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**Draft NISTIR 7298**

**Revision 3**

**Glossary of Key Information Security Terms**

Celia Paulsen



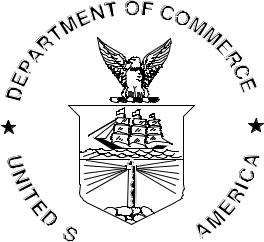
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**Draft NISTIR 7298**

**Revision 3**

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| 20 | **Glossary of Key Information** |
| 21 | **Security Terms** |
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| 23 |  |
| 24 | Celia Paulsen |
| 25 | *Computer Security Division* |
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| 27 | *Information Technology Laboratory* |
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| 44 | U.S. Department of Commerce |
| 45 | *Wilbur L. Ross, Jr., Secretary* |
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| 47 | National Institute of Standards and Technology |
| 48 | *Walter Copan, NIST Director and Under Secretary of Commerce for Standards and Technology* |

1. National Institute of Standards and Technology Internal Report 7298 Revision 3
2. 11 pages (September 2018)

51 Certain commercial entities, equipment, or materials may be identified in this document in order to describe an

52 experimental procedure or concept adequately. Such identification is not intended to imply recommendation or

53 endorsement by NIST, nor is it intended to imply that the entities, materials, or equipment are necessarily the best

54 available for the purpose.

55 There may be references in this publication to other publications currently under development by NIST in accordance

56 with its assigned statutory responsibilities. The information in this publication, including concepts and methodologies,

57 may be used by federal agencies even before the completion of such companion publications. Thus, until each

58 publication is completed, current requirements, guidelines, and procedures, where they exist, remain operative. For

59 planning and transition purposes, federal agencies may wish to closely follow the development of these new

60 publications by NIST.

61 Organizations are encouraged to review all draft publications during public comment periods and provide feedback to

62 NIST. Many NIST cybersecurity publications, other than the ones noted above, are available at

63 [https://csrc.nist.gov/publications.](https://csrc.nist.gov/publications)

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1. **Public comment period: *September 28, 2018* through *November 30, 2018***

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| --- | --- | --- | --- |
| 66 | National Institute of Standards and Technology | | |
| 67 | Attn: Computer Security Division, Information Technology Laboratory | | |
| 68 | 100 Bureau Drive (Mail Stop 8930) Gaithersburg, MD 20899-8930 | | |
| 69 | Email: [secglossary@nist.gov](mailto:secglossary@nist.gov) | | |
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1. All comments are subject to release under the Freedom of Information Act (FOIA).

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| 72 | **Reports on Computer Systems Technology** | |

1. The Information Technology Laboratory (ITL) at the National Institute of Standards and
2. Technology (NIST) promotes the U.S. economy and public welfare by providing technical
3. leadership for the Nation’s measurement and standards infrastructure. ITL develops tests, test
4. methods, reference data, proof of concept implementations, and technical analyses to advance the
5. development and productive use of information technology. ITL’s responsibilities include the
6. development of management, administrative, technical, and physical standards and guidelines for
7. the cost-effective security and privacy of other than national security-related information in federal
8. information systems.

81

82 **Abstract**

1. This publication describes an online glossary of terms used in National Institute of Standards and
2. Technology (NIST) and Committee on National Security Systems (CNSS) publications. This
3. glossary utilizes a database of terms extracted from NIST Federal Information Processing
4. Standards (FIPS), the NIST Special Publication (SP) 800 series, selected NIST Interagency and
5. Internal Reports (NISTIRs), and from the Committee for National Security Systems Instruction
6. 4009 (CNSSI-4009).

89 **Keywords**

1. cybersecurity; definitions; glossary; information assurance; information security; terminology

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| 93 | **Supplemental Content** |

1. The online glossary described in this publication is publicly available at
2. [https://csrc.nist.gov/glossary.](https://csrc.nist.gov/glossary)

96 **Note to Reviewers**

1. We encourage careful review of the online glossary as well as the methodology described in this
2. publication (e.g. the layout of the database, the content provided in the online application, etc.).
3. Specifically, we request feedback on any areas that may need changes to improve the accuracy
4. and long-term usability of the glossary and the associated database.

