

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

GEOSCOPE TECHNOLOGIES PTE. LTD.
Patent Owner

Case No. IPR2023-01212
Patent 8,406,753

DECLARATION OF SYLVIA D. HALL-ELLIS, PH.D.

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Google LLC (referred to herein as “Google”).

2. I have written this declaration at the request of Google to provide my expert opinion regarding the authenticity and public availability of several publications. My declaration sets forth my opinions in detail and provides the bases for my opinions regarding the public availability of these publications.

3. I reserve the right to supplement or amend my opinions, and bases for them, in response any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this declaration.

4. I am being compensated for my time spent working on this matter at my normal consulting rate of \$350 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this declaration, the substance of my opinions, or the outcome of this proceeding. I have no other interests in this proceeding or with any of the parties.

5. All of the materials that I considered are discussed explicitly in this declaration.

II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library Science from the University of Pittsburgh in 1985. Over the last fifty years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

7. I am a member of the American Library Association (“ALA”) and its Association for Library Collections & Technical Services (“ALCTS”) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the Chair of the ALCTS Division’s Task Force on Competencies and Education for a Career in Cataloging. Additionally, I served as the Chair for the ALA Office of Diversity’s Committee on Diversity, as a member of the REFORMA National Board of Directors, and as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, and as a Co-Chair of the Membership

Committee for the Library Research Round Table (LRRT) of the American Library Association. Currently I serve as a member of the LRRT Nominating Committee.

8. I have also given over one-hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging (“MARC”) standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

9. I have been deposed twenty-eight times: (1) *Symantec Corp. vs. Finjan, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,613,926, May 26, 2016, on behalf of Symantec Corp.; (2) *Symantec Corp. vs. Finjan, Inc.*, 14-cv-299-HSG (N.D. Cal.), on behalf of Symantec Corp., September 14, 2017; (3) one deposition for ten matters: *Intellectual Ventures I LLC vs. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 12-193 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 13-1631 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1632 (LPS); *Intellectual Ventures II LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1633 (LPS); *Intellectual Ventures I LLC, vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1634

(LPS); *Intellectual Ventures II LLC vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1635 (LPS); *Intellectual Ventures I LLC, vs. United States Cellular Corporation*, C.A. No. 13-1636 (LPS); *Intellectual Ventures I LLC vs. United States Cellular Corporation*, C.A. No. 13-1637 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC, AT&T Mobility II LLC, New Cingular Wireless Services, Inc.*, C.A. No. 15-799 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 15-800 (LPS), on behalf of AT&T Mobility LLC; AT&T Mobility II LLC, Boost Mobile, LLC Cricket Wireless LLC, Nextel Operations, Inc., New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Sprint Spectrum L.P., T-Mobile USA, Inc., T-Mobile US, Inc., United States Cellular Corporation Virgin Mobile USA, L.P., and Wayport, Inc., November 15, 2016; (4) *Hitachi Maxell, LTD., v. Top Victory Electronics (Taiwan) Co. Ltd., et al.*, 2:14-cv-1121 JRG-RSP (E.D. Texas), on behalf of Top Victory Electronics (Taiwan) Co. LTD, *et. al.*, January 20, 2016; (5) *Sprint Spectrum, L.P. vs. General Access Solutions, Ltd.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,173,916, on behalf of Sprint Spectrum L.P., July 13, 2018; (6) *Nichia Corporation vs. Vizio, Inc.*, 8:16-cv-00545; on behalf of Vizio, Inc., October 12, 2018; (7) *Intellectual Ventures I LLC, vs. T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson*, 2:17-cv-00557 (JRG), on behalf of T-Mobile

USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson, October 19, 2018; (8) Pfizer, Inc. vs. Biogen, Inc., Petition for *Inter Partes Review* of U.S. Patent No. 8,821,873, on behalf of Pfizer, November 3, 2018; (9) *Finjan, Inc. vs. ESET, LLC and ESET SPOL. S.R.O.*, 3:17-cv-00183-CAB-BGS, on behalf of ESET, January 15, 2019; (10) *Finjan, Inc. vs. Cisco Systems, Inc.*, 5:17-cv-00072-BLF-SVK, on behalf of Cisco Systems, Inc., September 6, 2019; (11) *Facebook, Inc., Instagram, LLC and Whatsapp Inc. vs. Blackberry Limited*, Petition for *Inter Partes Review* of U.S. Patent No. 9,349,120 B2, on behalf of Facebook, Inc., Instagram, LLC and Whatsapp Inc. December 20, 2019; (12) *3Shape A/S and 3Shape Inc. v. Align Technology, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,156,661, IPR 2020-00222 and IPR 2020-00223, August 10, 2020, on behalf of 3Shape A/S and 3Shape Inc.; (13) *Finjan Inc. v. Rapid7, Inc. and Rapid7 LLC*, Northern District of Delaware; 1:18-cv-01519-MN, September 15, 2020; (14) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255, 6:19-cv-00256, on behalf of Intel Corporation, September 23, 2020; (15) *Finjan Inc. v. Sonicwall, Inc.*, Northern District of California, 5:17-cv-04467-BLF-HRL, on behalf of Sonicwall, Inc., October 27, 2020; (16) *VLSI Technology, LLC v. Intel Corporation*, District of Delaware, 1:18-cv-00966-CFC-CJB, February 5, 2021, on behalf of the Intel Corporation; (17) *Unified Patents, LLC v. Good Kaisha IP*

