

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EMC CORPORATION AND VMWARE, INC.
Petitioner

v.

PERSONALWEB TECHNOLOGIES, LLC
Patent Owner

Case IPR2013-00087(JYC)
U.S. Patent No. 8,001,096 B2

Before KEVIN F. TURNER, JONI Y. CHANG, and
MICHAEL R. ZECHER, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

EMC Corporation and VMware, Inc. (“EMC”) filed a Petition (“Pet.,” Paper No. 5) requesting *inter partes* review of claims 1, 2, 81, and 83 of U.S. Patent No. 8,001,096 B2 (“the '096 Patent”). Patent owner, PersonalWeb Technologies LLC (“PersonalWeb”), filed a Preliminary Response (“Prelim. Resp.,” Paper No. 11). We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides:

THRESHOLD --The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Taking into account PersonalWeb’s Preliminary Response, we conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that EMC will prevail in challenging claims 1, 2, 81, and 83 as unpatentable under 35 U.S.C. § 103. Pursuant to 35 U.S.C. § 314, we hereby authorize an *inter partes* review to be instituted as to claims 1, 2, 81, and 83 of the '096 Patent.

A. *Related Matters*

EMC indicates that the '096 Patent was asserted against it in *PersonalWeb Technologies LLC v. EMC Corporation and VMware, Inc.*, Case No. 6:11-cv-00660-LED, pending in the U.S. District Court for the Eastern District of Texas (Pet. 1).

EMC also filed five other Petitions seeking *inter partes* review of the following patents: U.S. Patent No. 5,978,791 (IPR2013-00082), U.S. Patent No. 6,415,280 (IPR2013-00083), U.S. Patent No. 7,945,544 (IPR2013-00084), U.S. Patent No. 7,945,539 (IPR2013-00085), and U.S. Patent No. 7,949,662 (IPR2013-00086) (*Id.*). According to EMC, those patents and the '096 Patent share a common disclosure (*Id.* (citing to EX 1008)).

B. *The Invention of the '096 Patent (EX 1001)*

The invention of the '096 Patent relates to a data processing system that identifies data items using substantially unique identifiers, otherwise referred to as True Names, which depend on all the data in the data item and only on the data in the data item (EX 1001, Spec. 1:44-48, 3:52-58, and 6:20-24). According to the '096 Patent, the identity of a data item depends only on the data and is independent of the data item's name, origin, location, address, or other information not directly derivable from the data associated therewith (EX 1001, Spec. 3:52-58). The invention of the '096 Patent also examines the identities of a plurality of data items in order to determine

whether a particular data item is present in the data processing system (EX 1001, Spec. 3:59-62).

Figures 1(a) and 1(b) illustrate the data processing system that implements the invention of the '096 Patent (EX 1001, Spec. 5:9-13).

Figure 1(a) is reproduced below:

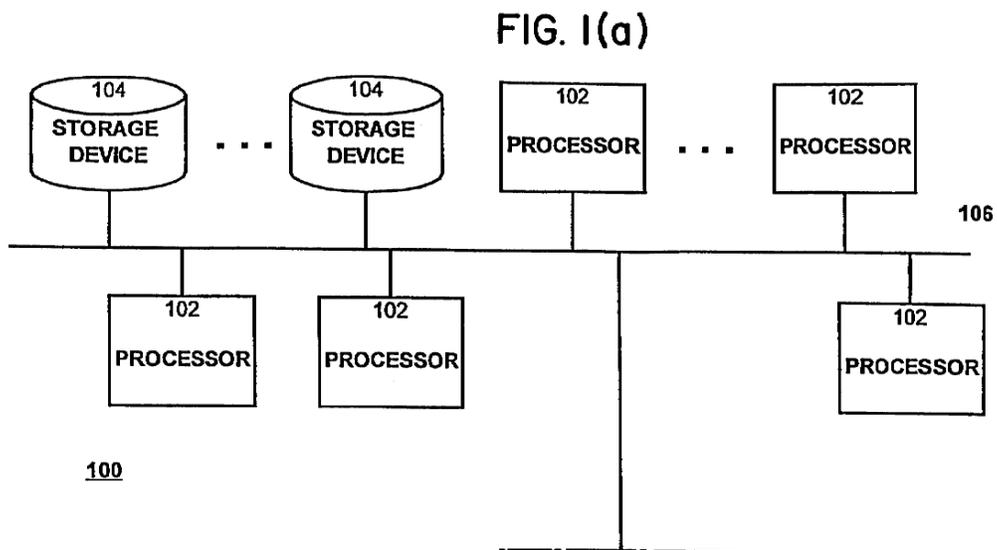


Figure 1(a) illustrates the data processing system

The Specification of the '096 Patent discloses that the data processing system (100) includes one or more processors (102) and various storage devices (104) connected via bus (106) (EX 1001, Spec 5:14-19).

