Army. The User Functional Description (UFD) for AARMS-4 has completed internal staffing at the AIMD and is currently under revision. The revised DRAFT UFD will then be made available to the AARMS community for comment.

The newest version of the Core Architecture Data Model (CADM) was released in April 03. AARMS will migrate to the new CADM to be conformant no latter than September 03. AARMS-4 will be conformant to the current version of the CADM.

The recently approved FM 7-15 (AUTL) task lists are being inputted into AARMS and should be available within the next week. Please note: Legacy architectures and IERs built using older UJTL/AUTL versions will NOT be converted to the new UJTL/AUTL tasks. Instead, AUTL and UJTL tasks will be versioned in AARMS. Make sure you know what version of the tasks you wish to use when working in an architecture project.

Look for AARMS 2.2 towards the end of June.

The new version will contain:

- SV-6 ability to decompose DIT's to individual IR's
- OV-6c Mission Thread Module
- Color coded "OPFACs" for FE's used in Operational Architectures with no equipment (in the OPFAC browser)
- Web Site Data Visualization and Reporting enhancements

### AARMS Training Notes

The two month long AARMS 2.0 training was a major success. Thanks to all who attended and we look forward to more two day training sessions once a month till AARMS-4 is fielded this Fall. All training materials are available on the AARMS web page.

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