Bridge 1, Petition for *Inter Partes Review* of U. S. Patent 7,817,868, February 11, 2021, on behalf of Unified Patents; (18) *Finjan, Inc. v. Qualsys, Inc.*, Northern District of California, 4:18-cv-07229-YGR, March 1, 2021, on behalf of Qualsys, Inc.; (19) *Qualcomm, Inc. v. Monterey Research LLC*, Petition for *Inter Partes Review* of U. S. Patent 6,534,805, May 6, 2021, on behalf of Qualcomm, Inc.; (20) *Hulu, LLC v. Sound View Innovations, LLC*, Petition for *Inter Partes Review* of U. S. Patent 5,806,062, May 14, 2021, on behalf of Hulu, LLC; (21) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255 and 6:19-cv-00256, August 3, 2021, on behalf of Intel Corporation; (22) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes Review* of U. S. Patent 10,716,793 B2, October 20, 2021, on behalf of Liquidia Technologies, Inc.; (23) *EcoFactor, Inc. v. Google, Inc.*, Western District of Texas, 6:20-cv-00075 (ADA), 6:20-0078-ADA, and 6:20-cv-00080 ADA, October 27, 2021, on behalf of Google, Inc.; (24) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes Review* of U. S. Patent 10,716,793 B2, March 11, 2022, on behalf of Liquidia Technologies, Inc.; (25) *Juniper Networks, Inc. v. Swarm Technology LLC*, Petition for *Inter Partes Review* of U. S. Patent 9,852,004, May 5, 2022, on behalf of Juniper Networks, Inc.; (26) *ParkerVision, Inc. v. Intel Corporation*, Western

District of Texas, 6:20-cv-108 (ADA), October 26, 2022, on behalf of the Intel Corporation; (27) *CommScope v. TQ Delta*, Petition for *Inter Partes Review* of U. S. Patents 9,094,348 and 10,833,809, February 16, 2023, on behalf of CommScope; and, (28) *WSOU Investments d/b/a Brazos v. Salesforce.com, Inc.* for Western District of Texas, 6:20-cv-01164-ADA and 6:20-cv-01170-ADA, April 18, 2023, on behalf of Salesforce. I have not testified at trial.

10. My full *curriculum vitae* is submitted herewith as Exhibit 1011.

III. PRELIMINARIES

11. *Scope of this declaration.* I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the documents.

12. I am informed by counsel that an item is considered authentic if there is sufficient evidence to support a finding that the item is what it is claimed to be. I am also informed that authenticity can be established based on the contents of the documents themselves, such as the appearance, contents, substance, internal patterns, or other distinctive characteristics of the item, taken together with all of the circumstances. I am further informed that an item is considered authentic if it

is at least 20 years old, in a condition that creates no suspicion of its authenticity, and in a place where, if authentic, it would likely be. Lastly, I have been informed that a document's authenticity can be established by comparison with an authentic specimen.

13. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available such that a person interested in and ordinarily skilled in the relevant subject matter could locate it through the exercise of ordinary diligence.

14. While I understand that the determination of public accessibility under the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered "publicly accessible" if it is cataloged and indexed by a library such that a person interested in the relevant subject matter could locate it (*i.e.*, I understand that cataloging and indexing by a library is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a

presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

15. I understand that routine business practices, such as general library cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

16. *Indexing.* A researcher may discover material relevant to his or her topic in a variety of ways. One common means of discovery is to search for relevant information in an index of periodical and other publications. Having found relevant material, the researcher will then normally obtain it online, look for it in libraries, or purchase it from the publisher, a bookstore, a document delivery service, or other provider. Sometimes, the date of a document's public accessibility will involve both indexing and library date information. However, date information for indexing entries is often unavailable. This is especially true for online indices.

17. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The formats in which these access terms are presented vary from service to service.

18. Before the widespread development of online databases to index articles in journals, magazines, conference papers, and technical reports, libraries purchased printed volumes of indices. Graduate library school education mandated that students learn about the bibliographic control of disciplines, the prominent indexing volumes, and searching strategies required to use them effectively and efficiently. Half of the courses that I studied in library school were focused on the bibliography and resources in academic disciplines.

19. Librarians consulted with information seekers to verify citations, check availability in union catalogs, printed books catalogs, and the OCLC database, and make formal requests for materials, *e.g.*, books, conference proceedings, journal articles. Requests were transmitted using Telex machines, rudimentary email systems, and the United States Postal Service. During my career, I have performed and supervised staff who handled these resource sharing tasks.

20. A major firm known for the breadth of subjects and comprehensive treatment in the preparation of index volumes, the H. W. Wilson Company offered these reference resources since the firm was founded in 1898. The *Reader's Guide*

to Periodical Literature is one of the best-known titles available from H. W. Wilson. Each volume includes a comprehensive index for 300 of the most popular and important periodicals published in the United States and Canada. Information seekers have subject access expressed in plain language terminology, author access, and cross references to find the desired results from their searches. The family of index titles included *Science & Technology Index*, *Business Periodicals*, *Applied Science & Technology Index*, *Humanities Index*, *Biological & Agricultural Index*, and *Industrial Arts Index*. These printed indices have been superseded by digital database offerings available to information seekers through Ebsco.