Figure 1(b) is reproduced below:

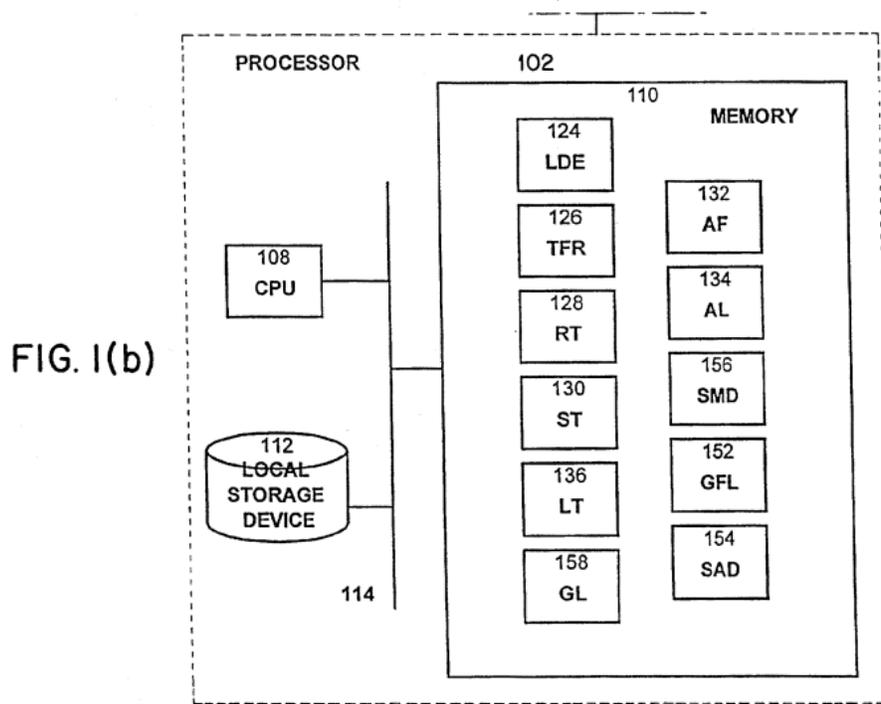


Figure 1(b) illustrates a typical data processor in the data processing system

The Specification of the '096 Patent discloses that each processor (102) includes a central processing unit (108), memory (110), and one or more local storage devices (112) connected via an internal bus (114) (EX 1001, Spec. 5:14-19). The memory (110) in each processor (102) stores data structures that are either local to the processor itself or shared amongst multiple processors in the data processing system (EX 1001, Spec. 8:7-17).

The Specification of the '096 Patent further discloses accessing data items by referencing their identities or True Names independent of their present location in the data processing system (EX 1001, Spec. 33:28-30). The actual data item or True file corresponding to a given data identifier or

True Name is capable of residing anywhere on the data processing system, *i.e.*, locally, remotely, offline, etc. (EX 1001, Spec. 33:30-32). If a requested data item or True File is local with respect to the data processing system, a prospective user can access the data in the True File (EX 1001, Spec. 33:32-34). If a requested data item or True File is not local with respect to the data processing system, a prospective user may use the True File registry to determine the location of copies of the True File according to its given True Name (EX 1001, Spec. 33:34-38). However, if for some reason a prospective user cannot locate a copy of the requested data item or True File, the processor employed by the user may invoke the Request True File remote mechanism to submit a general request for the data item or True File to all the processors in the data processing system (EX 1001, Spec. 34:42-48).

