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IN THE UNITED STATES DISTRICT COURT
DISTRICT OF UTAH

THE SCO GROUP, INC.
a Delaware corporation,

Plaintiff,

vs.

INTERNATIONAL BUSINESS
MACHINES CORPORATION, a
New York corporation,

Defendant.

Civil No. 2:03CV-0294 DAK

Honorable Dale A. Kimball
Magistrate Judge Brooke C. Wells

DECLARATION OF RYAN E. TIBBITTS

STATE OF UTAH

COUNTY OF UTAH

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BEFORE ME, personally appeared the undersigned authority, **RYAN E. TIBBITTS**, who being duly sworn, deposes and says:

1. I am General Counsel of The SCO Group, Inc. ("SCO").
2. I also serve as Secretary of SCO's Board of Directors.
3. I have been involved in overseeing the production of documents and supplementing the answers to interrogatories
4. After this Court's Order on December 12, 2003, I began to coordinate the gathering of responsive information from SCO's outside directors.
5. Specifically, before our offices closed down for the holidays--from December 24, 2003, to January 1, 2004--I either spoke with, or left messages for, all outside directors.
6. If I was unable to reach a director in person, I left messages with both the director and his assistant. I explained the subject of the request and the urgency of the matter.
7. Our outside directors are located in Utah, Florida, and California.
8. Two of our directors were out of their offices and unavailable until the beginning of this year. Until they returned, I was unable to speak directly with them or with their respective assistants.
9. While we began to receive information from some directors during the last week of December, 2003, most of the information has been forwarded to me between January 5 and January 10, 2004.
10. In light of the traditional holiday hiatus from work, and the unavailability of some of those directors during the holidays, I undertook the best reasonable efforts to gather information responsive to IBM's requests from SCO's outside directors prior to this Court's deadline of January 12, 2004.

11. All of the information has been gathered and is currently being processed for the remaining individuals. None of these individuals whose documents are not yet available are the ones that IBM identified as seeking the documents in an expedited manner. All of the documents for individuals specifically identified by IBM have or had been produced.

12. SCO has made its best effort to answer IBM's interrogatories as completely as possible. SCO's engineers and consultants have informed me that to determine the nature, extent and source of IBM's contributions to Linux, engineers within SCO, as well as outside consultants, have examined the following materials and sources of Linux kernel source code (available online from <http://www.kernel.org/>). Several versions of source code were examined, including:

12.1.1 version 2.2.12 (an older version previously in widespread use)

12.1.2 version 2.4.1 (an old version previously in widespread use)

12.1.3 version 2.4.21 (currently in widespread use)

12.1.4 version 2.6.0 (the most current version as of our survey)

12.1.5 IBM AIX source code, an old version labeled MERCED/9922A_43NIA

12.1.6 Sequent Dynix/ptx source code, version 4.6.1

12.1.7 Publicly available source code "patches" published on IBM's Linux Technology Center web site, including:

12.1.8 <http://www-124.ibm.com/linux/patches>,

12.1.9 <http://www-124.ibm.com/jfs/home.html>,

12.1.10 <http://www10.software.ibm.com/developer/opensource/cvs/jfs/>

12.1.11 Other publicly available documents from IBM's Linux Technology Center web site at: <http://www-124.ibm.com/linux/> and others.

12.1.12 Publicly available project web pages at other sites, directly referencing or crediting IBM contributions:

12.1.13 <http://lse.sourceforge.net/locking/rcupdate.html>

12.1.14 http://www.sourceforge.net/project/showfiles.php?group_id=25076&package_id=17436

12.1.15 Newsgroup discussions

12.1.16 Linux developer discussion groups, and others.

12.1.17 Archived versions of many of the above sources, publicly available on the Internet Archive website at <http://www.archive.org/>

13. Particular attention was paid to those areas in which IBM claimed to have made contributions to Linux that improved its performance, scalability, reliability, availability and serviceability.

These areas included, but were not limited to:

13.1 The technique of “Read Copy Update” (RCU)

13.2 The Journaling File System (JFS)

13.3 The Enterprise Volume Management System (EVMS)

13.4 Asynchronous input-output operations (AIO)

13.5 Direct input-output operations (DIO)

13.6 Non-uniform memory access (NUMA)

13.7 Symmetric multi-processor support (SMP)

14. I have been informed by SCO’s engineers and consultants that since the only version of AIX source code that was available for comparison purposes is several years old, and predates most of IBM's contributions to Linux, it was not possible to directly compare IBM's contributions to Linux with the most likely source of those contributions, namely the missing

versions of AIX (including the most recent versions).