21. Online indexing services commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document. A citation of a document is evidence that the document was publicly available and in use no later than the publication date of the citing document.

22. *Semantic Scholar*.¹ A project developed at the Allen Institute for Artificial Intelligence and publicly released in November 2015, *Semantic Scholar* is designed to be an AI-backed search engine for scientific journal articles which uses a combination of machine learning, natural language processing, and machine

¹ <https://www.semanticscholar.org>

vision to add a layer of semantic analysis to the traditional methods of citation analysis, and to extract relevant figures, entities, and venues from papers. *Semantic Scholar* is designed to highlight important, influential papers, and to identify the connections between them.

23. As of January 2018, following a 2017 project that added biomedical papers and topic summaries, the *Semantic Scholar* corpus included more than 40 million papers from computer science and biomedicine. In March 2018, Doug Raymond, who developed machine learning initiatives for the Amazon Alexa platform, was hired to lead the *Semantic Scholar* project. As of August 2019, the number of included papers had grown to more than 173 million after the addition of the Microsoft Academic Graph records, already used by Lens.org.

24. *Google Scholar*.² Released in beta in November 2004, Google Scholar includes a significant number of peer-reviewed online academic journals, books, conference papers, selected theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature. Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. While Google does not publish the size of Google Scholar's database, scientometric researchers estimated it to contain

² <https://scholar.google.com>

roughly 389 million documents including articles, citations and patents making it the world's largest academic search engine in January 2018.

25. Because many of *Google Scholar*'s search results link to commercial journal articles, searchers will be able to access only an abstract and the citation details of an article and may have to pay a fee to access the entire article. The most relevant results for the searched keywords will be listed first, in order of the author's ranking, the number of references that are linked to it and their relevance to other scholarly literature, and the ranking of the publication that the journal appears in. Through its "cited by" feature, *Google Scholar* provides access to abstracts of articles that have cited the article being viewed. Through its "Related articles" feature, *Google Scholar* presents a list of closely related articles, ranked primarily by how similar these articles are to the original result, but also taking into account the relevance of each paper.

26. *Scopus*.³ Researchers trust the information and data they discover with *Scopus* because the content comes from over 5,000 publishers that must be reviewed and selected by an independent Content Selection and Advisory Board (CSAB) to be, and continue to be, indexed on *Scopus*.

27. *Scopus* is the largest abstract and citation database of peer-reviewed literature: scientific journals, books, and conference proceedings. Delivering a

³ <https://www.elsevier.com/solutions/scopus>

comprehensive overview of the world's research output (more than 69 million items) in the fields of science, technology, medicine, social sciences, and arts and humanities, *Scopus* features smart tools to track, analyze and visualize research.

28. *Scopus* offers free features to non-subscribed users and is available through Scopus Preview. Researchers may use *Scopus* to assist with their research, such as searching authors, and learning more about content coverage and source metrics.

IV. ONLINE CATALOGS AND MARC RECORDS

29. MARC is a framework into which descriptive bibliographic data are transcribed to interact with the software in online library catalogs to provide access to books, journals, and other resources in the collection. The bibliographic data provide points of access and can be searched by a person of ordinary skill in the art (“POSITA”) to identify and obtain resources in the library collection. An information seeker (or POSITA) can search a local online library catalog or the holdings of a group of libraries in a state or region or in the global catalog WorldCat.

30. MARC records are not designed for public viewing. Although a significant number of libraries provide access to the MARC version of a bibliographic record, the public display is designed to show information in a succinct manner that is quickly understood and useful to the information seeker.

Libraries determine the default search for the online catalog to make the entry of search terms efficient and result in a successful search. Information seekers can enter a keyword, title, author, or standard number for the item. Libraries may also provide a search capability called “Summon” that allows the information seeker to enter known information about the item to conduct a search.

31. Learning to use an online library catalog begins in elementary school and continues through high school and post-secondary studies. Undergraduate students further develop their skills to use the online catalog at the academic institution where they are studying through information literacy instruction which is provided by professional reference and user experience librarians. The skills required to search, identify, and obtain the resources identified in this Declaration/report are fundamental to using the online catalogs in libraries and information centers. Therefore, a POSITA who has attained the undergraduate and/or graduate educational levels described above (see paragraph 17) possesses the searching and retrieval skills needed to search library catalogs.

32. Professional catalog and metadata librarians prepare and enhance MARC records to provide points of access for each item in the library collection. Using a set of internationally adopted guidelines, rules for the assignment of classification numbers, and the assignment of subject headings from standardized lists, taxonomies, folksonomies, locally developed lists. An information seeker

(including POSITAs) can search the online library catalog in a number of ways to identify a specific item or resources on a defined topic.

33. The continued development of the software that supports integrated online library catalogs resulted in the potential to search by an individual creator or author, title proper or variant title, a series that contains the desired item, subjects, corporate bodies responsible in part for the creation of an item, or standard identification numbers associated with the item (e.g., International Standard Book Numbers (ISBN), International Standard Serial Numbers (ISSN), and Publisher's Numbers). Each of these data elements appears in a prescribed location within the MARC framework so that the software can parse, index, and display data elements resulting from a user-initiated search.

