

Brent O. Hatch (5715)  
HATCH, JAMES & DODGE, PC  
10 West Broadway, Suite 400  
Salt Lake City, Utah 84101  
Telephone: (801) 363-6363  
Facsimile: (801) 363-6666

RECEIVED CLERK  
**FILED**  
BOIES, SCHILLER & FLEXNER LLP 10:19  
333 Main Street  
Armonk, New York 10504  
Telephone: (914) 749-8200  
Facsimile: (914) 749-8300

Stephen N. Zack (admitted pro hac vice)  
Mark J. Heise (admitted pro hac vice)  
David K. Markarian (admitted pro hac vice)  
BOIES, SCHILLER & FLEXNER LLP  
Bank of America Tower – Suite 2800  
100 Southeast Second Street  
Miami, Florida 33131  
Telephone: (305) 539-8400  
Facsimile: (305) 539-1307

Frederick S. Frei (admitted pro hac vice)  
Aldo Noto (admitted pro hac vice)  
John K. Harrop (admitted pro hac vice)  
ANDREWS KURTH LLP  
1701 Pennsylvania Avenue, Ste. 300  
Washington, DC 20006  
Telephone: (202) 662-2700  
Facsimile: (202) 662-2739

*Attorneys for Plaintiff The SCO Group, Inc.*

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION

## SUPPLEMENTAL DECLARATION OF CHRISTOPHER SONTAG

1. My name is Christopher Sontag, and I am a Senior Vice President of SCO. My office is located at 355 South 520 West, Lindon, Utah. This Supplemental Declaration is based on my personal knowledge.

2. I submit this Declaration as a supplement to my July 9, 2004 Declaration, which was submitted in support of SCO's Memorandum in Opposition to Defendant/Counterclaim-Plaintiff IBM's Motion for Summary Judgment on IBM's Tenth Counterclaim.

3. I am informed by counsel that IBM has moved to strike my July 9, 2004 Declaration for lack of my personal knowledge and lack of qualifications to address the matters that I addressed. In addition to the material in my July 9 Declaration, I set forth herein the personal knowledge and qualifications for the statements in my July 9 Declaration.

4. In my July 9 Declaration in support of SCO's Rule 56(f) Motion, I describe and explain SCO's need for discovery related to IBM's Configuration Management/Version Control ("CMVC") system, how such discovery together with other discovery of third parties would reduce logistical and evidentiary obstacles facing SCO, and how discovery would allow SCO to present pertinent facts regarding IBM's Tenth Counterclaim to the Court.

5. As to my qualifications, I received a Bachelor's degree in Information Management ("IM") from Brigham Young University in 1988. My computer science and IM courses included IM 460 Advanced System Analysis and Design; IM 360 Systems Analysis; IM 437 Database and Information Systems; IM 433 Advanced Programming Language; IM 333 Microcomputer Programming; and IM 349 Information Systems Technology and Management. I also took many other introductory computer science and information management courses.

6. While at Brigham Young, I drafted computer code, wrote programs to solve individual problems presented to the university's Computer Consultation Center where I worked, consulted with individual programmers on various aspects of computer programming, and provided private software consulting services.

7. From 1988 to 1995, I was employed by Novell, Inc. One of the positions that I held at Novell during this time was Director of Program Management. In that position, I had overall responsibility for the development and release of the NetWare 4.0 product – which involved over 500 software developers, testers and documentation writers. My responsibilities included managing the overall software development and release of this network operating system.

8. I was familiar with the source code control system utilized by Novell for the NetWare product release and was responsible for implementing stringent source code lock-down procedures using the source code control system. I had overall supervision over the various development groups including programmers who were required to use Novell's source code control –or version control-- system on a regular basis to record programming changes. I had overall responsibility for the engineers who on a daily basis worked with and maintained the source code control system. I had direct experience with the source code check-in and check-out procedures used by the Novell software programmers.

9. From 1996 until 2000, I served as Chief Technology Officer (CTO) of a company that I co-founded. As CTO, I had overall responsibility for software design development, technical strategy, intellectual property and information systems as well as general executive management. As CTO, I also led the evaluation and selection process of the source code control/ source code management system that was used by the development team. The selection process

involved comparing and contrasting the capabilities of various source code control systems to select the most suitable system for the company.

10. During my time at SCO beginning in 2000, one of my responsibilities was overall strategy and direction over the UNIX operating system.

11. My work history has given me the experience and background to understand how software code is written, developed, annotated, tracked and controlled. Much of my career has been spent managing software development processes.

12. I have read portions of IBM documents about its CMVC product. These documents describe IBM's source code management tool. The system described is similar to the source code management systems with which I became familiar at Novell and thereafter. In addition, I am familiar with SCO's source code management (or version control) system, an excerpt from which is contained in Exhibit M to my July 9 Declaration. Anyone who has had the responsibilities in the software industry which I have had necessarily becomes familiar with the uses, benefits and capabilities of source code management tools, also referred to as version control systems.

13. The literature on CMVC which I reviewed together with my prior experience with such systems informed me of what information can be extracted from CMVC. On this basis, I explained how use of CMVC will assist SCO in the code comparison process. I note that the uses of the system that I described are basic and any version control system should be capable of executing them.

14. As part of this litigation, I have reviewed portions of the UNIX source code and Linux source code, and have been involved in SCO's process of attempting to expedite that code comparison effort.

15. From my review of the Linux and UNIX operating systems and my knowledge of the amount of code in each, and my understanding of the various complicated and inter-related functions which a large-scale operating system must be able to perform, I know that comparing the UNIX and Linux operating systems is a difficult and time-consuming task.

16. The statements made in my July 9 Declaration are based on my educational background, including my specialized course work in computer science and information management, my work experience, my management of software development teams, and my work in this litigation. Specific bases for specific paragraphs follow herein.

