**National Software Reference Library (NSRL)**
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**Overview:** The National Software Reference Library (NSRL) provides a repository of known software, file profiles, and file signatures for use by law enforcement organizations in computer forensics investigations.

**Industry Need Addressed:** Investigation of computer files required a tremendous effort in reviewing individual files. A typical desktop computer contains between 5,000 and 20,000 files, each of which must be reviewed for probative content. To eliminate as many known files as possible from having to be reviewed, an automated filter program will screen these files for specific profiles and signatures. If a specific file's profile and signature match the database of known files, then the file can be eliminated from review as a known file. Those files that do not match would be subject to further investigation.

There are four objections from law enforcement about computer forensics tools that are available in the marketplace. Specifically, there are no unbiased organizations involved in the implementation of investigative tools. Second, law enforcement has no control over the quality of data provided by the available tools since they come from independent market-driven sources. Third, there are no repositories of original software available from which data can be reproduced. Fourth, each tool provides only a limited set of capabilities with respect to the information that can be obtained from file systems under investigation.

**NIST/ITL Approach:** A prototype manual system has been developed as a measuring tool for checking the output of a tool being developed and modified by a contractor. The prototype provides file profiles and computed signatures of known files contained within the NSRL. The product will be tested against the prototype system and put into production to produce an initial database of known file profiles and signatures for distribution. The production system will be tested for reproducible results and production of a master database of file profiles and signatures. An extract of this database will be made available through distribution channels. Individual manufacturers of software are being asked to donate software, particularly older versions, to the repository. This software includes virtually any type available, such as operating systems, database management systems, utilities, graphics images, component libraries, etc. in all their different versions.

**Impact:** The NSRL is designed to meet all four criteria voiced by law enforcement: NIST is a neutral organization chosen for its international reputation in providing clean, unbiased, and objective reference data; NIST provides an open rigorous process for assuring the quality of the data; the NSRL will become an international resource software repository for the constituent file information included in the data; and the reference data will include full information on each file including cross-reference of data for use by other tools.