



# 2011 V&V Summit: Verification & Validation Overview

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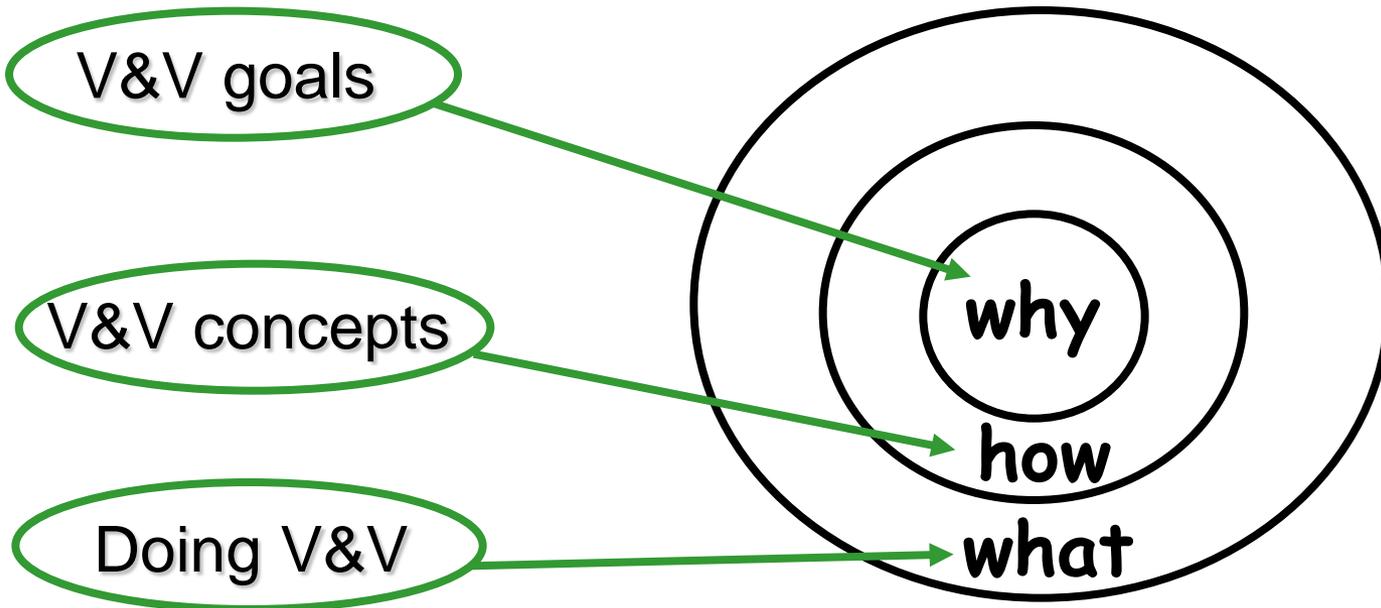
Date: 10/19/11



Federal Aviation  
Administration



# V&V Overview



# V&V Goals: Why V&V?

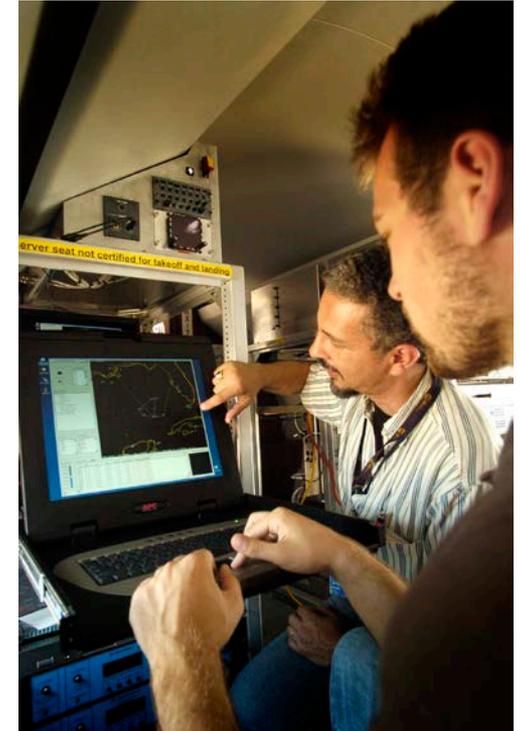
1. Quality products
2. Problem prevention, detection, and resolution as early in the lifecycle as possible



**Build an effective system efficiently**

# V&V Concepts: How to do V&V

- Focus on key work products
- Verify and validate against reliable criteria
  - Standards
  - Requirements
  - Templates
  - Previously V&Ved work products
- V&V is used as a basis for key decisions