34. Examining the MARC records for a specific item reveals the comprehensive data transcribed about a particular item at the time that cataloging and classification occurred. In addition to the creator, title, subjects, and standard numbers, additional information may provide additional and relevant data depending on the type of resource. Understanding the full extent of bibliographic data for an item and the points of access associated with it provides essential information that can be used to determine the indexing and public availability for documents described in this Declaration.

V. LIBRARY CATALOGING PRACTICES

35. I am fully familiar with the library cataloging standard known as the MARC standard, which is an industry-wide standard method of storing and organizing library catalog information.⁴ MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.⁵

⁴ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/>.

⁵ Almost every major library in the world is MARC-compatible. *See, e.g., MARC Frequently Asked Questions (FAQ)*, Library of Congress, <https://www.loc.gov/marc/faq.html> (last visited April 20, 2023) (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began nearly forty years ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today.”). MARC is the ANSI/NISO Z39.2-1994 (reaffirmed 2016) standard for Information Interchange Format.

36. Since at least the early 1970s and continuing to the present day, MARC has been the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.⁶ As explained by the Library of Congress:

You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources. Choosing to use MARC enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a “home-grown” system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the

⁶ A complete history of the development of MARC can be found in *MARC: Its History and Implications* by Henrietta D. Avram (Washington, DC: Library of Congress, 1975) and available online from the Hathi Trust (<https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1>; last visited April 20, 2023).

latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

Why Is a MARC Record Necessary? LIBRARY OF CONGRESS, <http://www.loc.gov/marc/umb/um01to06.html#part2> (last visited April 20, 2023).

37. Thus, almost every major library in the world is MARC-compatible. See, e.g., *MARC Frequently Asked Questions (FAQ)*, LIBRARY OF CONGRESS, <https://www.loc.gov/marc/faq.html> (last visited April 20, 2023) (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began nearly fifty years ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today.”). MARC is the ANSI/NISO Z39.2-1994 standard (reaffirmed in 2016) for Information Interchange Format. The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/> (last visited April 20, 2023).

38. A MARC record comprises several fields, each of which contains specific data about the work. Each field is identified by a standardized, unique, three-digit code corresponding to the type of data that follow. For example, a work’s title is recorded in field 245, the primary author or creator of the work is

recorded in field 100, an item's International Standard Book Number ("ISBN") is recorded in field 020, an item's International Standard Serial Number ("ISSN") is recorded in field 022, an item's Library of Congress call number is recorded in field 050, and the publication date is recorded in field 260 under the subfield "c." *Id.*⁷ If a work is a periodical, then its publication frequency is recorded in field 310, alternate publication frequency is recorded in field 321, and the publication dates (*e.g.*, the first and last publication) are recorded in field 362, which is also referred to as the enumeration/chronology field. *See* <http://www.loc.gov/marc/bibliographic/bd3xx.html> (last visited April 20, 2023).

39. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available through the Library of Congress at <http://www.loc.gov/marc/bibliographic/>. For example, 6XX fields are termed "Subject Access Fields." *See* <http://www.loc.gov/marc/bibliographic/bd6xx.html>. Among these, for example, is the 650 field; this is the "Subject Added Entry – Topical Term" field. *See*

⁷ In some MARC records, field 264 is used rather than field 260 to record publication information. *See* <http://www.loc.gov/marc/bibliographic/bd264.html> (last visited April 20, 2023) ("Information in field 264 is similar to information in field 260 (Publication, Distribution, etc. (Imprint)). Field 264 is useful for cases where the content standard or institutional policies make a distinction between functions").

<http://www.loc.gov/marc/bibliographic/bd650.html>. The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” *Id.* These authenticated subject entries “are assigned to a bibliographic record to provide access according to generally accepted thesaurus-building rules (e.g., *Library of Congress Subject Headings* (LCSH), *Medical Subject Headings* (MeSH)).” *Id.*

40. Further, MARC records include call numbers, which themselves indicate a subject and physical location within the library collections. For example, the 050 field is the “Library of Congress Call Number.” *See* <http://www.loc.gov/marc/bibliographic/bd050.html> (last visited April 20, 2023). A defined portion of the Library of Congress Call Number is the classification number, and “source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*.” *Id.* Thus, included in the 050 field is a subject matter classification. Each item in a library has a single classification number. A library selects a classification scheme (e.g., the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme or the National Library of Medicine Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field. If a local library assigns the classification number, it appears in a 090 field. In either

scenario, the MARC record includes a classification number that represents a subject matter classification.

41. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field, as discussed above. For MARC records created by libraries other than the Library of Congress (*e.g.*, a university library or a local public library), the classification number may appear in a 09X (*e.g.*, 090) field. See <http://www.loc.gov/marc/bibliographic/bd09x.html> (last visited April 20, 2023).

42. The OCLC was created “to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific,

literary and educational knowledge and information.”⁸ Among other services, OCLC and its members are responsible for maintaining the WorldCat database (<http://www.worldcat.org/>), used by independent and institutional libraries throughout the world.

