

IN THE UNITED STATES DISTRICT COURT

UNIFICATION TECHNOLOGIES, LLC,

Plaintiff,

v.

MICRON TECHNOLOGY, INC.,

Defendants.

CIVIL ACTION NO. 6:20-cv-00500 ADA

JURY TRIAL DEMANDED

**EXPERT REPORT OF SYLVIA D. HALL-ELLIS, PH.D. IN SUPPORT
OF PUBLIC AVAILABILITY OF THE GAL PUBLICATION**

I, Sylvia D. Hall-Ellis, Ph.D., declare as follows:

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Micron Technology, Inc., who I am informed is a Defendant to this district court proceeding (“the Defendant”).

2. I have written this declaration at the request of the Defendant to provide my expert opinion regarding the public availability of a publication, identified below. My Report sets forth my opinions in detail and provides the basis for my opinions regarding the public availability of this publications.

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

4. I am being compensated for my time spent working on this matter at my normal consulting rate of \$300 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this report, the substance of my opinions, or the outcome of this litigation. I have no other interests in this proceeding or with any of the parties.

5. All of the materials that I considered and relied upon 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 in San José, California. 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 have 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*. Currently I serve as a Co-Chair for the Library Research Round Table of the American Library Association.

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. My full curriculum vitae is attached hereto as **Exhibit 1025**.

III. PRELIMINARIES

A. Scope of Declaration and Legal Standards

10. 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 before the dates discussed below with respect to the specific documents.

11. 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.

12. 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. I also understand that a printed publication may be “publicly accessible” if presented at a public conference, seminar, or trade show.

13. 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.

B. Persons of Ordinary Skill in the Art

14. I am told by counsel that the subject matter of this proceeding generally relates to flash memory devices and systems, and in particular to data deletion in flash memory devices and systems.

15. I have been informed by counsel that a “person of ordinary skill in the art at the time of the inventions” is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of the inventions. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

16. I am told by counsel that a person of ordinary skill in this subject matter or art would typically be someone who would have had a range of knowledge roughly equivalent to the knowledge and/or training of a person holding the degree of Bachelor of Science in Electrical Engineering, or Computer Engineering, or equivalent, and at least 2-3 years of experience in the development and use of flash memory devices and systems. An individual with an advanced degree in a relevant field, such as computer or electrical engineering, would require less experience in the development and use of memory devices and systems (e.g., 1-2 years). I have been further informed by counsel that a person of ordinary skill in the art would have been familiar with and able to understand the information known in the art relating to these fields, including the publications discussed in this declaration.

C. Use of Authoritative Databases

17. In preparing this report, I used authoritative databases, such as the OCLC bibliographic database and the Library of Congress Online Catalog, to confirm citation details of the publication discussed.

18. 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.

19. 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.

20. Online indexing services and digital repositories 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 by researchers no later than the publication date of the citing document.

21. *IEEE Xplore*.¹ Librarians in academic, special, and large public libraries are familiar with the *IEEE Xplore* database. In working with undergraduate and graduate students, researchers, scientists, and the public, librarians are intimately familiar with the *IEEE Xplore* database and rely on its content for access to reliable, accurate publications. The Institute of Electrical and Electronics Engineers (IEEE) established the *IEEE Xplore* to serve as a database for the IEEE's ebooks, standards, conference papers, technical reports, and journal articles, and related documents dating from 1988 to the present and selectively from 1913 to 1987. This scholarly research database includes 5.1 million documents and is known for its reputable curation and maintenance of documents and publication information. The *IEEE Xplore* accurately reports dates of publications and events and accurately reports locations of events in accordance with standard practices for major industry journals. The *IEEE Xplore* requires peer review before publishing content. I have used IEEE publications in print and online for nearly 50 years. Currently I have access to IEEE documents as part of the resources for faculty through the King Library at San José State University. In addition to covering material from the IEEE, the *IEEE Xplore* also covers materials from the Institution of Engineering and Technology. The *IEEE Xplore* digital library provides Web access to more than 5.3-million full-text documents from some of the world's most highly cited publications. Approximately

¹ <https://ieeexplore.ieee.org/Xplore/home.jsp>

20,000 new documents are added to *IEEE Xplore* each month. Abstracts are free to access, but access to full text requires a subscription or institutional login.