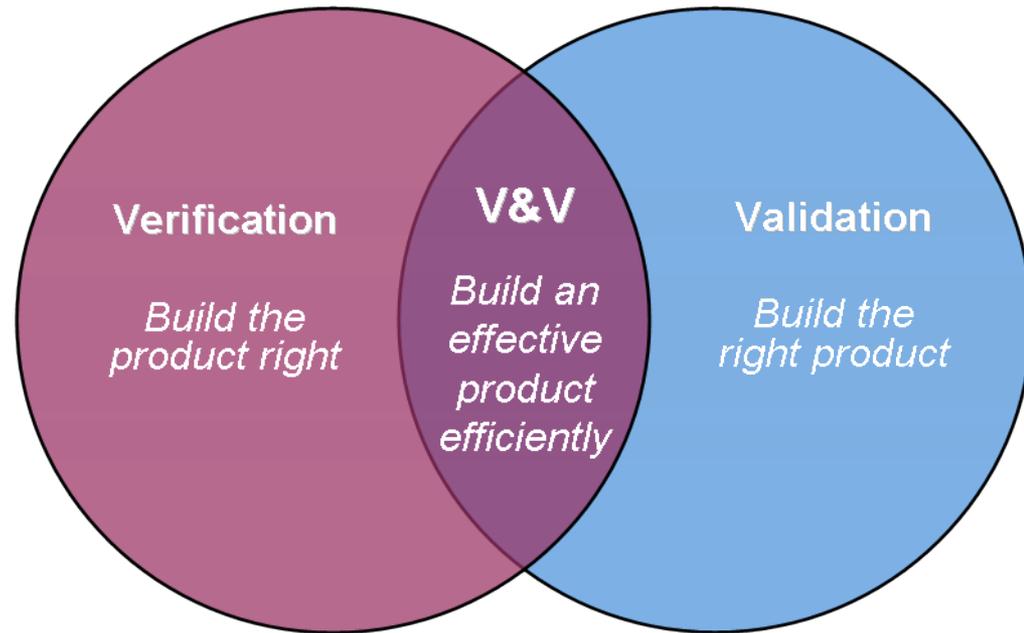


**Perform V&V Early and Incrementally**

# Doing V&V: What should V&V do

**Verification**- Ensures that selected work products meet their specified requirements

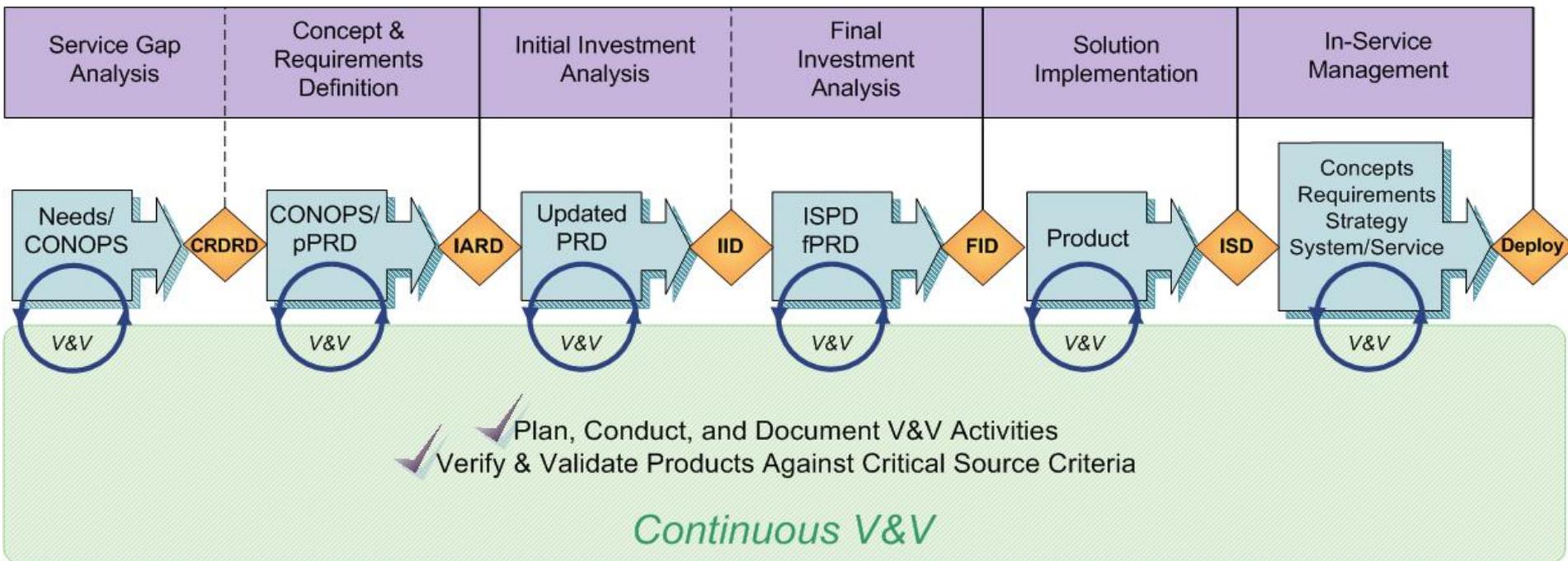
**Validation**- Demonstrates whether a product or product component will fulfill its specified purpose when placed in its intended environment



**V&V is broader than T&E.**

**The performance of T&E supports the goals of V&V.**

# Implementing V&V in the Product Lifecycle



**CONOPS:** Concept of Operations  
**pPRD:** Preliminary Program Requirements Document  
**fPRD:** Final Program Requirements Document

**ISPD:** Implementation Strategy & Planning Document  
**Critical Source Criteria:** Strategic Plans, Enterprise Architecture, NAS Requirements, standards, templates, previous work products

# Status of V&V in the FAA

- **V&V policy and guidelines in place**
  - Still needs to be put into practice
  - V&V Guidelines updates and tools needed
- **Test standards established and evolving**
  - Updating T&E policy and processes to address NextGen needs
  - Test Standards Board providing technical, standards, and process support
- **V&V capabilities needed for NextGen**
  - New V&V methods and lab capabilities
  - Focus on system-of-systems simulation and modeling