

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAP America, Inc.,
Petitioner,

v.

Valtrus Innovations Ltd., Key Patent Innovations Ltd., and Patent Platform
Services, LLC,
Patent Owner.

IPR2025-00420
U.S. Patent No. 6,889,244

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

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INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by SAP America, Inc. (“SAP”).

2. I have written this report at the request of SAP to provide my expert opinion regarding the authenticity and public availability of a printed publication. My report sets forth my opinions in detail and provides the basis for my opinions regarding the public availability of this publication.

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 report.

4. I am being compensated for my time spent working on this matter at my normal consulting rate of \$400 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 are discussed explicitly in this declaration.

I. 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 and Information 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 national Board of Directors for REFORMA, as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, as a Co-Chair for the Library Research Round Table (LRRT) of ALA, and a member of the LRRT Nominating Committee. Currently I serve as a member of the CORE Margaret Mann Citation Committee.

8. I have also given over one hundred presentations in the field, including several related to 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 Attachment 1 to this report.

II. 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 document referenced herein and when and how the document 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 document before October 31, 2000.

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 exercising reasonable diligence (*i.e.*, I understand that cataloging and indexing by a library in a manner that permits a person of ordinary skill in the relevant subject matter to locate the publication 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.

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 relates generally to a database management system.

15. I have been informed by counsel that a “person of ordinary skill in the art at the time of the invention” (POSITA) 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 persons of ordinary skill in this subject matter or art in October 2000 would have had: a) a bachelor’s degree in computer science, computer engineering, or an equivalent; b) two years of relevant experience in networking and networking security, and related fields; and c) working knowledge of the telecommunications and networking art that is pertinent to the subject matter. Lack of professional experience can be remedied by additional education, and vice versa.

17. It is my opinion that such a person would have been engaged in research, learning through study and practice in the field and possibly through

formal instruction the bibliographic resources relevant to his or her research. Before October 31, 2000, such a person would have had access to a vast array of long-established print resources concerning data services handlers or database management systems (and methods of using the systems), as well as to a rich set of online resources providing indexing information, abstracts, and full text services for development of both data services handlers and database management systems.

18. Based on my experience working in research libraries with researchers having the qualifications described above, or even lesser qualifications, it is my opinion that such researchers would have been able to locate the material discussed herein on their own or with the assistance of a research librarian with relative ease using the tools and resources described herein.

III. LIBRARY CATALOGING PRACTICES

19. In preparing this declaration, I used authoritative databases, such as the OCLC bibliographic database, the Library of Congress Online Catalog, and the Library of Congress Subject Authorities, to confirm citation details of the various publications discussed. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for the serial publication discussed below.

20. Based on my experience working in research libraries with researchers having the qualifications described above, or even lesser qualifications,

it is my opinion that such researchers would have been able to locate the material discussed herein on their own or with the assistance of a research librarian with relative ease using the tools and resources described herein.

A. INDEXING

21. 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.

22. 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.

23. 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 by researchers no later than the publication date of the citing document.

24. 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 bibliography and resources in academic disciplines.

25. Librarians consulted with information seekers to verify citations, check availability in union catalogs, printed books catalogs, 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.

26. 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.

27. A citation of a document by another is evidence that the document was publicly available and in use no later than the publication date of the citing document.

28. Online indexing services such as Google Scholar¹ or ScienceDirect² 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.

29. A researcher may discover material relevant to his or her topic in a variety of ways. A citation of a document by another is evidence that the document was publicly available and in use no later than the publication date of the citing

¹ Google Scholar, <https://scholar.google.com/> (last accessed January 9, 2025).

² Science Direct, <https://www.sciencedirect.com/> (last accessed January 9, 2025).

document. One common means of discovery is to search for relevant information in an index of periodicals and other publications. Having found relevant material, the researcher will then normally obtain it online, look for it in libraries, or purchase it from a 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.

30. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The Library of Congress Subject Authorities includes standard forms of terms and cross references that are included in bibliographic records. Subject headings are terms that an individual seeking a document regardless of format can enter in the search bar of the online catalog. Subjects also connect an authenticated term (one included in the Library of Congress subject headings list) with related, broader, and narrower terms. The formats in which these access terms are presented vary from service to service.

