

## Chapter 4 – VV&A ACTIVITIES DEFINED

### 4.1 TOP-LEVEL VIEW OF THE VV&A OVERLAY

As in the FEDEP, one of the design goals identified during the development of this VV&A overlay was to define a highly flexible process. This facilitates tailoring the VV&A activities defined in this overlay as the user needs and resource constraints demand. The actual application of VV&A techniques to support the development of a federation could vary significantly within or across different intended uses. However, the VV&A phases that correspond to the FEDEP steps establish a foundation for applying VV&A within the FEDEP. Figure 4-1 illustrates each of the FEDEP steps together with the corresponding VV&A overlay phases.

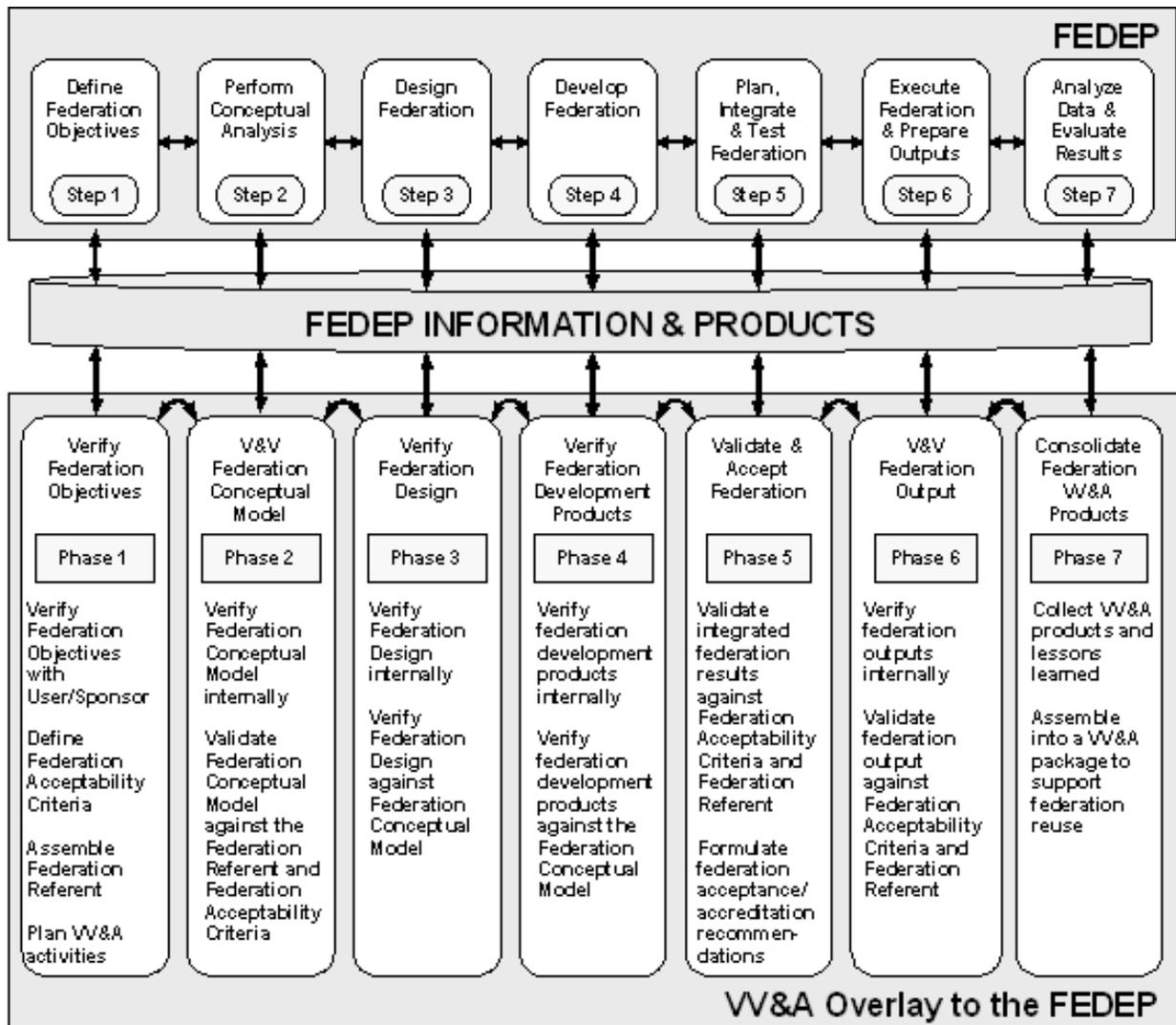


Figure 4-1: Top-Level View of the VV&A Overlay to the FEDEP.

## VV&A ACTIVITIES DEFINED

---

The purpose for each of the overlay phases is summarized below:

**Phase 1 – Verify Federation Objectives.** The VV&A Team works as part of the Federation Development Team to define a set of Federation Objectives and verify the completeness, consistency, and correctness of those objectives with the User/Sponsor. The VV&A Team also assembles the Federation Referent, defines the Federation Acceptability Criteria, and formulates the initial Federation Accreditation Plan and V&V Plan at this time.

**Phase 2 – V&V Federation Conceptual Model.** The VV&A Team supports the Federation Development Team in developing the Federation Scenarios, Federation Conceptual Model, and Federation Requirements. They also contribute to verifying these products and are responsible for validating the Federation Conceptual Model.

**Phase 3 – Verify Federation Design.** The VV&A Team supports selecting the federates and preparing the Federation Design. They also contribute to verifying the Federation Design and provide an updated Federation Accreditation Plan and V&V Plan for inclusion into the Federation Development and Execution Plan.

**Phase 4 – Verify Federation Development Products.