



# Scientific Working Group on Digital Evidence

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## SWGDE Proficiency Test Guidelines

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## 1. Purpose

The purpose of this document is to provide guidance for testing core competencies for a Digital and Multimedia Evidence (DME) proficiency test program.

## 2. Scope

The proficiency test program, which is a component of a Quality Assurance program, should verify that the technical procedures are valid and that the quality of each examiner's work is being maintained.

## 3. Examination Areas

- Photography
- Computer Forensics
- Mobile Devices
- Forensic Audio
- Video Analysis
- Image Analysis

## 4. Test Preparation and Design

Proficiency tests may be internal or external, open or blind. Tests shall be procedure specific, process based, and representative of items and technology routinely examined. The test design, test preparation, and expected results shall be documented by an individual or organization identified by the tested organization as technically knowledgeable in the examination area. A second individual or organization identified by the tested organization as technically knowledgeable in the examination area shall confirm the suitability for testing, the completeness of the test, and expected results. The test should be representative of routine DME casework, and the body of knowledge on which the test is based should be clearly defined. Examiners and technical support personnel need only demonstrate proficiency in those processes that are representative of their routine activities. Test participants need not demonstrate proficiency in all of the processes listed below.

The proficiency test should be representative of your typical work and may include, but not limited to, one or more of the processes listed in Table 1. Proficiency Test Processes.



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*Table 1. Proficiency Test Processes*

	Photography	Computer Forensics	Mobile Devices	Forensic Audio	Video Analysis	Image Analysis
Media/Evidence Handling	X	X	X	X	X	X
Write Protection	X	X	X (Removable Media)	X	X	X
Transmission Blocking			X			
Media Characterization	X	X	X	X	X	X
Acquisition: Physical /Logical Copy		X	X			
Media Preparation		X	X			
Duplicate/Copy	X			X	X	X
Reconstruction/Recovery				X	X	X
Restoration		X				
Image Data Recovery						X
Directory Listing		X				
Playback Optimization				X	X	X
Image Content Analysis						X
Extraction/File Carving		X	X			
Deleted File Recovery		X				
Identification and/or recovery of hidden information		X	X			
Identification and/or recovery of encrypted data		X	X			
Metadata		X	X			X
Data Extraction				X	X	X
Data Analysis				X	X	X
Signal Analysis				X		
Search by Criteria		X	X			
Enhancement	X			X	X	X
Internet Activity		X	X			
Authentication				X	X	X
Password Recovery		X	X			
Standard Conversion				X	X	X
Data Verification	X	X	X	X	X	X
Format Conversion	X			X	X	X
Timeline Sequence					X	X
Photogrammetry					X	X
Demonstrative Comparison					X	X
Photographic Comparison						X
JTAG			X			
Chip-off			X			
Report of Findings	X	X	X	X	X	X
DVR Data Retrieval					X	X

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## 5. Test Approval

Documentation of test design, test preparation, and expected results will be provided to an individual identified by the organization (not the tested individual) for approval.

## 6. Testing Process

Proficiency tests will be distributed and conducted according to the organization-approved protocols in effect at the time of the proficiency test.

## 7. Review of Test Results

The results and supporting documentation will be evaluated by qualified personnel (not the tested individual) identified by the organization. Additionally, results and the evaluation will be provided to management and reviewed with the individual tested. Consequences of pass or failure should be clearly understood by the test taker.

## 8. Documentation

The proficiency test results and supporting documentation will be retained in accordance with the organization's documentation retention policy.

## 9. Corrective Action

Inconsistencies in the proficiency test results are indicative of a problem with the test, the methods or processes used by the individual being tested, the organization's Quality System, or the individual being tested. These are resolved in accordance with the organization's policy, which should include the following: the testing process, Quality System, the tested individual, ambiguities within the test and procedures for challenging the test.



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### History

Revision	Issue Date	Section	History
1.0	06/04/2015	All	Initial draft created and voted for release as a Draft for Public Comment. This is an update to the document, <i>SWGDE/SWGIT Proficiency Test Program Guidelines</i> , which was originally created and released in collaboration with the Scientific Working Group on Imaging Technology (SWGIT).
1.0	06/20/2015	All	Formatting and technical edit performed for release as a Draft for Public Comment.
1.0	09/17/2015	9	Minor stylistic changes in response to received public comments. SWGDE voted to release as an Approved Document.
1.0	09/29/2015	All	Formatting and technical edit performed for release as an Approved Document.

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