17. Large portions of Paragraphs 4-25 of my July 9 Declaration address the basics of the process of comparing UNIX code and Linux code. They are observations about rudimentary processes and hence do not require any specialized knowledge. That the kernel is the core portion of an operating system and that the UNIX and current version of Linux operating systems' kernels are complex are basic facts which are publicly available and publicly known, and certainly known by me.

18. Paragraphs 8, 9, and 15-23 are based on my first-hand knowledge from having been involved in SCO's search for infringing Linux code.

19. I have organized and reviewed output from the output report generating tools of the automated code comparison products which SCO has used. Thus, I have first-hand experience with what the tools can and cannot do. Some of the shortcomings of the automated tools are described in Paragraphs 10-13 of my July 9 Declaration.

20. Paragraphs 14 and 15 of my July 9 Declaration present simple mathematical calculations based on assumptions described therein. The example recited in Paragraph 14 is intended only to show that manual code comparison is not feasible in light of the millions of

lines of code involved. From my involvement in searching for infringing Linux code, I have first-hand knowledge of the time-consuming nature of manual code comparisons.

21. Paragraphs 24-36 of my July 9 Declaration explain the discovery that SCO needs from IBM and from third parties. These paragraphs are based on my personal knowledge of and involvement in the code comparisons performed thus far by SCO, my prior experience (above) with version control systems and bug tracking systems, and my understanding based on IBM literature of what AIX and Dynix version control systems and "bug" tracking systems could contribute to the monumental code comparison process which SCO seeks to undertake in a more efficient way than is currently possible.

22. In this regard, although SCO can identify current versions of Linux code, and has access to all prior UNIX code, I know from personal observation that UNIX code and Linux code do not contain references to each other. To trace Linux code contributed by IBM back to its parentage in SCO code, SCO needs to examine successive versions of AIX and Dynix. Paragraph 29 of my July 9 Declaration explains this problem and is based on my prior experience with version control systems, my reading about CMVC, and my experience with the SCO team working on code comparisons.

23. Paragraphs 37-42 and Exhibits A-N of my July 9 Declaration are based on my review of the UNIX "perror.c" code versions presented therein. These paragraphs and exhibits demonstrate how a later code version is derived from an earlier code version even though the code itself appears very different between the later and the earlier code versions.

24. To make the observation set out in paragraphs 37-42 of my July 9 Declaration, I requested that an example of code permutation be drawn from UNIX code and be one that is presentable in a compact, easy-to-understand format. I then looked at the various versions of

"perror.c" UNIX code that had been put together under my direction. Based on that effort, I presented the Tables and Exhibits and testimony in my July 9 Declaration regarding the versions of perror.c UNIX code.

25. Paragraphs 43-48 of my July 9 Declaration are based on my prior experience with and understanding of version control systems and "bug" tracking systems for software code, on my knowledge and understanding of how software code is developed, and on my reading of IBM documents on CMVC.

26. Paragraphs 50-60 of my July 9 Declaration discuss the methods that SCO is trying to use to prove that SCO code has improperly been placed into Linux and/or modified and placed into Linux by Linux developers. These Paragraphs are based on my first-hand participation in SCO's process for finding Linux code which is substantially similar to UNIX code, the difficulties I have observed in obtaining adequate materials to do efficient code comparisons, and my work with and review of output from automated code comparison tools.

27. Anyone who has read white papers, design documents and programmers notes would know what type of information can be found in these documents. I have worked with programmers on software projects and know the purpose and circumstances of when they create white papers, design documents, and programming notes for software code development. Based on that experience, and based on having read such documents over the years, I know what type of information can be found in these materials. On that basis, I provided the descriptions in Paragraphs 51-53 and reached the conclusion in Paragraph 54 that SCO needs to obtain such materials in order to analyze potential copyright infringement in IBM's Linux activities.

28. Paragraphs 57-60 contain facts known by me and that I believe are generally known.

I declare under penalty of perjury that the foregoing Supplemental Declaration of Christopher Sontag is true and correct.

September 7, 2004

Lindon, Utah

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a series of loops and a long horizontal stroke extending to the right.

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Christopher Sontag



**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that I caused a true and correct copy of the foregoing SUPPLEMENTAL DECLARATION OF CHRISTOPHER SONTAG IN SUPPORT OF SCO'S OPPOSITION TO IBM'S MOTION TO STRIKE to be mailed by U.S. Mail, first class postage prepaid, this 7 day of September, 2004, to the following:

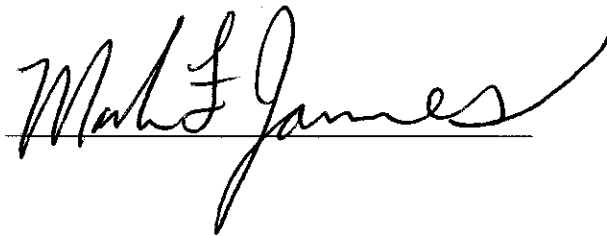
Alan L. Sullivan, Esq.  
Todd M. Shaughnessy, Esq.  
Snell & Wilmer L.L.P.  
15 West South Temple, Ste. 1200  
Gateway Tower West  
Salt Lake City, Utah 84101-1004

Copy to:

Evan R. Chesler, Esq.  
Cravath, Swaine & Moore LLP  
Worldwide Plaza  
825 Eighth Avenue  
New York, NY 10019

Donald J. Rosenberg, Esq.  
1133 Westchester Avenue  
White Plains, New York 10604

*Attorneys for Defendant/Counterclaim Plaintiff IBM Corp.*

A handwritten signature in cursive script, reading "Mark F. James", is written over a horizontal line.