** The VV&A Team supports developing the FOM, establishing the Federation Agreements, and implementing the Federation Infrastructure. They also contribute to verifying the FOM, Federation Agreements, and Federation Infrastructure. They provide any support needed to verify and validate the federate implementations and collect the information from these V&V processes. Finally, they verify and validate the data sets needed for federation execution.

**Phase 5 – Validate and Accept Federation.** The VV&A Team supports the Federation Development Team in planning the federation execution, integrating the federation, and testing the federation. They also contribute to verifying the integrated federation. They have primary responsibility for validating the results produced by the integrated federation and developing the federation acceptance/accreditation recommendations from the collected V&V evidence.

**Phase 6 – V&V Federation Output.** The VV&A Team supports executing the federation when needed and contributes to verifying the raw execution and derived output produced from these executions. They then validate the federation output when needed.

**Phase 7 – Consolidate Federation VV&A Products.** The VV&A Team supports analyzing the federation output when needed and collects and assembles the products from the preceding VV&A activities into a consolidated package to support future reuse.

The seven phases in this overlay parallel the seven steps in the FEDEP. As in the FEDEP, this overlay decomposes each of the VV&A phases into a set of interrelated lower-level activities and supporting information resources.

## 4.2 OVERVIEW OF THE VV&A OVERLAY ACTIVITIES

The VV&A overlay describes a high level framework for the verifying, validating, and accepting HLA federations. The intent of the VV&A overlay is to specify a recommended practice that details the VV&A phases that correspond to, support, and augment the FEDEP steps. Federation stakeholders can leverage this overlay to achieve the specific needs associated with their intended use.

Figure 4-2 illustrates the VV&A overlay and its interactions with the FEDEP at equivalent levels of abstraction. This view illustrates the flow of VV&A activities, information, and products across the seven process phases identified in Figure 4-1. Figure 4-2 depicts the FEDEP steps, the VV&A phases, and the primary information products shared between these steps and phases.