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109 **1** **Introduction**

1. The National Institute of Standards and Technology (NIST) has created an easily accessible
2. repository of terms and definitions extracted verbatim from NIST Federal Information
3. Processing Standards (FIPS), Special Publications (SPs), and Internal or Interagency Reports
4. (IRs), as well as from the Committee on National Security Systems Instruction 4009 (CNSSI-
5. 4009).
6. This repository (“the Glossary”) is intended to help users understand terminology, recognize
7. when and where multiple definitions may exist, and identify a definition that they can use. Over
8. time, use of this Glossary will help standardize terms and definitions used, reducing confusion
9. and the tendency to create unique definitions for different situations.
10. This publication provides a broad overview of the Glossary’s design. It describes the
11. methodology, assumptions, and constraints used in the development of the database and
12. associated online application, available at [https://csrc.nist.gov/glossary.](https://csrc.nist.gov/glossary) Specific implementation
13. details are not provided.
14. This publication differs significantly from previous versions of NIST IR 7298. Previous versions
15. contained a subset of basic terms that were most frequently used in NIST publications. This
16. method was valuable, but greater demand and frequent updates to NIST’s publication suite has
17. necessitated the adoption of a more flexible solution.
18. **2 Methodology**
19. The Glossary contains two main parts: an online application and a database. The database, used
20. as the foundation for the online application, contains terms and definitions extracted verbatim
21. from NIST FIPS, SPs, and IRs, as well as from CNSSI-4009. This database will be updated
22. regularly to accommodate new or updated NIST publications. The database may also be
23. expanded to include withdrawn publications and relevant terms in external or supplemental
24. sources such as applicable laws and regulations. Recommendations for publications to be
25. included in the database can be sent to [secglossary@nist.gov.](mailto:secglossary@nist.gov) The database does not contain
26. definitions without a source publication. Since draft documents are not stable, the database will
27. not include their terms or definitions.
28. The online application was developed to allow users to search the database of terms and
29. definitions. It will be updated as necessary to improve functionality and usability.
30. **2.1 Database Structure**
31. The Glossary uses a relational database to store and organize terms, definitions, and their
32. associated sources. A relational database is used to provide a structured, consistent, and durable
33. schema. The database is designed to allow for the following assumptions:

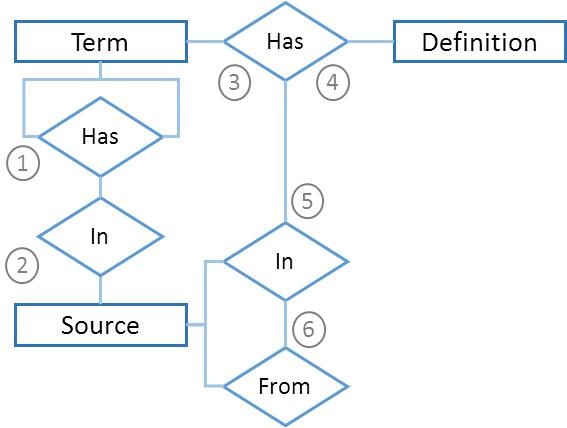
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1. (1) A term may be related to one or more other terms. Terms may be considered identical but
2. differ due to misspellings, alternative spellings, or abbreviations. These can be combined
3. under a single “parent term”.
4. (2) A term-abbreviation, -synonym, or other related pair may be associated with a source.
5. (3) A term may have one or more definitions.
6. (4) A definition defines one or more terms.
7. (5) A term-definition pair is associated with a source.
8. (6) A source may adapt or copy a term-definition pair from a referenced source.
9. Figure 1 shows a basic entity-relationship diagram of the database, excluding attributes or
10. relationship types, with numbers corresponding to the above assumptions.



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154 **Figure 1: A basic Entity-Relationship diagram for the glossary database**

1. **2.2 Data**
2. The glossaries, acronym lists, and equation lists of CNSSI-4009 and NIST FIPS, SPs, and IRs
3. related to cybersecurity, information security or privacy are taken verbatim from their source and
4. entered into the database. If a publication has no glossary, it is quickly scanned for terms
5. explicitly defined within the text of the publication.
6. Because the Glossary is meant to reflect definitions published by NIST and CNSSI 4009, the
7. relevant information is copied into the database as-is, meaning any errors (e.g., misspellings) in
8. the publications are carried through into the database. The only times the text is altered from the
9. original is when the definition includes a reference (e.g., “as defined in [1]”), in which case the
10. reference is spelled out (e.g., “as defined in NIST SP 800-53”), when possible.
11. Terms that are referenced in NIST publications using various spellings or abbreviations (e.g.,
12. “control” vs. “controls”) are identified and linked to a *parent term* (e.g., “control(s)”). These
13. parent terms may or may not be used in NIST publications. They are used in the online
14. application to group like terms together. Besides these parent terms, the database does not