43. OCLC also provides its members online access to MARC records through its OCLC bibliographic database. When an OCLC member institution acquires a work, it creates a MARC record for this work in its computer catalog system in the ordinary course of its business. MARC records created at the Library of Congress were initially tape-loaded into the OCLC database through a subscription to MARC Distribution Services daily or weekly. Once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and therefore made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress or another library anywhere in the world, any publication corresponding to the MARC record has been cataloged and indexed according to its subject matter such that a person

⁸ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf>).

interested in that subject matter could, with reasonable diligence, locate and access the publication through any library with access to the OCLC bibliographic database or through the Library of Congress.

44. When an OCLC member institution creates a new MARC record, OCLC automatically supplies the date of creation for that record. The date of creation for the MARC record appears in the fixed field (008), characters 00 through 05. The MARC record creation date reflects the date on which, the item was first acquired or cataloged. Initially, field 005 of the MARC record is automatically populated with the date the MARC record was created in year, month, day format (YYYYMMDD) (some of the newer library catalog systems also include hour, minute, second (HHMMSS)). Thereafter, the library's computer system may automatically update the date in field 005 every time the library updates the MARC record (*e.g.*, to reflect that an item has been moved to a different shelving location within the library). Field 005 is visible when viewing a MARC record via an appropriate computerized interface, but when a MARC record is printed to hardcopy, no "005" label appears. The initial field 005 date (*i.e.*, the date the MARC record was created) does appear, however, next to the

label “Entered.”⁹ The date upon which the most recent update to field 005 occurred also appears, next to the label “Replaced.” Thus, when an item’s MARC record has been printed to hardcopy—as is the case with the exhibits to this report—the date reflected next to the label “Entered” is necessarily on or after the date the library first cataloged and indexed the underlying item.

45. Once one library has cataloged and indexed a publication by creating a MARC record for that publication, other libraries that receive the publication do not create additional MARC records—the other libraries instead rely on the original MARC record. They may update or revise the MARC record to ensure accuracy, but they do not replace or duplicate it. This practice does more than save libraries from duplicating labor, it also enhances the accuracy of MARC records. It also allows librarians around the world to know that a particular MARC record is authoritative. In contrast, a hypothetical system wherein duplicative records were created would result in confusion as to which record is authoritative.

46. The date of creation of the MARC record by a cataloger at an OCLC member institution reflects when the underlying item is accessible to the public. Upwards of two-thirds to three-quarters of book sales to libraries come from a

⁹ In this report, I sometimes refer to the “Entered” entry as field 008, characters 00-05.

jobber or wholesaler for online and print resources. These resellers make it their business to provide books to their customers as fast as possible, often providing turnaround times of only a single day after publication. Libraries purchase a significant portion of the balance of their books directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year as the books are published and shelve the books as soon thereafter as possible in order to make the books available to their patrons. Thus, books are generally available at libraries across the country within just a few days of publication.

47. *Journals.* Catalogers can create MARC records for all types of print, online, and digital resources. For example, MARC records cover serial publications, including both serially-published monographs and journals. OCLC hosts MARC records for more than 320 million serial publications. Serial publications are those publications that have the same collective title but are intended to be continued indefinitely with enumeration such as a volume or issue number, *e.g.*, magazines and journals. In the OCLC bibliographic database, the first issue of the serial publication is typically cataloged, but the date is left open-ended with the use of a punctuation mark such as a dash. Individual issues are not cataloged according to the current national cataloging rules outlined in *RDA: Resource and Access*. Instead, MARC records for serial publication in OCLC

represent the entire run of the serial title. With knowledge of the first issue published, future issues can be predicted. In my extensive professional experience, is it highly unusual for a library to stop collecting and shelving a serial publication prior to the end of its publication run. If a subscription to a serial publication ends its run or is cancelled before the end of its run, the library will denote that it has stopped receiving new volumes by filling in the end date in the local MARC record.

48. The handling of printed journal subscriptions is shown on the covers of individual issues. As was the best practice among libraries, issues arrived at a central facility and were immediately received, verified as part of a subscription, checked in, and stamped with the institution's name and date. Determining that the issue was part of the library subscription ensured that the entire set of publications for the year had been received so that they could be professionally bound and retained. This process also verified that all of the published issues arrived so that the library staff did not have to request or claim an issue that did not arrive as expected. In large public libraries with branches and multi-campus libraries within academic institutions, the journals were sorted and delivered to the subscribing unit. The issues were frequently stamped again to acknowledge receipt. The new issue was placed in the public area; the older issue was stored so that it remained available.

49. The foregoing process has been standard library practice longer than I have been working in the profession. I first learned the steps in the process in the late 1970s and later supervised it. Although the checking in process has become automated and now links electronically to holdings records for the MARC record for each serial title, the manual stamping and placing the issue in a public area has not changed for 50 years. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for each of the publications discussed below.