22. *ACM Digital Library*.² This index is produced by the Association for Computing Machinery, the world's largest scientific and educational computing society. AMC Digital Library contains the full text of all AMC publications, hosted full-text publications from selected publishers, and the ACM Guide to Computing Literature—a comprehensive bibliography of computing literature beginning in the 1950s with more than a million entries. All metadata in the database are freely available on the Web, including abstracts, linked references, citing work, and usage statistics. Full-text articles are available with subscription.

23. *ResearchGate*.³ A social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators *ResearchGate* is the largest academic social network in terms of active users, although other services have more registered users, and a 2015–2016 survey suggests that almost as many academics have *Google Scholar* profiles. Features available to *ResearchGate* members include following a research interest and the work of other individual participants, a blogging feature for users to write short reviews on peer-reviewed articles, private chat rooms for sharing data, editing

² <https://dl.acm.org/>

³ www.researchgate.net

documents, or discussing confidential topics, and a research-focused job board. *ResearchGate* indexes self-published information on user profiles and suggests members to connect with others who have similar interests. Member questions are fielded to others who have identified relevant expertise on their profiles. As of 2018, *ResearchGate* had more than 15 million users, with its largest user-bases coming from Europe and North America. Most of *ResearchGate's* users are involved in medicine, biology, engineering, computer science, agricultural sciences, and psychology. *ResearchGate* publishes a citation impact measurement in the form of an “RG Score,” which is reported to be correlated with existing citation impact measures. *ResearchGate* does not charge fees for putting content on the site and does not require peer review.

24. *Semantic Scholar*.⁴ 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 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. As of January 2018, following a 2017 project that added

⁴ www.semanticscholar.org

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.

D. Summary of Opinions

25. I am informed by counsel that the contested priority dates for the patents at issue are December 6, 2006; September 22, 2007; and December 6, 2007. As I will explain below, it is my opinion that the publication discussed in my Report were publicly accessible more than one year before any of the contested priority dates.

IV. LIBRARY CATALOGING PRACTICES

A. MARC Records

26. 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. 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 works made available at that library.

27. 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.⁵ 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 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.

⁵ 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 October 27, 2020).

Why Is a MARC Record Necessary? LIBRARY OF CONGRESS,
<http://www.loc.gov/marc/umb/um01to06.html#part2> (last visited March 23, 2020).

28. 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 October 27, 2020) (“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 October 27, 2020).

29. 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. See, e.g., <http://www.loc.gov/marc/umb/um07to10.html> (last visited October 27, 2020); <http://www.loc.gov/marc/bibliographic/> (last visited October 27, 2020). For example, a work’s title is recorded in field 245, the primary author of the work is recorded in field 100, a work’s International Standard Book Number (“ISBN”) is

recorded in field 020, a work's International Standard Serial Number ("ISSN") is recorded in field 022, and the publication date is recorded in field 260 under the subfield "c." *Id.*⁶ If a work is a periodical, then its publication frequency is recorded in field 310, 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 October 27, 2020).⁷

30. The library that initially created the MARC record is reflected in field 040 in subfield "a" with that library's unique library code. See, e.g., <http://www.loc.gov/marc/umb/um07to10.html> (last visited October 27, 2020); <http://www.loc.gov/marc/bibliographic/> (last visited October 27, 2020). Once a MARC record for a particular work is originally created by one library, other

⁶ 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 October 27, 2020) ("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").