C. Challenged Claims

Independent claim 1, along with claims 2, 81, and 83, is challenged by EMC in this *inter partes* review and is reproduced below:

1. A computer-implemented method operable in a file system comprising a plurality of servers, the method comprising the steps of:
 - (A) adding a data item to the file system, the data item consisting of a sequence of non-overlapping parts, each part consisting of a corresponding sequence of bits, by:
 - (A1) for each part in said sequence of parts, determining, using hardware in combination with software, a corresponding digital part identifier, wherein each said digital part identifier for each said part is determined based

at least in part on a first function of all of the bits in the sequence of bits comprising the corresponding part, the first function comprising a first hash function;

(A2) determining, using a second function, a digital identifier for the data item, said digital data item identifier being based, at least in part, on the contents of the data item, wherein two identical data items in the file system will have the same digital data item identifier in the file system, said second function comprising a second hash function;

(A3) storing each part in said sequence of parts on multiple servers of said plurality of servers in the file system;

(A4) storing first mapping data that maps the digital data item identifier of the data item to the digital part identifiers of the parts comprising the data item;

(A5) storing second mapping data that maps the digital part identifier of each part in said sequence of parts to corresponding location data that identifies which of the plurality of servers in the file system stores the corresponding part; and

(B) repeating step (A) for each of a plurality of data items; and

(C) attempting to access a particular data item in the file system by:

(C1) obtaining a particular digital data item identifier of the particular data item, said particular digital data item identifier of said particular data item being included in an attempt to access said particular data item in said file system;

(C2) attempting to match, using hardware in combination with software, said particular digital data item identifier of said particular data item with a digital data item identifier in said first mapping data; and

- (C3) based at least in part on said attempting to match in step (C2), when said particular digital data item identifier obtained in step (C1) corresponds to an identifier in said first mapping data, using said first mapping data to determine a digital part identifier of each part comprising the particular data item;
- (C4) using said second mapping data and at least one digital part identifier determined in step (C3) to determine location data that identifies which of the plurality of servers in the file system stores the corresponding at least one part of the particular data item;
- (C5) attempting to access at least one part of the particular data item at one or more servers identified in step (C4) as storing said at least one part.

D. Prior Art Relied Upon

EMC relies upon the following prior art references:

Mahadev Satyanarayanan, “*Scalable, Secure, and Highly Available Distributed File Access*,” 23 IEEE Computer 9-21 (May 1990)(EX 1005)(hereinafter “Satyanarayanan”).

Albert Langer, “Re: dl/describe (File descriptions),” post to the “alt.sources.d” and “comp.archives.admin” newsgroups on Aug. 7, 1991 (EX 1003)(hereinafter “Langer”).

Frederick W. Kantor, “*FWKCS(TM) Contents_Signature System Version 1.22*,” Zipfile FWKCS122.ZIP (Aug. 10, 1993)(EX 1004)(hereinafter “Kantor”).

Shirley Browne et al. “*Location-Independent Naming for Virtual Distributed Software Repositories*,” University of Tennessee Technical Report CS-95-278 (Feb. 1995)(EX 1002)(hereinafter “Browne”).

E. Alleged Grounds of Unpatentability

EMC seeks to have canceled independent claims 1, 2, 81, and 83 of the '096 Patent based on the following alleged grounds of unpatentability:

1. Claims 1, 2, 81, and 83 as anticipated under 35 U.S.C. § 102(a) by Browne (Pet. 34-40);
2. Claims 1, 2, 81, and 83 as unpatentable under 35 U.S.C. § 103(a) over the combination of Langer and Satyanarayanan (*Id.* at 40-46); and
3. Claims 1, 2, 81, and 83 as unpatentable under 35 U.S.C. § 103(a) over the combination of Kantor and Satyanarayanan (*Id.* at 47-54).

II. ANALYSIS

A. Claim Construction

As a first step in our analysis for determining whether to institute a trial, we determine the meaning of the claims. In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under the broadest reasonable construction standard, claims are to be given their broadest reasonable interpretation consistent with the specification, and the claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). This means that the words of the claim will be given their plain meaning unless the plain meaning is inconsistent with the specification. *In re Zletz*,

893 F.2d 319, 321 (Fed. Cir. 1989). In this regard, an inventor is entitled to be his or her own lexicographer of patent claim terms by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

In this proceeding, analysis of the grounds of unpatentability asserted by EMC depends on the meaning of the claim term “data item” as recited in claim 1 (*i.e.*, “a particular *data item*”).

Each of the parties proposed a claim construction, and the parties appear to agree that the term “data item” has the meaning of “sequence of bits.” (Pet. 6-7; Prel. Resp. 3). In particular, PersonalWeb asserts that the Specification of the '096 Patent provides a special definition for the term. (Prel. Resp. 3, citing EX 1001, 2:16-17 “the terms “data” and “data item” as used herein refer to sequences of bits.”) EMC also directs our attention to the following portions of the specification of the '096 Patent (Pet. 6-7):

Thus a *data item* may be the contents of a *file*, a portion of a file, a *page* in memory, an *object* in an object-oriented program, a digital *message*, a digital scanned *image*, a part of a *video* or audio *signal*, or any *other entity* which can be represented by a sequence of bits.