VI. PUBLICATIONS

A. PUBLICATION 1: “LOCATOR - Location Estimation System For Wireless LANs” by Ankur Agiwal, Parakram Khandpur, and Huzur Saran. Exhibit 1005 (“Agiwal”)

50. Attached hereto as Exhibit 1005 is a copy of a conference paper published in the volume titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots* found in the Auburn University Libraries (Auburn, Alabama). The conference paper titled “ LOCATOR - Location Estimation System For Wireless LANs” by Ankur Agiwal, Parakram Khandpur, and Huzur Saran (hereafter “Agiwal”) appears beginning on page 102. The Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots was held on October 1, 2004, in Philadelphia, Pennsylvania. Exhibit 1005 is a true and

correct copy of the Agiwal conference paper (pages 102-109). I obtained this copy of the conference paper from the Auburn University Libraries. Specifically, the text of the Agiwal conference paper is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1005 was found within the custody of a library—a place where, if authentic, a copy of this conference proceedings volume would likely be. Exhibit 1005 is a true and correct copy in a condition that creates no suspicion about authenticity.

51. The Agiwal conference paper is also available in the *ACM Digital Library*,¹⁰ and was added on October 1, 2004, and the digital repository *ResearchGate*.¹¹

52. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for this conference proceedings volume from the Auburn University Libraries online catalog. The library ownership is indicated by the presence of the library's code (AAAA) in field 049. The library continues to update this MARC record and enhance the MARC record to meet current cataloging rules. The most

¹⁰ <https://dl.acm.org/doi/abs/10.1145/1024733.1024747>.

¹¹

https://www.researchgate.net/publication/221204652_LOCATOR_location_estimation_system_For_wireless_LANs

recent enhancement to the MARC record occurred on July 4, 2013, as shown in field 005 (“20130704”). I personally identified and retrieved the library catalog record which is Attachment 1A.

53. Based on finding a copy of Exhibit 1005 in the Auburn University Libraries and MARC record in its online library catalog attached as Attachment 1A, it is my opinion that the book titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots* was publicly available at the Auburn University Libraries as of February 22, 2005, as indicated in field 008 (“050222”).

54. Attached hereto as Attachment 1B is a true and correct copy of the MARC record for the volume titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots* obtained from the OCLC bibliographic database. I personally identified and retrieved the MARC record that is Attachment 1B. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 1B, that library code is “VYR,” which means that the MARC record for this conference proceedings volume was cataloged at the U. S. Air Force Research Laboratory Library (Rome, New York). As can be seen in the “Entered” field in the MARC record for this exhibit, a cataloger at the U. S. Air Force Research Laboratory Library created OCLC record number 57707784 on

February 22, 2005, as shown in the “Entered” field (“20050222”). The library continues to update this MARC record and enhance the MARC record to meet current cataloging rules. The most recent enhancement to the MARC record occurred on December 24, 2022, as shown in the “Replaced” field (“20221224”).

55. Attachment 1B further includes an entry in field 050 (“TK5103.2 \$b .A283 2004”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system)—and an entry in field 082 (“004.68”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 1B also shows that Exhibit 1005 was catalogued with three descriptor terms reading “Wireless LANs \$v Congresses” (see Attachment 1C, Library of Congress subject heading sh2002000555 and Attachment 1D, Library of Congress subject heading sh85031115), “Mobile communication systems \$v Congresses” (see Attachment 1E, Library of Congress subject heading sh2008107882), and “Local area networks (Computer networks) \$v Congresses” (see Attachment 1F, Library of Congress subject heading sh2008107067) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1B was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries.

Further, as of February 22, 2005, the MARC record attached hereto as Attachment 1B was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that acquired the conference proceedings volume, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

56. Further supporting my opinion that Exhibit 1005 was publicly accessible to ordinarily skilled and interested researchers in the field is the fact that the book titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots* was registered with the U. S. Copyright Office as item TX0006082514 on October 13, 2004, and indicated a publication date of September 17, 2004 (see Attachment 1G, U. S. Copyright Office Public Catalog). As noted above, this would have provided a POSITA with keyword searching capabilities and other tools to locate this book.

57. Attachment 1B indicates that the volume titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots* as cataloged at the U. S. Air Force Research Laboratory Library is currently available from 42 libraries. In view of the above, the volume titled *WMASH 2004: Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN*

Hotspots was publicly available on February 22, 2005, because by that date it had been received, cataloged, and indexed at the Auburn University Libraries and was part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1005 was published and publicly accessible on or shortly after February 22, 2005.

VII. SUMMARY OF OPINIONS

58. In view of the foregoing, it is my opinion that the publications described above were publicly available no later than the corresponding date listed in the table below:

Exhibit	Publication	Publicly Available On or After
1005	Agiwal, Ankur, Parakram Khandpur, and Huzur Saran. "LOCATOR - Location Estimation System for Wireless LANs." <i>Proceedings of the 2nd ACM international workshop on Wireless mobile applications and services on WLAN hotspots</i> (pp. 102-109). WMASH '04. New York: Association for Computing Machinery, ©2004.	February 22, 2005

59. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

60. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: July 12, 2023

Sylvia D. Hall-Ellis
Sylvia D. Hall-Ellis, Ph.D.

ATTACHMENT 1A

001	2221387		
005	20130704133205.0		
008	050222s2004 nyua b 101 0 eng d		
020	a 1581138776		
035	a (OCoLC)ocm57707784		
040	a VYR c VYR d IXA d C\$A		
049	a AAAA		
090	a TK5103.2 b .A283 2004		
111	2	a ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots n (2nd : d 2004 : c Philadelphia, Pa.)	
245	1 0	a WMASH 2004 : b proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots : co-located with MobiCom 2004, October, 1, 2004, Philadelphia, Pennsylvania, USA.	
246	3 0	a Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots	
246	3 0	a Wireless mobile applications and services on WLAN hotspots	
260		a New York, N.Y. : b Association for Computing Machinery, c 2004.	
300		a viii, 148 p. : b ill. ; c 28 cm.	

