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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT: 6,415,280

INVENTOR: DAVID A. FARBER AND RONALD D. LACHMAN

FILED: APR. 1, 1999

ISSUED: JUL. 2, 2002

TITLE: IDENTIFYING AND REQUESTING DATA IN A NETWORK USING IDENTIFIERS WHICH ARE BASED ON THE CONTENT OF THE DATA

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DECLARATION OF DOUGLAS W. CLARK, PH.D.

I, Douglas W. Clark, declare as follows:

1. My name is Douglas Clark. I received my B.S. in engineering and applied science from Yale University in 1972 and my Ph.D. in computer science from Carnegie-Mellon University in 1976. Since receiving my doctorate, I have devoted my professional career to the research, design, development, study, and teaching of numerous aspects of computer systems architecture and design. 2. I am currently a Professor of Computer Science at Princeton University. I have held this position since 1993. My teaching experience at Princeton includes a large introductory lecture course for engineering freshmen, advanced courses in computer architecture for upper-level undergraduates and graduate students, advanced graduate seminars in various topics in computer systems, a course on the great papers of computer science, and an introductory course for nonscientists. I have taught most of these courses several times. I have also taught as a Visiting Lecturer in the Division of Applied Sciences at Harvard, and as a Visiting Professor of Computing and Information Science at the University of Pennsylvania, in 2003.

3. As part of my research at Princeton, I have worked in a number of areas, including in the multiprocessor SHRIMP project, specializing in performance monitoring issues; in simulation-based architecture investigations of modern dynamic processors, focusing on branch prediction; in video camera-based automatic alignment strategies for large multi-projector displays; and in various low-power techniques for modern microprocessors, including clock speed management in separate clocking domains.

4. In addition to my experience in academia, I have over 14 years of industrial experience designing computer systems. From 1976 to 1980, I was a Member of the Research Staff at the Xerox Palo Alto Research Center, where I

worked chiefly on the design of the Dorado, one of the earliest high-performance workstations. From 1980 to 1990, I worked for the Digital Equipment Corp., first as a Principal Engineer in the Systems Architecture Group, and then as a Consulting and Senior Consulting Engineer in both the Advanced VAX Systems Engineering and Alpha Advanced Development groups. I worked mainly on the architecture, organization, design, simulation, and performance analysis of VAX and Alpha computers. I was one of the principal designers of the VAX 8700 and VAX 8800 – both highly successful machines of the late 1980's.

5. I have authored or co-authored about 60 academic publications in the fields of computer science and engineering. In addition, I have been a referee or associate editor for the following academic journals: ACM Transactions on Computers, IEEE Transactions on Computers, and IEEE Computer.

6. I have also been a program committee member or co-chair at numerous national and international conferences/symposiums, including the International Conference on Computer Design, SIGMETRICS Conference on Measurement and Modeling of Computer Systems, and International Symposium on Computer Architecture.

7. A copy of my latest *curriculum vitae* (CV) is attached as Appendix A.

8. I have reviewed and understand the specification, claims, and file history of the '280 patent. I have been informed that the '280 patent claims

priority to U.S. Patent Application No. 08/425,160, filed on April 11, 1995. I understand this means the '280 patent is considered to have been filed on April 11, 1995 for the purposes of determining whether a reference will qualify as prior art.¹

- 9. I have also reviewed and understand the following references:
 - S. Browne et al., "Location-Independent Naming for Virtual Distributed Software Repositories," University of Tennessee Technical Report CS-95-278 (Feb. 1995) ("Browne ", Ex. 1002);
 S. Browne et al., "Location-Independent Naming for Virtual Distributed Software Repositories," http://www.netlib.org/utk/papers/lifn/main.html (Nov. 11, 1994) ("Browne 1994", Ex. 1006); and K. Moore et al., "An Architecture

¹ I have also been informed that the '280 patent is a division of U.S. Application No. 08/670,079, filed on Oct. 24, 1997, now Pat. No. 5,978,791, which is a continuation of U.S. Patent Application No. 08/425,160 and, as such, may not be entitled to the priority date of April 11, 1995 for all claims. This does not affect my analysis below which uses the April 11, 1995 date for each of the challenged claims.

for Bulk File Distribution," Network Working Group Internet Draft (July 27, 1994) ("Moore 1994", Ex. 1007)²

- Woodhill et al., U.S. Patent No. 5,649,196, entitled "System and Method For Distributed Storage Management on Networked Computer Systems Using Binary Object Identifiers," filed Nov. 9, 1995 as a continuation of application 85,596, filed July 1, 1993 ("Woodhill", Ex. 1005).
- Legent Software, Inc., "ESM: Product Information," Legent Corporation (April 1994) ("ESM Manual", Ex. 1026).³
- Satyanarayanan, "Scalable, Secure, and Highly Available Distributed File Access," *IEEE Computer*, vol. 23, no. 5 (May 1990), pp. 9–21 ("Satyanarayanan," Ex. 1029)
- Albert Langer, "Re: dl/describe (File descriptions),")," article
 <1991Aug7.225159.786@newshost.anu.edu.au> in Usenet

² These three references – Browne, Browne 1994, and Moore 1994 – have substantially the same disclosure with respect to the challenged claims of the '280 patent. Solely for the purposes of simplicity, my discussion will refer to only the Browne reference. The Browne 1994 and Moore 1994 references are equally relevant to the patentability of the challenged claims.

³ I understand the ESM Manual is a printed publication, published by Legent Corporation in April 1994.

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