(EX 1001, 2:17-21, emphasis added.)

In all of the prior data processing systems the names or identifiers provided to identify *data items* (*the data items being files, directories, records in the database, objects in object-oriented programming, locations in memory or on a physical device, or the like*) are always defined relative to a specific context.

(EX 1001, 2:26-31, emphasis added.)

Based on our review of the specification of the '096 Patent, we agree with the parties that the claim term “data item” means “sequence of bits,” but also clarify that the meaning includes one of the following: (1) the contents of a file; (2) a portion of a file; (3) a page in memory; (4) an object in an object-oriented program; (5) a digital message; (6) a digital scanned image; (7) a part of a video or audio signal; (8) a directory; (9) a record in a database; (10) a location in memory, on a physical device, or the like; and (11) any other entity which can be represented by a sequence of bits.

*B. 35 U.S.C. § 103(a) Ground of Unpatentability
Kantor & Satyanarayanan*

EMC contends that claims 1, 2, 81, and 83 are obvious under 35 U.S.C. § 103(a) over Kantor and Satyanarayanan (Pet. 47-54). EMC relies upon the Declaration of Dr. Douglas W. Clark (EX 1009) to support its positions and an attached claim chart (EX 1029) to explain where Kantor in view of Satyanarayanan describes the claimed subject matter recited in claims 1, 2, 81, and 83. EMC contends that Kantor is a published manual that describes a software program called the Frederick W. Kantor Contents Signature System Version 1.22 (“FWKCS”) (Pet. 47, citing to EX 1004, Title Page).

Whether Kantor is a “Printed Publication”

In its Preliminary Response, PersonalWeb does not dispute the substantive disclosure of Kantor, but rather urges the Board to deny the asserted grounds of unpatentability on the basis that Kantor is not a prior art “printed publication” (Prel. Resp. 4-10). In particular, PersonalWeb argues that EMC has presented no testimony, declaration, or other evidence that Kantor “was catalogued or indexed in a meaningful way prior to the critical date, or that [it] would have turned up in a customary search prior to the critical date, or that persons interested and ordinarily skilled in the art exercising reasonable diligence would have located [it] prior to the critical date” (Prel. Resp. 6).

We are not persuaded by PersonalWeb’s arguments. Rather, on this record, we determine that EMC has made a threshold showing to establish that Kantor is a “printed publication” within the meaning of 35 U.S.C. § 102(b). As a consequence, Kantor is available as prior art for the purposes of this decision to demonstrate that claims 1, 2, 81, and 83 of the '096 Patent are unpatentable under 35 U.S.C. § 103(a).

To determine whether to deny a ground on the basis that a reference is not a “printed publication,” we decide each case on the basis of its own facts. More specifically, the determination of whether a given reference qualifies as a prior art “printed publication” involves a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

Here, EMC asserts that Kantor has been publicly available since August 1993, which is one year before April 11, 1995, the earliest priority date claimed by the '096 Patent (Pet. 5, citing to EX 1004). EMC also proffers the following explanation (*id.*):

Kantor's FWKCS user manual has been publicly and freely available continuously since August 1993. Kantor distributed the user manual with the FWKCS program as shareware and posted it online to electronic Bulletin Board Systems including "The Invention Factory" and "Channel 1" for an extended period of time, where it could be downloaded by anyone. As such, the document was accessible to others in the relevant community of BBS users and system operators. (*See Kantor at 3; see also 158-59; Ex. 1004.*)

Further, the title page of Kantor clearly shows the posted date of August 10, 1993. (EX 1004, Title Page "FWKCS (TM) Contents_Signature System[,] Version 1.22[,] **1993 August 10** [,] (C) Copyright Frederick W. Kantor 1988-1993." Emphasis added.) Kantor also provides the following:

The FWKCS(TM) Contents_Signature System has become a robust platform for supporting contents_signature functions. FWKCS provides many functions and options for application in a public, commercial, school, institutional, or governmental environment. Extensive technical support is of special value in helping such users to benefit more fully from these many features.

Registered FWKCS hobby BBS users are able to receive a modest amount of assistance, and are invited to participate in the FWKCS conference on The Invention Factory BBS, echoed via Execnet.

Commercial, school, institutional, and governmental users, with their special support needs, are invited to discuss terms for obtaining such assistance.