15. Further, we only have one CD of Dynix/ptx source code that was produced by IBM, and this CD only contains a limited history of Dynix/ptx releases. It was therefore not possible to directly compare IBM's contributions to Linux with another likely source of those contributions, namely the missing versions of Dynix/ptx.
16. Our engineers have reached the conclusion that parts of Linux have almost certainly been copied or derived from AIX or Dynix/ptx. In those cases, confirmation of this opinion would require access to more current versions of AIX and Dynix/ptx.
17. In some additional cases it was also possible to infer with reasonable certainty from comments in the source code that the engineer who implemented that code had experience and knowledge of the methods, sequence and structures used in either or both of Dynix/ptx and AIX. Confirmation of this would require depositions from the IBM individuals involved in programming the actual Linux modules in question.
18. As a result of this work, the following conclusions were reached:
 - 18.1 The "Read Copy Update" (RCU) code contributed to Linux by IBM was copied substantially verbatim with only relatively minor changes from Dynix/ptx.
 - 18.2 The Journaling File System (JFS) code contributed to Linux by IBM was almost certainly copied and adapted for Linux from a version of AIX more recent than the one available for comparison
 - 18.3 The "Enterprise Volume Management System (EVMS) contributed to Linux by IBM is based on the same architecture and data structures as are present in the AIX Volume Management System, and was therefore copied from AIX.
 - 18.4 The AIO code contributed to Linux by IBM was written by an engineer who had a

detailed knowledge and familiarity with the same area of technology in Dynix/ptx, and who likely used the same methods and/or structures in the AIO Linux implementation.

18.5 The scatter/gather I/O code contributed to Linux by IBM was written by an engineer who had access to the same area of technology in AIX. This engineer appears to have worked in conjunction with the aforementioned Dynix/ptx engineer and likely implemented Dynix and/or AIX methods and/or structures in the scatter/gather I/O Linux code.

19. In order for SCO to fully answer IBM's interrogatories, we require access to the missing versions of software, specifically:

19.1 All versions of AIX source code subsequent to the version labeled MERCED 9922A_43NIA up to the most recently released version, as well as the current internal development version within IBM, together with documentation and programmer notes from the development process;

19.2 All versions of Sequent Dynix/ptx source code from one year prior to version 4.6.1 to the final release Dynix/ptx, together with documentation and programmer notes from the development process;

19.3 All versions of JFS, whether a part of AIX or not (including, but not limited to the AIX and OS/2 versions), together with documentation and programmer notes from the development process;

20. In order to fully respond to the Interrogatories, SCO also requires complete disclosure by IBM of all of its contributions to Linux, including:

20.1 Verification of all programming patches it has contributed to Linux.

20.2 A description of all SMP or other multi-processor enhancements made to Linux by any IBM engineer, employees or contractors, together with the precise location in Linux that the enhancement was made, and the date thereof,

20.3 A written description of other enhancements to Linux made by IBM engineers that are not otherwise clearly documented in specific Linux patches,

20.4 Design documentation and programmer notes used by IBM engineers in making all contributions and enhancements to Linux.

21. Once access to the missing source code is granted, SCO will continue to analyze the code to determine improper contributions of UNIX code to Linux and any additional discovery that may be necessary. Given the volume of the expected disclosure by IBM¹, it is expected that SCO and its engineers and consultants will be able to provide further answers to IBM's interrogatories within 90 (ninety) days after the delivery of the missing versions of software and accompanying documentation and programmer notes related to the requested source code.

¹ Version 2.4.21 of the Linux kernel contains over 5 million lines of code and comments; Version 2.6.0 of the Linux kernel contains nearly 6 million lines of code and comments; the release of Dynix/ptx v4.6.1 contains nearly 5 million lines of code and comments; AIX MERCED 9922A_43_NIA contains 21.5 million lines of code and comments. Even with automated procedures, searching this volume of code takes a substantial amount of time. We expect numerous releases of each version of software, in addition to all the patches to be found online.

Ryan E. Tibbitts

Ryan E. Tibbitts
General Counsel and Secretary
The SCO Group, Inc.

STATE OF UTAH)
 :SS.
County of Utah)

The above signed Ryan E. Tibbitts, being duly sworn upon oath, deposes and says that he has read the above and that the information contained therein is true to the best of his knowledge, information and belief.

Kathy T. Martens
Notary Public

