



CORE 5.1.5 New Features Guide

*DoDAF v1.5 Views
Architecture Definition Guide
Sample DoDAF Project*



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Overview of CORE 5.1.5

Vitech Corporation is a leading provider of **model-based system engineering** and **DoD Architecture Framework (DoDAF)** solutions through our CORE product suite (CORE Workstation, CORE Enterprise, COREsim, and CORE2net) and consulting services. The CORE environment synchronizes system requirements, behavioral models, architectures, and design solutions with system specifications and test procedures. The resulting **integrated executable architecture** can be simulated using the COREsim discrete event simulator to gain insight into potential performance issues enabling better risk and contingency management for any size project.

With the release of CORE 5.1.5, Vitech provides support for CORE users responding to DoDAF v1.5. Highlights of this version include:

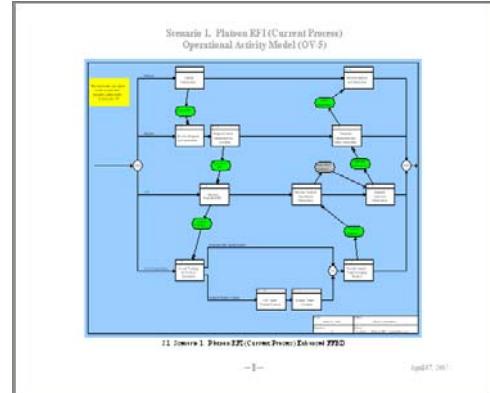
- **DoDAF v1.5 Views**—CORE provides a set of scripts to output each of the DoDAF v1.5 Views as RTF documents.
- **Architecture Definition Guide (DoDAF v1.5)**—The Architecture Definition Guide (DoDAF v1.5) provides a structured approach to populating a CORE project with architecture definition information using the DoDAF v15 schema. It provides insight and helps teams understand how to make the most effective use of CORE on a project responding to DoDAF.
- **Sample DoDAF Project**—CORE includes a sample project built using the DoDAF v15 schema and the principles of model-based system engineering discussed in the Architecture Definition Guide (DoDAF v1.5).

SV-3a Systems-Systems Matrix. CORE provides a matrix identifying the interfaces between Systems.

SV-3b Services-Systems Matrix. CORE provides a matrix identifying the interfaces between Systems and internal and external Services.

SV-3c Services-Services Matrix. CORE provides a matrix identifying the interfaces between Services.

SV-4 Systems Functionality Description. CORE behavior models include control, input/output, sequencing, and decomposition of Functions and can be output as Enhanced FFBDs, FFBDs, IDEF0 diagrams and/or N2 diagrams.



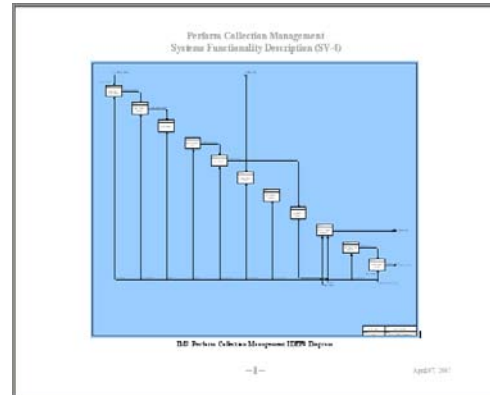
SV-5a Operational Activity to Systems Function Traceability Matrix. CORE outputs a matrix tracing between the OperationalActivities and Functions with the option to show the Component that performs each Function.

SV-5b Operational Capability to Systems Function Traceability Matrix. CORE outputs a matrix tracing between a capability's OperationalActivities and Systems.

SV-5c Operational Capability to Services Traceability Matrix. CORE outputs a matrix tracing between a capability's OperationalActivities and Services.

SV-6 Systems & Services Data Exchange. CORE provides a summary, or full data exchange, matrix listing Links, Items exchanged, and exchange characteristics.

SV-7 Systems & Services Performance Parameters Matrix. CORE outputs quantitative performance characteristics for Components and their associated Interfaces, Links, and Functions, in tabular form. Performance characteristics include current values as well as threshold and objective values referenced to near-term, mid-term and far-term time frames.



SV-8 Systems & Services Evolution Description. CORE provides an external file/graphic.

SV-9 Systems & Services Technology Forecast. A table is provided displaying technology forecast information for Components and their associated Interfaces, Links, Functions, and Items.

SV-10 Systems & Services Functionality Sequence Model. Sequencing within a CORE functional model is presented in EFFBD (or FFBD and N2) diagrams. Optional output includes rules and an external event trace or a captured COREsim timeline file.

SV-11 Physical Schema. CORE provides an external file and/or Item characterization table.

TV-1/2 Technical Standards Profile and Forecast. Technical standards information for each Standard that governs the Components and their associated Interfaces, Links, Functions, and Items is provided in table format.

DoDAF Sample Project

A sample project is provided as an example of generating an architecture using CORE. This project can be used in conjunction with the CORE DoDAF v1.5 scripts to explore the new functionality provided with CORE.

The sample project is an update of the DoDAF v1.0 Tactical Image Management Architecture, composed of both an operational element and an image management system which supports the architecture.

The scenario shown in the sample project is one where the existing capability (the 'tactical scenario') is being modified to expand the DoDAF products to include treatment and representation of services. Two capabilities were added:

1. Expose the existing product inventory to external users so that they can search for and retrieve specific products.
2. Provide the ability for external users to request and receive new products as they are developed.

Additional guidance is to preserve the existing tactical usage without breakage.

The tactical scenario models an army platoon which is advancing over a hill and requires information about the tactical environment on the other side of the hill. The platoon makes an image information request which is transferred back to the joint task force. The joint task force has access to an image management system which checks to see if the information required is already available in its inventory for transmission to the platoon. If the information is not in the inventory, a tactical UAV, in this case a Predator, is tasked to collect an image of the other side of the hill, send it back to the image management system, and then the requested tactical information is communicated to the platoon.

The sample project demonstrates the use of capabilities (as scenarios within the OperationalActivity class), leading to requirements for system services. Those requirements are then developed and integrated into the existing system functional behavior, which are then allocated to three new services.



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