To get a new version of FWKCS, download FWKCSnnn.ZIP from The Invention Factory BBS, where nnn is the new version number without a decimal point. These special downloads are available at no fee, from a 43_line hunt_up group of USR Dual Standard modems, at 2400-16800 bits/sec (including V32.bis).

(EX 1004, 158-159.)

Given that disclosure, Kantor appears to convey that the reference was posted on a publically accessible site well known to those interested in the art – the electronic Bulletin Board Systems – and could be downloaded and retrieved from that site. *In re Wyer*, 655 F.2d 221, 227 (CCPA 1981) (An electronic publication, including an on-line database or Internet publication, is considered to be a “printed publication” “upon a satisfactory showing that the document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it and recognize and comprehend therefrom the essentials of the claimed invention without need of further research or experimentation.”).

PersonalWeb cites *Synopsys, Inc. v. Mentor Graphics Corp.*, IPR2012-00042 (Paper No. 16), at *35-36 (PTAB Feb. 22, 2013) for the propositions that any asserted grounds of unpatentability based on an electronic reference should be denied, unless the reference is presented in the petition with a declaration from one of the authors or other evidence that someone accessed or received the reference prior to the critical date (Prel.

Resp. 4-6). PersonalWeb's reliance on *Synopsys* is misplaced because *Synopsys* did not involve a reference, such as Kantor, that has a posted date. In fact, *Synopsys* involves a brochure that did not include any indication of when it was created or whether it was disseminated publicly, and the only evidence submitted by the petitioner was that it was cited in an Information Disclosure Statement filed in an unpublished patent application. *Synopsys*, IPR2012-00042 (Paper No. 16), at *35.

As to PersonalWeb's argument that there is no evidence that Kantor was catalogued or indexed in a meaningful way prior to the critical date, we are not convinced. "[W]hile often relevant to public accessibility, evidence of indexing is not an absolute prerequisite to establishing online references [] as printed publications within the prior art." *Voter Verified, Inc. v. Premier Election Solutions, Inc.*, 698 F.3d 1374, 1380 (Fed. Cir. 2012).

PersonalWeb further argues that Kantor is inadmissible evidence as the copy of Kantor submitted by EMC has not been authenticated or certified (Prel. Resp. 8). In that regard, PersonalWeb has not followed the proper procedures for objecting to and/or excluding evidence. *See* 37 C.F.R. § 42.64(b); *LKQ Corp. v. Clearlamp, LLC*, IPR2013-00020 (Paper No. 17), at *3-4 (PTAB Mar. 5, 2013).

Under the procedure set forth in 37 C.F.R. § 42.64(b), when a party objects to evidence that was submitted during a preliminary proceeding, such an objection must be served within ten business days of the institution of trial. The objection to the evidence must identify the grounds for the objection with sufficient particularity to allow correction in the form of

supplemental evidence. This process allows the party relying on the evidence to which an objection is served timely, the opportunity to correct, by serving supplemental evidence within so many days of the service of the objection. If, upon receiving the supplemental evidence, the opposing party is still of the opinion that the evidence is inadmissible, the opposing party may file a motion to exclude such evidence. The time for filing a motion to exclude is typically several months into a trial. *See, e.g., Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48768-69, Scheduling Order – Due Date 4.* Therefore, PersonalWeb will have full opportunity to object, serve, and reconsider any supplemental evidence and, finally, file a motion to exclude evidence.

Obviousness

Kantor describes a method of identifying duplicate files (EX 1004, pp. 2-4, 48-49). In particular, Kantor applies a hash function (*e.g.*, a cyclic residue check or cyclic redundancy check (CRC)) to each file within the zipfile to obtain the contents signature for each file (EX 1004, pp. 6-8, 48-49). Each contents signature is a string of bits generated from the contents of a file (*id.*).

For each zipfile, Kantor creates “zipfile contents signatures” or “zcs” by hashing the contents signatures for the files contained within the zipfile (EX 1004, pp. 2, 9, 11, 194-195). As Kantor points out, this is done by “adding together all the 32_bit CRC’s for the files in the zipfile, modulo 2^{32} , separately adding together their uncompressed file_lengths module

2³², and then arranging the two resulting hexadecimal number as a single structure” (*Id.* at 9). Dr. Clark testifies that “additional modulo 2³²” is another well-known simple hashing function that uses addition to calculate a value for a file based on the file’s contents (EX 1009, ¶ 88). Kantor further compares the zipfile contents signatures to check for duplicate files. (EX 1004, pp. Preface-2, 5, 9, 52-54).

