“ROLE OF IV&V”

Distinguished Speakers:

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INDEPENDENT VERIFICATION AND VALIDATION

OBJECTIVES

To Summarize IV&V Objectives and Benefits

To Understand the Federal Requirements for IV&V

To Provide the Federal Perspective on IV&V

To Provide IV&V Status/Statistics

Verification/Validation - Take 1 (IEEE STD 1012-1998)

Validation: Confirmation by examination and provisions of objective evidence that the particular requirements for a specific intended use are fulfilled

Verification: Confirmation by examination and provisions of objective evidence that specified requirements have been fulfilled

Verification/Validation - Take 2 (Simplified)

Validation: Ensuring the right product is built

Verification: Ensuring the product is built right

Potential Barriers to IV&V

Lack of resources

Schedule constraints

Lack of access to project

Evolving products

Reporting – “too much” vs. “too little”

Benefits of IV&V

Identifies high-risk areas early

Provides State and Federal governments an objective analysis to deal with system development issues

Provides management with improved visibility into the progress and quality of the development effort

Reduces errors in delivered products

Federal IV&V Requirements

Independent Verification and Validation (IV&V) provides an independent appraisal of a system's development project

Independent - The IV&V Provider and associated contract must reside outside the State's Title IV-D Agency and it's Umbrella Agency

Federal Variations to "Traditional" IV&V

Identifies areas of deficiencies and risk and recommends solutions, but does not actively participate in remedial activities

Focus is on both management and work products

Reports are submitted to OCSE at the same time they are provided to State management

Federal IV&V Regulations

Federal Regulation **45 CFR 307.15(b)(10)** requires an entity independent of the State Title IV-D Agency and of the CSES Project Management Structure to review all technical and managerial aspects of the project

IV&V "Triggers"

Lack of a certified FSA-88 system

Failure to timely submit APD's

Submission of APD for system redesign

Failure to meet a critical milestone

Development under a waiver pursuant to 452(d)(3) of Social Security Act

OCSE determination of risk of project failure, serious delay or cost overrun

FEDERAL PERSPECTIVE ON IV&V

IV&V vs. Quality Assurance

Under PRWORA, OCSE requires States to provide evidence of adequate QA

QA is an on-going process, while IV&V typically provides a “snapshot” of the project at a point in time

QA Provider -- Works directly under the direction of the State’s project staff

IV&V Provider -- Is not directly associated with or managed by the project staff

IV&V Process

For States meeting one of the IV&V triggers, OCSE conducts a “Scope of IV&V Assessment Review”

OCSE selects the appropriate activities to investigate in a particular project

Output of the review is a report identifying specific IV&V requirements for the State

Report is written to aid the State in developing the Statement of Work for their IV&V RFP

Contractor vs. State Agency

Criteria for an IV&V Service Provider are:

- Independence from Title IV- D Agency and it's Umbrella Agency
- Capability and capacity to handle management, organization and performance assessment and analysis, *and possibly*,
- Capability to accommodate highly technical analyses in areas such as: Capacity Analysis, Software Metrics and Performance, etc.

THE IV&V PROCESS

IV&V Process - Part 1
OCSE

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IV&V Assessment Activities
Project Management

Project Initiation

Business Process Re-engineering

Project Planning and Reporting

Project Estimating and Scheduling

Project Personnel

Project Organization

Subcontractors and External Staff

- Subcontractor commitment
- State oversight
- Acceptance and turnover

IV&V Assessment Activities
Project-Wide Processes

Training and Documentation
- User Training and Documentation
- Developer Training and Documentation

Process Definition and Standards

Quality Assurance

Risk Management

Configuration Management

Requirements Management

System Security

System Capacity

IV&V Assessment Activities
Environments, Processes and Products

Systems Engineering

- Requirements Analysis
- Interface Requirements
- Requirements Allocation and Specification
- Reverse Engineering

Operating Environment

- System Hardware
- System Software

Data Management

- Database Software
- Data Conversion
- Database Design

IV&V Assessment Activities
Environments, Processes and Products

(Continued)

Development Environment
- Hardware
- Software

Software Architecture
- High-Level Design
- Detailed Design
- Job Control

Code and Test
- Code
- Unit Test
- Integration Test
- System/Acceptance Test
- Pilot Test

IV&V Process - Part 2

The State

The RFP and IV&V Contract must be submitted to OCSE for Prior Approval

If another State agency is used as the IV&V Provider, a copy of the Interagency Agreement is provided to OCSE for Prior Approval

Federal Funding for IV&V Services is available at the 66% FFP Rate

IV&V Process - Part 3

The IV&V Provider

Works with the State to develop an IV&V Management Plan that identifies the scope, depth, schedules, and resource requirements of the IV&V effort

All Work Plans and Reports generated must be submitted to OCSE at the same time they are submitted to the State

IV&V Provider Requirements

Develop an IV&V Management Plan

Review and make recommendations on Project Organization, Management, Resources, and Methodologies

Review and make recommendations on the technical aspects of the CSES

Assess Stakeholder and User Involvement and Buy-in

IV&V Provider Requirements

(Continued)

Analyze past project performance to develop "lessons learned"

Provide Risk Management Assessment

Provide Capacity Planning, as required

Develop performance measures to track project completion

Address issues from OCSE's "Scope of IV&V Assessment" Review

IV&V Statistics (1998 – 2004)