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1. currently contain terms or definitions that do not have a source NIST or CNSS publication. On
2. occasion, NIST receives a request to define a term: these requests are forwarded to authors
3. responsible for publishing content related to that term. They may choose to define the term in a
4. publication, in which case it will be included in the glossary database.
5. The database may have more than one definition for a single term. This occurs for many reasons:
6. definitions can evolve over time, a broad definition may be tailored to a specific subject area, an
7. existing definition may be altered to fit a unique topic, or there could be errors. Because some
8. definitions may have more “weight” or are more broadly recognized than others, definitions are
9. prioritized by assigning each definition’s source to one of these ranked categories[1, 2](#page9):
10. (1) The definition is quoted (i.e., not adapted) from a federal law or regulation.
11. (2) The definition is quoted from an international, federal, or widely adopted technical
12. standard (e.g., ISO, FIPS, ANSI), a common English or mathematical dictionary, or is an
13. authoritative original technical source (e.g., the Defense Discovery Metadata
14. Specification for the definition of the Defense Discovery Metadata Standard).
15. (3) The definition is quoted from an Office of Management and Budget (OMB) Policy or
16. Circular, CNSS Policies and Directives, or similar documents.
17. (4) The definition is from NIST SPs, CNSS Instructions, OMB Memorandum, similar
18. documents, or a specialized dictionary.
19. (5) The definition is from Government Accountability Office (GAO) Reports, CNSS
20. Advisory Memoranda, Agency-specific standards, regulations, and policies.
21. (6) The definition is from NIST IRs, white papers, academic or technical papers, or other
22. publications.
23. (7) The definition is from draft, archived, or superseded publications.
24. This ranking is not intended to reflect the importance of a publication or definition, but rather is
25. intended as a means to describe the authoritative status of a definition from a general U.S.
26. Federal Government agency point of view. The online application uses these rankings to
27. determine the display order of definitions.
28. **2.3 Web Application**
29. The online application was developed to allow users to search the database of terms and
30. definitions. It is expected that users will typically use the application in order to either (1) gain a
31. better understanding of a term, or (2) find a definition to use. It will be regularly updated to
32. improve functionality and usability based on user feedback.
    1. Definitions that are “adapted” from another source are considered unique and the referenced source is not considered in this ranking. However, if there is no indication that the definition is adapted or altered from the referenced source, then the referenced source is considered. For example, if a NIST IR uses a definition from an international standards body, it will be listed under category 2 unless the NIST IR states that the definition is adapted, in which case it will be listed under category 6.
    2. A source may reference multiple other sources for a definition or may fit multiple categories; in these cases, the highest ranked category is assigned.

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1. The application was designed to be visually similar to other web pages on the NIST Computer
2. Security Resource Center (CSRC) website[3](#page10) and attempts to provide as much relevant
3. information as possible to the user. This means that the application may, for example, state that
4. there are no known acronyms for a term (instead of hiding that field). Additionally, there may be
5. multiple definitions for a term that are very similar, yet different. However, this can result in
6. increased complexity as the number of terms and associated definitions grows. It may become
7. necessary to add functionality to the online application to limit searches to only those that are
8. current (i.e. not withdrawn or superceded) or from higher-category sources (e.g., categories 1 and
9. 2 only).
10. The application is hosted at [https://csrc.nist.gov/glossary.](https://csrc.nist.gov/glossary)
11. **3 Feedback and Updates**
12. The glossary database will be regularly updated as new publications are finalized. Archived
13. publications or publications from other sources (e.g., laws or standards) may be added.
14. Recommendations for publications to be included in the database can be sent to
15. [secglossary@nist.gov.](mailto:secglossary@nist.gov)
16. Database entries themselves will rarely be modified. Any change to a NIST document results in a
17. new source—identified by a separate revision number or a new publication date—which would
18. create a new source in the database; thus the change would be treated as a new addition. The old
19. publication and associated definitions will not be removed, but will be marked as superseded or
20. withdrawn, as appropriate. This will enable users to track changes to terms and definitions over
21. time. Two exceptions to this rule are:
22. • When an error is identified and corrected; and
23. • The addition of previously unknown information.
24. Occasionally, it is unclear what version of a document a term originates from (i.e., a referenced
25. source). For these situations, the entry references a source with “unknown” information. This
26. entry may be modified if the exact referenced source later becomes known. The database does
27. not contain definitions without a source publication. Since draft documents are not stable, the
28. database will not include terms/definitions in them.
29. The application may be updated frequently depending on user feedback. Users are encouraged to
30. provide feedback on the usability of the application or if they identify any bugs in the
31. application. Users are also encouraged to notify NIST of any errors in the glossary database,
32. especially instances where the glossary does not match the term/definition in the associated
33. publication.
34. [https://csrc.nist.gov.](https://csrc.nist.gov/)

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234 Users may provide feedback on the web application by sending an email to [secglossary@nist.gov.](mailto:secglossary@nist.gov)

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