

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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NETAPP INC., RACKSPACE US INC.,  
Petitioners

v.

REALTIME DATA LLC  
Patent Owner.

Patent No. 7,161,506

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*Inter Partes* Review No. IPR2017-\_\_\_\_\_

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**DECLARATION OF DANIEL HIRSCHBERG**

I, Daniel Hirschberg, make this declaration in connection with the proceeding identified above.

## **I. Introduction**

1. I have been retained by counsel for NetApp Inc. and Rackspace US Inc. as a technical expert in connection with the proceeding identified above. I submit this declaration in support of NetApp's and Rackspace's Petition for *Inter Partes* Review of United States Patent No. 7,161,506 ("the '506 patent").

2. I am being paid an hourly rate for my work on this matter. I do not have any personal or financial stake or interest in the outcome of the present proceeding.

## **II. Qualifications**

3. My resume is attached to this declaration as Exhibit A.

4. I earned my Ph.D. in Computer Science from Princeton University in 1975. I also earned a MSE and MA from Princeton University in 1973. I also earned a BE in Electrical Engineering from City College of New York in 1971.

5. Since 2003, I have been a Professor of Computer Science and EECS at University of California, Irvine (UCI). Prior to that, I was a professor in various departments and held various other positions at UCI. I also held the position of Assistant Professor of Electrical Engineering at Rice University from 1975 through 1981. As a professor at UCI, I have taught courses in computer science topics, including a course covering compression techniques.

6. In addition to my roles with UCI and Rice University, I have also provided various consulting services over the years. For example, I have consulted on the design of compression/decompression techniques. I have also provided technical expert services in intellectual property cases covering various technologies, including compression.

7. I have also extensively published in the area of compression and participated in professional organizations and conferences focused on compression technologies. For example, publications nos. B2, J25, J29, J30, J35, J36, J43, J47, C15, C16, C19, C21, C22, and C31 all relate to lossless data compression.

### **III. Materials Considered**

8. In preparing this declaration, I have reviewed, among other things, the following materials:

- a) the '506 patent;
- b) the prosecution history for the '506 patent, including reexamination prosecution history;
- c) NetApp's and Rackspace's petition for *inter partes* review of the '506 patent (the "Petition") to which my declaration relates (I generally agree with the statements regarding the technical disclosures and characterizations of the '506 patent and prior art contained in the Petition); and

d) the exhibits to the Petition (below, I use the names defined in the Petition's exhibit list to refer to the exhibits) and any other documents cited below.

#### **IV. Legal Standards**

##### **A. Claim Construction**

9. I have been informed that, when construing claim terms in an unexpired patent, a claim subject to post grant review receives the broadest reasonable construction in light of the specification of the patent in which it appears. I have also been informed that the '506 patent is likely to expire during any IPR proceeding instituted based on the Petition. I understand that under this circumstance, the claims terms are construed according to their plain meaning in light of the intrinsic record.

##### **B. Obviousness**

10. I understand that a patent claim may also be invalid if the claimed invention would have been obvious to a person of ordinary skill in the art at the time of the claim's effective filing date. I understand that an invention may be obvious if a person of ordinary skill in the art with knowledge of the prior art would have conceived the claimed invention, even if all of the limitations of the claim cannot be found in a single prior art reference.

11. I understand that, in assessing whether a claimed invention would have been obvious, the following factors are considered.

12. First, I understand that the level of ordinary skill that a person working in the field of the claimed invention would have had at its effective filing date must be considered.

13. Second, I understand that the scope and content of the prior art must be considered. I understand that, to be considered as prior art, a reference must be reasonably related to the claimed invention, which means that the reference is in the same field as the claimed invention or is from another field to which a person of ordinary skill in the art would refer to solve a known problem.

14. Third, I understand that the differences, if any, that existed between the prior art and the claimed invention must be considered. I understand that the determination of such differences should focus on the claimed invention as a whole.

15. I understand that it is not sufficient to prove a patent claim obvious to show that each of its limitations was independently known in the prior art but that there also must have been a reason for a person of ordinary skill in the art to have combined or modified the elements or concepts from the prior art in the same way as in the claimed invention.

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