⁷ Upwards of two-thirds to three-quarters of book sales to libraries come from a 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.

libraries can use that original MARC record to then create their own MARC records for their own copies of the same work. These other libraries may modify or add to the original MARC record as necessary to reflect data specific to their own copies of the work. However, the library that created the original MARC record would still be reflected in these modified MARC records (corresponding to other copies of the same work at other libraries) in field 040, subfield “a”. The modifying library (or libraries) is reflected in field 040, subfield “d”. *See* <http://www.loc.gov/marc/bibliographic/bd040.html> (last visited October 27, 2020).

31. I consulted the Directory of OCLC Libraries (<http://www.oclc.org/contacts/libraries.en.html>; last visited October 27, 2020) in order to identify the institution that created or modified the MARC record. Moreover, when viewing the MARC record online via Online Computer Library Center’s (“OCLC”) bibliographic database, which I discuss further below, hovering over a library code in field 040 with the mouse reveals the full name of the library. I also used this method of “mousing over” the library codes in the OCLC database to identify the originating and modifying libraries for the MARC records discussed in this report.

32. MARC records also include one or more fields that show information regarding subject matter classification. For example, 6XX fields are termed “Subject Access Fields.” *See* <http://www.loc.gov/marc/bibliographic/bd6xx.html>

(last visited October 27, 2020). Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field. See <http://www.loc.gov/marc/bibliographic/bd650.html> (last visited October 27, 2020). The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” *Id.* These 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.*

33. Further, MARC records can include call numbers, which themselves contain a classification number. For example, a MARC record may identify a 050 field, which is the “Library of Congress Call Number.” See <http://www.loc.gov/marc/bibliographic/bd050.html> (last visited October 27, 2020). 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, the 050 field may be used to show information regarding subject matter classification.

34. 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 October 27, 2020).

35. When a MARC-compatible library acquires a work, it creates a MARC record for its copy of the work in its computer catalog system in the ordinary course of its business. This MARC record (for the copy of a work available at the particular library) may be later accessed by researchers in a number of ways. For example, many libraries, including the Library of Congress, make their MARC records available through their website. As an example, the MARC record for the copy of *The Unlikely Spy*, by Daniel Silva,⁸ available at the Library of Congress can be viewed through the Library of Congress website, at <https://catalog.loc.gov/vwebv/staffView?searchId=20265&recPointer=1&recCount=25&bibId=2579985> (last visited October 27, 2020). One could, of course, always physically visit the library at which the work is available, and request to see that library's MARC record for the work. Moreover, members of the Online Computer Library Center ("OCLC") can access the MARC records of other member institutions through OCLC's online bibliographic database, as I explain further

⁸ *The Unlikely Spy* is a 1996 novel written by Daniel Silva, who happens to be one of my favorite authors.

below.

B. OCLC

36. 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.”⁹ Among other services, OCLC and its members are responsible for maintaining the WorldCat database (<http://www.worldcat.org/>; last visited October 27, 2020), used by independent and institutional libraries throughout the world. All libraries that are members of OCLC are MARC-compatible. *See, e.g.,* https://help.oclc.org/Metadata_Services/OCLC-MARC_records/About_OCLC-MARC_records (last visited October 27, 2020) (“OCLC-MARC records describes records produced since November 1993.”); <https://www.oclc.org/support/services/worldcat/documentation/cataloging/electron>

⁹ 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>; last visited October 27, 2020).

icresources.en.html (last visited October 27, 2020) (“Like the two superseded OCLC documents, this revised set of guidelines is intended to assist catalogers in creating records for electronic resources in WorldCat, the OCLC Online Union Catalog. These guidelines pertain to OCLC-MARC tagging (that is, content designation). Cataloging rules and manuals (such as AACR2) govern the content of records. You should implement these guidelines immediately.”).