336		a text 2 rdacontent
337		a unmediated 2 rdamedia
338		a volume 2 rdacarrier
530		a Also issued online with additional title: Proceedings of the 2nd ACM International Workshop on wireless Mobile Applications and Services on WLAN Hotspots.
500		a "ACM order number 103043"--T.p. verso.
504		a Includes bibliographical references and author index.
650	0	a Wireless LANs v Congresses.
650	0	a Mobile communication systems v Congresses.
650	0	a Local area networks (Computer networks) v Congresses.
710	2	a ACM SIGMOBILE.
710	2	a Association for Computing Machinery.
740	0	a Proceedings of the 2nd ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots.
856	4 1	u http://portal.acm.org/toc.cfm?id=1024733&coll=portal&dl=ACM&type=proceeding&idx=SERIES11146&part=Proceedings&WantType=Proceedings&title=Wireless%20Mobile%20Applications%20And%20Services%20On%20Wlan

%20Hotspots

994 |a E0 |b AAA

948 |a cat, 3/15/05, pc

999 |a 2221387

852 0 0 |b 8main,4th |h TK 5103.2 .A283 2004

ATTACHMENT 1B

OCLC 57707784 **No holdings in XXX - 42 other holdings**

Re		En 200		Re 2022122	
c		tere 502		place 4054129	
Stat		d 22		d .6	
Type	a	ELvl		Srce	d
BLvl	m	Form		Conf	1
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Desc	a	Ills	a	Fest	0
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040 VYR \$b eng \$c VYR \$d IXA \$d C\$SA \$d OCL \$d STF \$d OL\$S \$d OCLCA \$d OCLCF \$d OCLCO \$d OCLCQ \$d OCL \$d OCLCO \$d OCLCA \$d UKMGB \$d OCLCQ \$d AAA \$d OCLCO \$d OCLCQ
016 7 013373343 \$2 Uk
020 1581138776
020 9781581138771
050 14 TK5103.2 \$b .A283 2004
082 04 004.68 \$2 22
090 \$b
111 2 ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots \$n (2nd : \$d 2004 : \$c Philadelphia, Pa.)
245 10 WMASH 2004 : \$b proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots : co-located with MobiCom 2004, October, 1, 2004, Philadelphia, Pennsylvania, USA.
246 30 Proceedings of the Second ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots
246 30 Wireless mobile applications and services on WLAN hotspots
260 New York, N.Y. : \$b Association for Computing Machinery, \$c 2004.
300 viii, 148 pages : \$b illustrations ; \$c 28 cm
336 text \$b txt \$2 rdacontent
337 unmediated \$b n \$2 rdamedia
338 volume \$b nc \$2 rdacarrier
530 Also issued online with additional title: Proceedings of the 2nd ACM International Workshop on wireless Mobile Applications and Services on WLAN Hotspots.
500 "ACM order number 103043"--Title page verso
504 Includes bibliographical references and author index.
650 0 Wireless LANs \$v Congresses.
650 0 Mobile communication systems \$v Congresses.
650 0 Local area networks (Computer networks) \$v Congresses.
650 6 Réseaux locaux sans fil \$0 (CaQQLa)201-0365253 \$v Congrès. \$0 (CaQQLa)201-0378219
650 6 Radiocommunications mobiles \$0 (CaQQLa)201-0023226 \$v Congrès. \$0 (CaQQLa)201-0378219
650 6 Réseaux locaux (Informatique) \$0 (CaQQLa)201-0136535 \$v Congrès. \$0 (CaQQLa)201-0378219
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650 7 Mobile communication systems. \$2 fast \$0 (OCoLC)fst01024207
650 7 Wireless LANs. \$2 fast \$0 (OCoLC)fst01176206
655 7 Conference papers and proceedings. \$2 fast \$0 (OCoLC)fst01423772
710 2 ACM SIGMOBILE.
710 2 Association for Computing Machinery.

740 0 Proceedings of the 2nd ACM International Workshop on Wireless Mobile Applications and Services on WLAN Hotspots.

856 41 \$u

<http://portal.acm.org/toc.cfm?id=1024733&coll=portal&dl=ACM&type=proceeding&idx=SERIES11146&part=Proceedings&WantType=Proceedings&title=Wireless%20Mobile%20Applications%20And%20Services%20On%20Wlan%20Hotspots>

ATTACHMENT 1C

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LIBRARY OF CONGRESS AUTHORITIES

[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)[Previous](#)[Next](#)[MARC Display](#)[Labelled Display](#)**LC control no.:** sh2002000555**LCCN Permalink:** <https://lcn.loc.gov/sh2002000555>**HEADING:** Wireless LANs

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150 __ |a Wireless LANs

450 __ |a Wi-Fi LANs

450 __ |a WiFi LANs

450 __ |a Wireless local area networks

450 __ |a WLANs (Wireless LANs)

550 __ |w g |a Local area networks (Computer networks)

550 __ |w g |a Wireless communication systems

670 __ |a Work cat.: 2001087593: Geier, J.T. Wireless LANS, c2002.

