



V&A

Verification, Validation & Accreditation Recommended Practices Guide

On-Line Version



Presentation to DMSO Industry Days

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The Accreditation Agent and VV&A?

*The Accreditation Agent is the **M&S User's advocate** throughout the M&S development process to ensure that the simulation meets requirements for credible use.*

*The intent of the V&V process is to generate information that the Accreditation Agent can use to support an assessment of simulation **credibility for a specific use** (Accreditation).*



How Does the Accreditation Agent Impact VV&A?



- **The Accreditation Agent provides:**
 - a cost-effective accreditation assessment that results in a logical justification for the accreditation recommendation.
 - assurance the V&V effort includes activities and products that can provide sufficient evidence to support the accreditation assessment
- **The Accreditation Agent:**
 - participates in the problem analysis effort to assess risks, define requirements, determine appropriate measures of merit (MOMs) and establish VV&A priorities
 - participates in requirements verification
 - leads the effort to develop acceptability criteria against which the simulation will be assessed during the V&V and accreditation efforts
 - assists in the development of V&V plans and the selection and focus of V&V activities



How Does VV&A Impact the Accreditation Agent?



- **The nature, scope, and depth of Accreditation Agent activities are directly affected by the effectiveness and appropriateness of the V&V tasks performed.**
 - AA should be identified as early as possible in M&S development process
- **The Accreditation Agent is involved with the following major V&V considerations:**
 - Correctness and completeness of the problem analysis.
 - Clarity and completeness of objectives and requirements.
 - Accuracy completeness, and availability of V&V documentation.
 - Soundness of the configuration management program.



What are the Accreditation Agent's Responsibilities in V&A?



- **Basic Responsibilities of the Accreditation Agent**
 - Assist User with development of simulation acceptability criteria
 - Develop an Accreditation Plan that builds on any existing V&V plans and describes the steps needed to reach full accreditation
 - Monitor the V&V effort to assess product utility and sufficiency
 - Incorporate evolving requirements, risks, and priorities in accreditation plans
 - Assist V&V Agent to accommodate changes in priorities and objectives
 - Plan, direct, and report on the accreditation assessment(s)
 - Represent the User's interests throughout the development process



What Challenges does the Accreditation Agent Face Relative to VV&A?



- **Delayed appointment of the Accreditation Agent**
- **Inadequate definition of the objectives and requirements of the application**
- **Inadequate resources for VV&A**
- **Simulation used as a support tool for a larger effort**
- **Lack of management understanding or interest in VV&A**



Specific Accreditation Agent Responsibilities



Activity	Typical Accreditation Agent Support
Determine M&S Requirements & Acceptability Criteria	Assist the User in preparing a problem analysis to identify M&S requirements, and conduct a risk assessment to establish priorities for the V&V and accreditation efforts.
Develop Accreditation Plan	Develop acceptability criteria in conjunction with the User, ensure the scope and depth of the V&V activities planned are sufficient to provide the information needed for the assessment
V&V Efforts	Guide the V&V efforts by providing information about what aspects of the simulation should be evaluated for the specified application and the relative importance of each.



Specific Accreditation Agent Responsibilities (cont.)



Activity	Typical Accreditation Agent Support
Collect and Evaluate Accreditation Support Information	Monitor V&V efforts to ensure products can satisfy the needs of accreditation. If changes occur in how the simulation will be used, reassess risks and update acceptability criteria as needed.
Collect Information	Assist User or Program Manager to identify and collect non-V&V supplemental information for assessment.
Conduct Accreditation Assessment	Identify assessment approach (a single person or team), facilitate assessment meetings, draft accreditation assessment report