Kantor also stores the zcs’s and the file contents signatures for all files on the system in a master contents-signature list called CSLIST (EX 1004, pp. 18, 45). When a user attempts to add a zipfile to the BBS, the system ascertains whether that zipfile already exists in the system, and using the zcs, can determine whether individual component files of that zipfile already exist in the system (EX 1004, pp. 9, 173). The contents-signatures can also be used to find files on the BBS, to delete specific files, and determine whether files are contained in a larger zipfile or among different zipfiles (*id.*).

EMC acknowledges that users of a BBS typically requested files based on the filename, but contends that it would have been obvious to include file identification based on contents-signatures or zcs’s to provide greater integrity checking (Pet. 51). We concur with EMC that Kantor’s system utilizes contents-signatures as parameters for certain user commands (*id.*), and that it would have been obvious to allow download and read commands of the system to identify a file by a contents-signature, as well as other parameters. (*See also* EX 1009, ¶¶ 93-95).

Kantor also fails to disclose the underlying storage system of the BBS, and thus does not disclose that files are replicated on multiple servers, per claim 1, for example. Satyanarayanan discloses a network-based file replication system, where copies of files are stored at multiple servers (EX 1026, Abstract).

EMC contends that Kantor does not satisfy the claim limitation of “storing each part in said sequence of parts on multiple servers of said plurality of servers in the file system,” but that a person of ordinary skill would have found it obvious to modify Kantor to meet that limitation in view of Satyanarayanan (Pet. 52-53). On this record, we concur with the analysis of Dr. Clark, that it would have been obvious to combine Kantor and Satyanarayanan to provide more reliable storage systems for the BBS’s files (EX 1009, ¶ 84).

With respect to dependent claim 2, and independent claims 81 and 83, we have reviewed EMC’s claim chart with respect to the disclosures of Kantor and Satyanarayanan specific to those claim elements (EX 1029, pp. 17-23). EMC’s analysis parallels that provided for claim 1 and the analysis discussed above. With respect to claims 2, 81, and 83, we determine that the contentions therein are persuasive based on the prior discussion of Kantor and Satyanarayanan *supra*.

We have reviewed EMC’s analysis and supporting evidence, and we determine that EMC’s contentions are persuasive. Therefore, based on the record before us, we conclude that there is a reasonable likelihood that EMC will prevail on its assertion that claims 1, 2, 81, and 83 of the '096 Patent are

obvious over Kantor and Satyanarayanan. We initiate an *inter partes* review on that ground of unpatentability.

C. Remaining Grounds of Unpatentability

EMC contends that independent claims 1, 2, 81, and 83 are also unpatentable under 35 U.S.C. §§ 102 and 103 based in whole or in part on Browne or Langer or Satyanarayanan (Pet. 34-46). Those grounds of unpatentability are redundant to the grounds of unpatentability on which we initiate an *inter partes* review. Accordingly, we do not authorize an *inter partes* review on the remaining grounds of unpatentability asserted by EMC against claims 1, 2, 81, and 83 of the '096 Patent. *See* 37 C.F.R. § 42.108(a).

III. CONCLUSION

For the forgoing reasons, we determine that the information presented in EMC's petition shows that there is a reasonable likelihood that EMC would prevail with respect to claims 1, 2, 81, and 83 of the '096 Patent. Accordingly, the petition is granted.

IV. ORDER

It is **ORDERED** that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1, 2, 81, and 83 of the '096 Patent for the following ground of unpatentability:

Claims 1, 2, 81, and 83 as unpatentable under 35 U.S.C.
§ 103(a) over Kantor and Satyanarayanan.

It is **FURTHERED ORDERED** that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial. The trial will commence on the entry date of this decision.

It is **FURTHER ORDERED** that an initial conference call with the Board is scheduled for 2:00 PM Eastern Time on June 3, 2013. The parties are directed to the Office Trial Practice Guide, *77 Fed. Reg.* 48756, 48765-66 (Aug. 14, 2012) for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

Case IPR2013-00087
U.S. Patent No. 8,001,096 B2

For PETITIONER:

Peter Dichiara
David L. Cavanaugh
WILMER CUTLER PICKERING HALE AND DORR LLP
Peter.Dichiara@wilmerhale.com
David.Cavanaugh@wilmerhale.com

For PATENT OWNER:

Joseph A. Rhoa
Updeep S. Gill
NIXON & VANDERHUYE P.C.
jar@nixonvan.com
usg@nixonvan.com