670 __ |a Novell's encyclopedia of networking, c1997: |b p. 876 (Wireless LAN)

670 __ |a LC data base, Jan. 22, 2002 |b (Wireless LANs; Wireless local area networks; WLANs)

670 __ |a Alltheweb search, July 12, 2005 |b (Wi-Fi LANs, WiFi LANs)

675 __ |a McGraw Hill Encyc. of networking and telecom, 2001

906 __ |t 0528 |u te04 |v 0

952 __ |a 12 bib. record(s) to be changed

953 __ |a jg12 |b ta25

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MARC Display

Labelled Display

LC control no.: sh 85031115

LCCN Permalink: <https://lcn.loc.gov/sh85031115>

HEADING: Congresses and conventions

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040 __ |a DLC |c DLC |d DLC |d WaU |d DLC

053 _0 |a AS

150 __ |a Congresses and conventions

360 __ |i subdivision |a Congresses |i under subjects; and names of individual congresses

450 __ |a Colloquia

450 __ |a Colloquiums

450 __ |a Conferences

450 __ |a Conventions (Congresses)

450 __ |a International conferences, congresses and conventions

450 __ |a Symposia

450 __ |a Symposiums

550 __ |w g |a Intellectual cooperation

550 __ |a Convention facilities

670 __ |a Random House Kernerman Webster's college dictionary, ©2010, via TheFreeDictionary.com, Aug. 29, 2013 |b (colloquium n., pl. -quiums, -quia a conference at which scholars or other experts present papers on and discuss a specific topic)

670 __ |a The American heritage dictionary of the English language, ©2000, via TheFreeDictionary.com, Aug. 29, 2013 |b (colloquium n. pl. colloquiums or colloquia 1. An informal meeting for the exchange of views. 2. An academic seminar on a broad field of study, usually led by a different lecturer at each meeting.)

670 __ |a Merriam-Webster online, Aug. 29, 2013 |b (colloquium plural colloquiums or -quia: a usually academic meeting at which specialists deliver addresses on a topic or on related topics and then answer questions relating to them)

906 __ |t 9921 |u te04 |v 0

910 __ |a Record saved by ec04 on 01/17/2014 at 16:02:37

910 __ |a Record saved by ec11 on 09/03/2013 at 08:55:33

953 __ |a xx00 |b sg08

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[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)< [Previous](#)[Next](#) >[MARC Display](#)[Labelled Display](#)**LC control no.:** sh2008107882**LCCN Permalink:** <https://lcn.loc.gov/sh2008107882>**HEADING:** Mobile communication systems Congresses

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035 __ |a (DLC)384057

035 __ |a (DLC)sh2008107882

040 __ |a DLC |b eng |c DLC

150 __ |a Mobile communication systems |v Congresses

667 __ |a Record generated for validation purposes.

670 __ |a Work cat.: Proceedings of the 3rd International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications, c1999

906 __ |t 8888 |u te00 |v 0

953 __ |a te00

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[Help](#)[New Search](#)[Search History](#)[Headings List](#)[Start Over](#)[◀ Previous](#)[Next ▶](#)[MARC Display](#)[Labelled Display](#)**LC control no.:** sh2008107067**LCCN Permalink:** <https://lcn.loc.gov/sh2008107067>**HEADING:** Local area networks (Computer networks) Congresses

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008 080227|| anannbabn |n ana

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035 __ |a (DLC)383030

035 __ |a (DLC)sh2008107067

040 __ |a DLC |b eng |c DLC

150 __ |a Local area networks (Computer networks) |v Congresses

667 __ |a Record generated for validation purposes.

670 __ |a Work cat.: 10th IEEE Workshop on Local and Metropolitan Area Networks, 2001

906 __ |t 8888 |u te00 |v 0

953 __ |a te00

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S.E.
Washington, DC 20540**Library of Congress Authorities**URL: <http://authorities.loc.gov/>**Library of Congress Online Catalog**URL: <https://catalog.loc.gov/>**Questions, comments, error reports:** [Contact Us](#)

ATTACHMENT 1G

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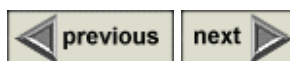
Public Catalog

Copyright Catalog (1978 to present)

Search Request: Left Anchored Title =

Proceedings of the Second ACM International Workshop on Wireless Mobile Applications

Search Results: Displaying 1 of 1 entries

[Labeled View](#)

WMASH 2004 : Proceedings of the second ACM international workshop on...

Type of Work: Text

Registration Number / Date: TX0006082514 / 2004-10-13

Title: WMASH 2004 : Proceedings of the second ACM international workshop on wireless mobile applications and services on WLAN hotspots.

Imprint: New York : ACM Press, c2004.

Description: 148 p.

Copyright Claimant: Association for Computing Machinery, Inc.

Date of Creation: 2004

Date of Publication: 2004-09-17

Other Title: Proceedings of the second ACM international workshop on wireless mobile applications and services on WLAN hotspots

ACM international workshop on wireless applications and services on WLAN hotspots

Second ACM international workshop on wireless mobile applications and services on WLAN hotspots

Names: [Association for Computing Machinery, Inc.](#)



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