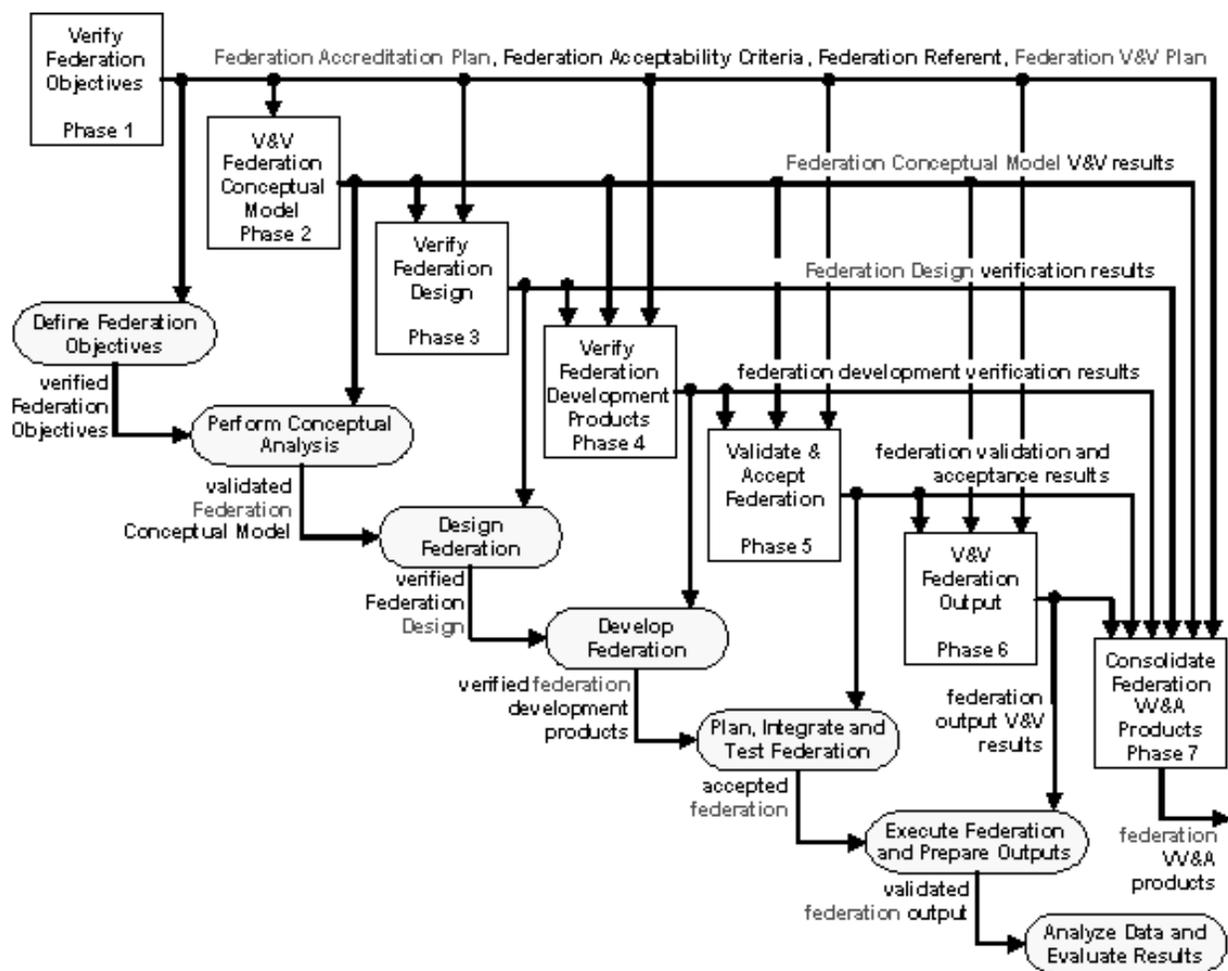


Figure 4-2: Detailed View of the VV&A Overlay to the FEDEP.

Figure 4-3 identifies the individual activities that compose each of the VV&A phases that correspond to the FEDEP's seven steps.