19 Projects initially required IV&V

22 OCSE IV&V Assessment Reviews performed to-date

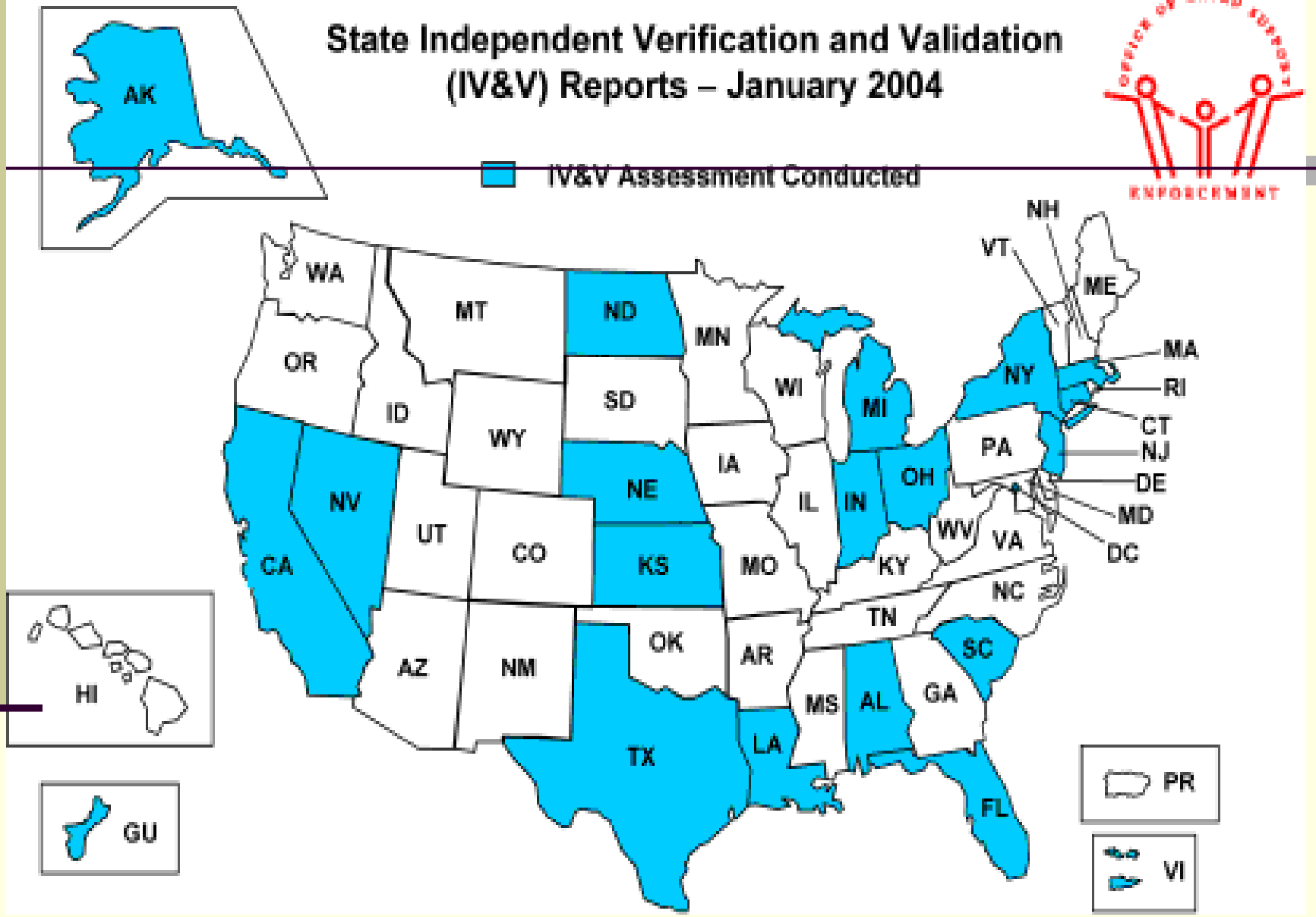
- 17 Due to missed certification deadline or major project milestone
- 5 Due to a new or replacement system

4 Projects currently requiring IV&V (CA, FL, SC, TX)

Number of projects requiring IV&V (at year end + 2004)

1998 (2), 1999 (14), 2000 (13), 2001 (12), 2002 (11), 2003 (11), 2004 (4)

State Independent Verification and Validation (IV&V) Reports – January 2004



California IV&V

February 2000 – OCSE IV&V Assessment Review. Required CA to acquire Full Time IV&V Support

January 2001 – Bearing Point, Inc. IV&V Team began work as the State's IV&V Provider

May 2003 – OCSE conducted a "Feasibility Study"

California IV&V work products used as examples for South Carolina IV&V effort

South Carolina IV&V

August 1999 – First OCSE IV&V Assessment Review conducted. Specified periodic IV&V support (Every 6 Months)

October 2000 – OCSE conducted a "Feasibility Study and Scope of IV&V Assessment Review". Resulted in the requirement for the State to acquire a Full Time IV&V Provider

May 2001 – USC IV&V Team began work as the State's IV&V Provider

State leveraged off California IV&V effort and has incorporated many of CA IV&V work products for SC (e.g., Quarterly IV&V Report, Interim Status Update Report, etc.)

QUESTIONS AND ANSWERS

“THANKS TO OUR SPEAKERS”

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