37. When an OCLC member institution acquires a publication, like the other MARC-compatible libraries discussed above, it creates a MARC record for this publication in its computer catalog system in the ordinary course of its business. MARC records created at the Library of Congress are 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 library or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and thereby made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member library or is tape-loaded from the Library of Congress, any publication corresponding to the MARC record has been cataloged and indexed according to its subject matter such that a person 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.

38. When a MARC-compatible library creates an original MARC record for a work, the library records the date of creation of that MARC record in **field 008**, characters 00 through 05, in the ordinary course of its business. *See* <http://www.loc.gov/marc/bibliographic/bd008a.html> (last visited October 27, 2020). For OCLC member institutions that use OCLC software to create original MARC records, the date of creation in field 008 is automatically supplied by the OCLC software. The MARC record creation date in field 008 thus reflects the date on which, or shortly after which, a work was first acquired and cataloged by the library that created the original MARC record.

39. When other MARC-compatible libraries subsequently acquire their own copies of the same work, as mentioned, they create MARC records in their own computer catalog systems for their copies in the ordinary course of business.¹⁰ They may use a MARC record previously created for that work (by another MARC-compatible library) to create their own MARC records for their own copies of that same work.¹¹ The previously created MARC record used by subsequently-acquiring libraries to create MARC records for their own copies may be obtained through the OCLC bibliographic database, as described above. If, when creating a MARC

¹⁰ Initial contributions to the bibliographic database for a work are called “master records.”

¹¹ When a local library uses a master record in OCLC and produces (or downloads) it to the in-house system, the three-character symbol for the subsequent library is added to the holdings for the work.

record to represent its own copy of the work, the subsequently-acquiring library uses the master MARC record in its original form, the subsequently-acquiring library cannot reenter data into the 008 field; therefore, the date in the 008 field will continue to reflect the date the MARC record was initially created by the originating library. On the other hand, if the subsequently-acquiring library modifies the previously created MARC record when creating its own MARC record for its own copy of the work, the subsequently-acquiring library may enter into the 008 field of its own MARC record the date its own MARC record was created.¹² But the library that created the original MARC record used by the subsequently-acquiring library would still be reflected in the MARC record of the subsequently-acquiring library in field 040, subfield “a”. Thus, the work identified by any MARC record possessed by any MARC-compatible library would have been accessible to the public at least as of the date shown in the 008 field, or shortly thereafter, either from the library that possesses the MARC record itself, or from the originating library indicated in field 040, subfield “a”. As discussed, a MARC-compatible library in the ordinary course of its business creates a MARC record in its own catalog system for a work when it acquires a copy of that work.

¹² This practice is not required by, but is nevertheless consistent with, the MARC standard. Many MARC records exist today whose 008 fields indicate when the first original MARC record for a work was created, rather than when a derivative record was created based on the original MARC record by a subsequently-acquiring library for its own computer catalog system.

40. Moreover, when a MARC record is created by a library for its own copy of a work, **field 005** is automatically populated with the date that MARC record was created in year, month, day format (YYYYMMDD). *See* <http://www.loc.gov/marc/bibliographic/bd005.html> (last visited October 27, 2020).¹³ 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). *Id.*¹⁴ Thus, the work identified by any MARC record possessed by any MARC-compatible library would have been accessible to the public at least as of the date shown in the 005 field, or shortly thereafter, from the library that possesses the MARC record itself. As noted, because the 005 field may be updated each time the library updates its MARC record, the work identified by the MARC record may, in fact, have been accessible to the public from that library much earlier than the date indicated in the 005 field.

41. Moreover, MARC records for copies of works available at the Library of Congress can have a **955 field**. *See* <http://www.loc.gov/cds/PDFdownloads/>

¹³ Some of the newer library catalog systems also include hour, minute, second (HHMMSS).

¹⁴ Field 005 is visible when viewing a MARC record via an appropriate computerized interface. But when a MARC record is printed directly to hardcopy from the OCLC database, the "005" label is not shown. The date in the 005 field instead appears next to the label "Replaced."