31. 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 by researchers no later than the publication date of the citing document. Prominent indexing services include *Scopus*, the *IEEE Xplore* database, the *ACM Digital Library*, *Google Scholar*, and the *Internet Archive*.

B. MARC RECORDS AND THE ONLINE LIBRARY CATALOG

32. 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.³ 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.⁴

³ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/> (last accessed January 9, 2025).

⁴ Almost every major library in the world is MARC-compatible. *See, e.g.*, Library of Congress, “MARC Frequently Asked Questions (FAQ),” <https://www.loc.gov/marc/faq.html> (last accessed January 9, 2025). (“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 (reaffirmed 2016) standard for Information Interchange Format.

33. 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.⁶

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 at <https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1> (last accessed January 9, 2025).

⁶ Library of Congress, “Why Is a MARC Record Necessary?,” <http://www.loc.gov/marc/umb/um01to06.html#part2> (last accessed January 9, 2025).

34. Thus, almost every major library in the world is MARC-compatible. See Library of Congress, *Frequently Asked Questions (FAQ)* (“MARC is the acronym for Machine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began 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.”).⁷ 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.⁸

35. 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 of the work is transcribed in Field 100; an item’s International Standard Book Number (“ISBN”) consisting of ten or thirteen digits is transcribed in Field 020; an item’s International Standard Serial Number (“ISSN”) is transcribed in Field 022; the Library of Congress classification notation is recorded in Field 050; and the publication date is recorded

⁷ Library of Congress, “MARC Frequently Asked Questions (FAQ),” <https://www.loc.gov/marc/faq.html> (last accessed January 9, 2025).

⁸ Library of Congress, “Bibliographic Data,” <http://www.loc.gov/marc/bibliographic/> (last accessed January 9, 2025).

in Field 260 under the subfield “c.” 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.⁹

36. The library that created the record is recorded in Field 040 in subfield “a” with a unique library code. When viewing the MARC record online via the OCLC bibliographic database, (initially known as the Ohio College Library Center) hovering over this code with the mouse reveals the full name of the library. I have used this method of “mousing over” the library codes in the OCLC database to identify the originating library for the MARC records discussed in this declaration. Where this “mouse over” option was not available, I consulted the Directory of OCLC Libraries to identify the institution that created the MARC record.¹⁰

37. 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.¹¹ For example, 6XX fields are termed “Subject

⁹ Library of Congress, “3XX – Physical Description, Etc. Fields – General Information,” <http://www.loc.gov/marc/bibliographic/bd3xx.html> (last accessed January 9, 2025).

¹⁰ OCLC, “Directory of OCLC members,” <https://www.oclc.org/en/contacts/libraries.html> (last accessed January 9, 2025).

¹¹ Library of Congress, *supra* note 13.

Access Fields.”¹² Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field.¹³ The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” 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.* Further, MARC records include call numbers, which themselves include a classification number. For example, the 050 field is the “Library of Congress Call Number.”¹⁴ A defined portion of the Library of Congress Call (LCC) Number is the classification number, and “source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*.” Thus, included in the 050 field is a subject matter classification. Further, the 082 field is the “Dewey Decimal Call

¹² Library of Congress, “6XX – Subject Access Fields-General Information,” <http://www.loc.gov/marc/bibliographic/bd6xx.html> (last accessed January 9, 2025).

¹³ Library of Congress, “650 – Subject Added Entry-Topical Term (R),” <http://www.loc.gov/marc/bibliographic/bd650.html> (last accessed January 9, 2025).

¹⁴ Library of Congress, “050 – Library of Congress Call Number (R),” <http://www.loc.gov/marc/bibliographic/bd050.html> (last accessed January 9, 2025).

Number.”¹⁵ A defined portion of the Dewey Decimal Call (DDC) Number is the classification number, and “source of the classification number is the *Dewey Decimal Classification and Relative Index*.” Thus, included in the 082 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) and uses it consistently. When the Library of Congress assigns the LCC classification number, it appears as part of the 050 field. When the Library of Congress assigns the DDC classification number, it appears as part of the 082 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.

C. OCLC

38. 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

¹⁵ Library of Congress, “082 – Dewey Decimal Classification Number (R),” <http://www.loc.gov/marc/bibliographic/bd082.html> (last accessed January 9, 2025).