## VV&A ACTIVITIES DEFINED

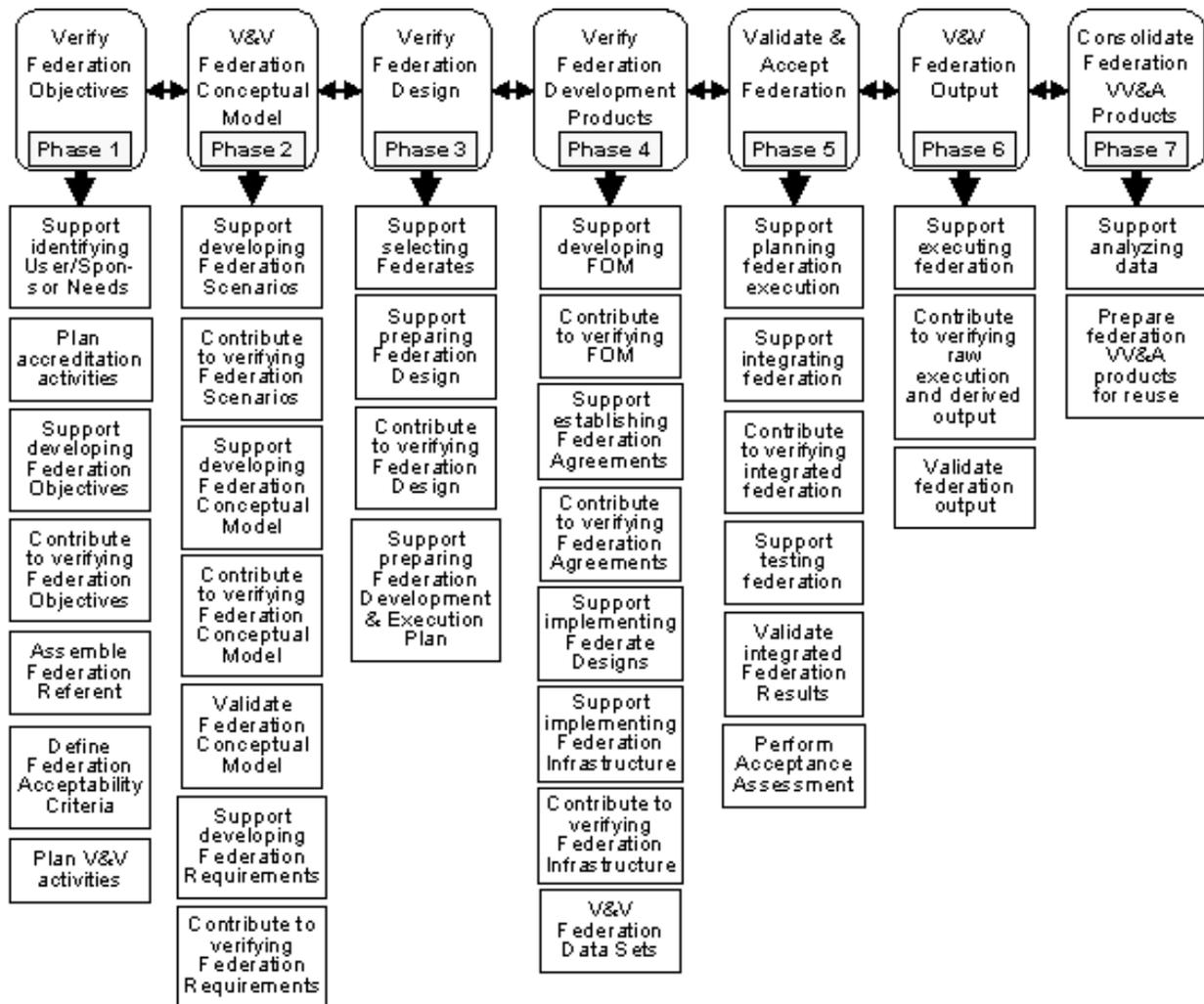


Figure 4-3: Activities Associated with Each VV&A Overlay Phase.

Although many of the activities represented in this overlay diagram appear highly sequential, the intention is not to suggest a strict waterfall approach to VV&A. Rather, this process illustration is simply intended to highlight the major VV&A activities that occur during federation development and execution and approximately when such activities are first initiated relative to other VV&A or FEDEP activities.