[dcm/DCM_2007-03.pdf](#) (last visited October 27, 2020). The 955 field in MARC records obtained from the Library of Congress provides Local Tracking Information, which is a record of internal steps in the cataloging process followed by the Library of Congress. *Id.* Entries in the 955 field for a particular work are generated by Library of Congress staff as the work progresses through the cataloging process. *Id.* One of the mandatory fields that library staff must enter for each step is the date (in the form of “yyyy-mm-dd” or “yy-mm-dd”) the step was taken. *Id.* Thus, the work identified by a MARC record possessed by the Library of Congress would have been accessible to the public at least as of the earliest date shown in the 955 field, or shortly thereafter, from the Library of Congress.

42. Based on my personal experience as a professional librarian using the MARC and OCLC resources, it has been my experience that both of these resources were continuously operational and available since at least 1992. Indeed, in the course of my work, I have extensively used both of these resources over the past 30+ years, and I have consistently found the information contained within these resources to be complete and reliable. I have never found the date of accessibility as indicated in fields 008, 005, or 955 to be incorrect. And in only a minute number of cases have I found any errors at all in these records – none of which affected my ability to render an accurate opinion as to accessibility, indexing, or subject headings.

B. Journals and Monographic Serials

43. 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, journals, etc.). In the OCLC bibliographic database, the first issue of the serial publication is typically cataloged (*i.e.*, a corresponding MARC record is created), but the date is left open-ended with the use of a punctuation mark such as a dash. OCLC serial publication MARC records represent the entire run of the serial title. With knowledge of the first issue published, future issues can be predicted based on the information provided in the MARC record, for example in field 362. 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 MARC record.

44. The handling of printed journal subscriptions is shown on the cover or the first few pages 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 or labeled 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 new issue was placed in the public area; the older issue was stored so that it remained available.

45. 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 placement of a stamp or label 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 all of the serial publications discussed below.

V. PUBLICATION IN THIS PROCEEDING

A. “Mapping Structures for Flash Memories: Techniques and Open Problems” by Eran Gal and Sivan Toledo (“Gal”) [Exhibit 1014]

46. Exhibit 1014 attached to my Report is a conference paper, “Mapping Structures for Flash Memories: Techniques and Open Problems” by Eran Gal and Sivan Toledo (hereafter “Gal”). This conference paper was published in the *IEEE International Conference on Software--Science, Technology & Engineering Proceedings* on pages 83-92. The IEEE International Conference on Software--Science, Technology & Engineering was held on February 22-23, 2005, in Herzlia, Israel. Exhibit 1014 is a true and correct copy from the proceedings volume that I found in the Linda Hall Library (Kansas City, Missouri). Specifically, the text 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. I was able to find the book within the custody of a library – a place where, if authentic, a copy of this volume would likely be. Exhibit 1014 is a true and correct copy in a condition that creates no suspicion about its authenticity.

47. The Gal conference paper is available online from the website for the Proceedings, IEEE International Conference on Software – Science, Technology, and Engineering.¹⁵ This conference is also known as SwSTE '05. The Gal

¹⁵ <https://www.computer.org/csdl/proceedings/2005/swste/12OmNC17hWm>

conference paper was presented in Section 1.3: Software Design and Redesign. Clicking on the name of the Gal conference paper enables the information seeker to go to the specific website on *IEEE Xplore* and download a PDF version of the document from the IEEE Computer Society Digital Library.¹⁶ The SwSTE '05 conference was held on two days (February 22 and 23, 2005). Given the format of the table of contents in the proceedings volume and the numbering of the conference papers, it is my opinion that Sections 1.1, 1.2, and 1.3 were presented on the first day and Sections 2.1, 2.2, and 2.3 were presented on the second day.

48. The pattern of presentations is still followed with minor exceptions.¹⁷ Given the proceedings table of contents, it is reasonable that the Gal paper was presented in the late afternoon of February 22, 2005.

49. Persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located the Gal conference paper from the IEEE *Xplore* database using search terms (such as “flash memory”) and/or reasonable diligence.¹⁸ It is my opinion that the Gal conference paper was publicly accessible digitally in *IEEE Xplore* as of May 23, 2005. The IEEE *Xplore* records support this date, and in my experience, the IEEE *Xplore* records are as reliable as

¹⁶ <https://www.computer.org/csdl/proceedings-article/swste/2005/23350083/12OmNBIFmur>

¹⁷ <http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=109804>

¹⁸ <https://ieeexplore.ieee.org/document/1421068>

any other major journal. Further, the Gal conference paper is also available in the *ACM Digital Library*,¹⁹ *ResearchGate*,²⁰ and *Semantic Scholar*.²¹

50. Attached hereto as Exhibit 1022 is a true and correct copy of the MARC record for the print digital version of the *IEEE International Conference on Software--Science, Technology & Engineering Proceedings* in the Linda Hall Library. The library ownership is indicated by the presence of the library's code (LHL) in the 049 field. The library continues to update this MARC record and enhanced the MARC record to meet current cataloging rules. I personally identified and retrieved the MARC record that is Exhibit 1022.

51. The MARC record for this conference proceedings volume shows that it was cataloged in the Linda Hall Library on August 1, 2006, as shown in field 008 ("060801"). Therefore, this volume would have been available to users in the Linda Hall Library on or shortly after that date.

52. Attached hereto as Exhibit 1023 is a true and correct copy of the MARC record for the print version of the *IEEE International Conference on Software--Science, Technology & Engineering Proceedings* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is

¹⁹ <https://dl.acm.org/doi/10.1109/SWSTE.2005.14>

²⁰ https://www.researchgate.net/publication/4139430_

²¹ <https://www.semanticscholar.org/paper/Mapping-structures-for-flash-memories-%3A-techniques-Gal-Toledo/c3f6c723eb6ee4e0865ba921c712c5a746a692de>

recorded in field 040 with a unique library code. For Exhibit 1023, that library code is “LHL,” which means that the MARC record for this document was cataloged at the Linda Hall Library (Kansas City, Missouri). As can be seen in the “Entered” field in the MARC record for this attachment, a cataloger at the Linda Hall Library created OCLC record number 70791776 on August 1, 2006, as shown in the “Entered” field (“20060801”). The library continues to update this MARC record and enhanced the MARC record to meet current cataloging rules. The most recent enhancement to Exhibit 1023 occurred on February 23, 2018, as shown in the “Replaced” field (“20180223”). I personally identified and retrieved the MARC record that is Exhibit 1023.

53. Exhibit 1023 further includes an entry in field 050 (“QA76.758 \$b .I155 2005”)—as described above, this includes a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system). Exhibit 1023 further includes an English language entry reading “Software engineering \$v Congresses” (see Exhibit 1024, Library of Congress subject heading sh2008111658) in the 650 field. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Exhibit 1023 was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 050 entry and the field 650 entry. Further, as of August 1, 2006, the MARC record attached hereto as Exhibit 1023

was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that acquired this 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. Therefore, the print version of the *IEEE International Conference on Software--Science, Technology & Engineering Proceedings* (Exhibit 1014) was publicly accessible in libraries by no later than August 1, 2006, and in any event at least before the contested priority dates, because by that time it had been received, cataloged, and indexed in the Linda Hall Library and made part of the OCLC bibliographic database.

54. In summary, after researching the Gal conference paper, it is my opinion that the author presented his work on February 22, 2005, followed by the paper's publication in the *IEEE Xplore* database on May 23, 2005,²² and followed by the printed proceedings in libraries no later than August 1, 2006.

Dated: December 17, 2020

Respectfully submitted,


Sylvia D. Hall-Ellis, Ph.D.

²² <https://ieeexplore.ieee.org/document/1421068>