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.”¹⁶ Among other services, OCLC and its members are responsible for maintaining the WorldCat database,¹⁷ used by independent and institutional libraries throughout the world.

39. 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 are directly uploaded or may be 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 a participating institution, 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

¹⁶ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Inc., available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf> (last accessed January 9, 2025).

¹⁷ WorldCat, <http://www.worldcat.org/> (last accessed January 9, 2025).

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 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.

40. 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, or shortly after 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. The date upon which the most recent update to field 005. 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 in field 008 is necessarily on or after the date the library first cataloged and indexed the underlying item.

41. 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. Further, it 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).

42. 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 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.

IV. PUBLICATION: EXHIBIT 1105 (“Tuxedo”)

43. Attached hereto as Exhibit 1105 is a copy of a book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* by Juan M. Andrade, Mark T. Carges, Terence J. Dwyer, and Stephen D. Felts (hereafter “Tuxedo”) and issued by Addison Wesley with a 1996 copyright date. Exhibit 1105 is a true and correct copy of the cover, title page, copyright page, and table of contents as held by the Karl F. Wendt Engineering Library at the University of Wisconsin – Madison. I obtained Exhibit 1105A from the Karl F. Wendt Engineering Library at the University of Wisconsin – Madison and Exhibit 1105 from counsel. I confirmed that these exhibits represent the same book by matching the ISBN numbers and other information in Exhibit 1105 with Exhibit 1105A. 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. Exhibit 1105 is a true and correct copy in a condition that creates no suspicion about its authenticity.

44. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for this book from the Karl F. Wendt Engineering Library at the

University of Wisconsin – Madison online catalog. The library ownership is indicated by the presence of the library’s code (“GZM”) in the 049 field. The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to the MARC record occurred on November 28, 2006, as shown in field 005 (“20061128”). I personally identified and retrieved the library catalog record which is Attachment 1A.

45. The International Standard Book Number (ISBN) on Exhibit 1105 (0-201-63493-7) matches the ISBN in field 020 of Attachment 1A. Therefore, Exhibit 1105 is the same book as the one that the cataloger in the Karl F. Wendt Engineering Library at the University of Wisconsin – Madison used to create the MARC record that is Attachment 1A. It would have been able to be located by a person of ordinary skill in the art using the library catalog system and was thus publicly accessible.

46. Attached hereto as Attachment 1B is a true and correct copy of the MARC record for the book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* obtained from the Library of Congress online catalog. 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 “DLC,” which means that the MARC record for this book was created at

the Library of Congress as part of the Cataloging in Publication (CIP) Program.¹⁸

A cataloger prepares basic information about the forthcoming book which is included on the verso of the title page (also called the copyright page). The information is provided to save time needed for the cataloging process at the library after the book is purchased. The CIP data includes the author (field 100), title and subtitle (field 245), ISBN (field 020), suggested subject headings (field 650), classification numbers for the Library of Congress classification number (field 050), and the Dewey Decimal classification number (field 082). A MARC record prepared in the CIP Program represents a book that is not yet published. The MARC record prepared in the CIP Program may be noted or appear on the copyright page of the book when it is published. In the case of the Tuxedo book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* a notation appears on the copyright page that indicates availability of the MARC record from the Library of Congress. Librarians can see the CIP version of the MARC record in the OCLC bibliographic database. When the book is published and arrives at the Library of Congress, missing data elements are added to the MARC bibliographic record. Additions may include the illustrative matter, height of the volume, pagination, and notes, as well as subjects,

¹⁸ <https://www.loc.gov/publish/cip/>.

points of access, and pertinent data to increase the potential of finding the resource when searching in the library's online catalog. These data elements are included in the MARC record that the Library of Congress contributes to the OCLC bibliographic database. As can be seen in field 008 ("Date entered on file"), a cataloger at the Library of Congress created OCLC record number 34798127 on May 21, 1996 ("960521"). Field 955 indicates that the Tuxedo book arrived in the Library of Congress on September 24, 1996 ("09/24/96"). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1B occurred on November 9, 2004, as shown in field 005 ("20041109"). I personally identified and retrieved the MARC record that is Attachment 1B.

