OSAC Research Needs Assessment Form

Title of research need: Software Validation Repository

Keywords: Software, Validation, Processing, Enhancement, Digital Evidence

Submitting subcommittee(s):   VITAL   **Date Approved:**   1/28/16
(If SAC review identifies additional subcommittees, add them to the box above.)

Background information:

1. Description of research need:

Accredited digital evidence laboratories (DELs) are required to validate software used for any purpose, including enhancement, processing, and analysis. Due to this requirement, DELs spend significant amounts of time to test and validate software used in analysis, however, to date no effort has been made to standardize the process used for testing and validation. Further, no (or few) DELs share lists of previously validated software or information related to their testing procedures, which propagates this problem. VITAL requests a study be done on commonly used software within DELs, and a repository be created that includes what the software is, testing done to validate the software, and limitations suggested for tested software.

2. Key bibliographic references relating to this research need:

3a. In what ways would the research results improve current laboratory capabilities?

The research would improve current laboratory capabilities and conceivably reduce backlogs by eliminating the need for accredited laboratories to independently test and validate commonly used software.

3b. In what ways would the research results improve understanding of the scientific basis for the subcommittee(s)?

> Testing and validating software would improve understanding of the limitations of each software, which should help improve results of DEL examiners.

3c. In what ways would the research results improve services to the criminal justice system?

> Due to the decreased administrative workload for examiners, additional time could be spent conducting examinations. This should allow for a reduction in backlogs, a swifter return of examinations, and a quicker implementation of novel software in scientific procedures. This would also allow for reduced challenges of software in a courtroom environment.

4. Status assessment (I, II, III, or IV): III

	Major gap in current knowledge	**Minor** gap in current knowledge
No or limited current research is being conducted	I	III
Existing current research is being conducted	II	IV

This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.

Subcommittee	Approval date:	1/28/16

(Approval is by majority vote of subcommittee. Once approved, forward to SAC.)

SAC

1. Does the SAC agree with the research need?   Yes ☒   No ○

2. Does the SAC agree with the status assessment?   Yes ☒   No ○

   If no, what is the status assessment of the SAC: ☐

Approval date: 6/15/16

(Approval is by majority vote of SAC. Once approved, forward to NIST for posting.)