47. Attachment 1B further includes an entry in field 050 ("QA76.545 \$b .T845 1996")—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) and an entry in field 082 ("005.75/8"), a subject matter consistent with the Dewey Decimal classification system. Attachment 1B further includes a uniform title reading "TUXEDO system" (see Attachment 1C, Library of Congress name authority heading n92087765) in the 630 field and three descriptor terms reading "Transaction systems (Computer systems)" (see Attachment 1D, Library of Congress subject heading sh89002252),

“Electronic data processing \$x Distributed processing” (see Attachment 1E, Library of Congress subject heading sh85042293), and “Business \$x Data processing” (see Attachment 1F, Library of Congress subject heading sh85018264) 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 four independently sufficient classifications: the field 050 entry, the field 082 entry, the field 630 entry, and the field 650 entries. Further, as of May 21, 1996, 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 added this book to its collection, 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.

48. Further supporting my opinion that Exhibit 1105 was publicly accessible to ordinarily skilled and interested researchers in the field is the fact that the book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* was registered with the U. S. Copyright Office as item TX0004416751 on November 22, 1996, and indicated a publication date of September 9, 1996 (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.

49. WorldCat indicates that the book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* as cataloged at the Library of Congress is currently available from 93 libraries.¹⁹ In view of the above, book titled *The TUXEDO System: Software for Constructing and Managing Distributed Business Applications* was publicly available on or shortly after September 24, 1996, because by that date it had been cataloged, indexed, and received at the Library of Congress and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1105 was published and accessible to the public on September 24, 1996.

V. SUMMARY OF OPINIONS

50. In view of the foregoing, it is my opinion that the Tuxedo publication described above and attached herein as Exhibit 1105 was publicly available on or about September 24, 1996.

51. 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

¹⁹ WorldCat, <https://search.worldcat.org/title/34798127> (last accessed January 9, 2025)

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.

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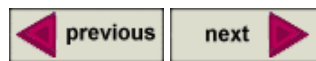
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Software for Constructing
and Managing Distributed
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Juan M. Andrade
Mark T. Carges.
Terence J. Dwyer
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The TUXEDO™ System

Software for Constructing and Managing Distributed Business Applications

Written by the technology's inventors and principal architects, this book provides a definitive, up-to-date, and comprehensive overview of TUXEDO, the leading software system for On-Line Transaction Processing (OLTP). Appropriate for anyone with an interest in distributed business applications—information systems managers, software architects, and developers—the book includes a general introduction to distributed transaction processing technology, a broad overview of TUXEDO's features and operation, and a more detailed technical guide to TUXEDO applications development and administration.

You will learn about many of TUXEDO's state-of-the-art features, including ATMI, typed buffers (including FML), the EventBroker™, Transactional Remote Procedure Call (TxRPC), the Application Queuing System, TMIB-based administration, and more. In addition, an overall architectural view of a TUXEDO-based application gives you a concrete understanding of how these features and capabilities function in a working environment. You will come away from this book with an insider's view of the rationale behind many of TUXEDO's sophisticated features and an excellent understanding of how and why the TUXEDO System works. Current with the latest release, the book covers TUXEDO version 6.1.

Juan Andrade, Corporate Architect at BEA Systems, has been working with TUXEDO since its inception and is one of the project's principal architects. Juan received his doctorate in Computer Science from the National Polytechnique Institute, Grenoble, France.

Mark Carges, Director of Advanced Product Development at BEA Systems, designed and developed early versions of TUXEDO and is one of the project's principal architects. Mark holds a BA in Computer Science from the University of California at Berkeley and a Master's degree in Computer Science from New York University.

Terence Dwyer, Director of TUXEDO Product Engineering at BEA Systems, conceived and implemented the initial version of the TUXEDO System and has overseen much of its architecture, design, and development. Terry has a Master's degree in Mathematics from Penn State University.

Stephen Felts, Software Manager of TUXEDO Systems Development at BEA Systems, has been working with TUXEDO since its inception and has developed many of its key features. Steve received a BA in Mathematics from Houghton College and a Master's degree in Computer Science from Rutgers University.

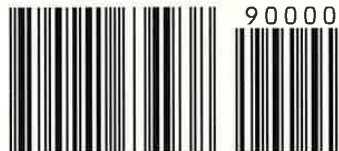
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