

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ORACLE CORPORATION, NETAPP INC., and HUAWEI  
TECHNOLOGIES CO., LTD.,  
Petitioners,

v.

CROSSROADS SYSTEMS, INC.,  
Patent Owner.

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Case IPR2014-01177  
Patent 7,934,041 B2

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Before HYUN J. JUNG, NEIL T. POWELL, and  
KRISTINA M. KALAN, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Oracle Corporation, NetApp Inc., and Huawei Technologies Co., Ltd. (“Petitioners”) filed a Corrected Petition requesting *inter partes* review of claims 1–53 of U.S. Patent No. 7,934,041 B2 (Ex. 1001, “the ’041 Patent”). Paper 5 (“Pet.”). Crossroads Systems, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 12. We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

We determine that the information presented in the Petition does not show that there is a reasonable likelihood that Petitioners would prevail with respect to any challenged claim. Accordingly, we do not institute an *inter partes* review of claims 1–53 of the ’041 Patent.

### A. *Related Proceedings*

The ’041 Patent has been asserted against Petitioners in the following district court proceedings: *Crossroads Systems, Inc. v. Oracle Corporation*, Case No. 1-13-cv-00895 (W.D.Tex.); *Crossroads Systems, Inc. v. Huawei Technologies Co. Ltd. et al.*, Case No. 1-13-cv-01025 (W.D.Tex.); and *Crossroads Systems, Inc. v. NetApp, Inc.*, Case No. 1-14-cv-00149 (W.D.Tex.). Pet. 3; Exs. 1034, 1035, 1036. The ’041 Patent is also the subject of other district court proceedings. *Id.* at 3; Ex. 1026; Paper 10, 1. The ’041 Patent is also involved in Case IPR2014-01463, and belongs to a family of patents that are the subject of multiple petitions for *inter partes* review, including IPR2014-01197, IPR2014-01207, IPR2014-01209, IPR2014-01226, and IPR2014-01233.

B. The '041 Patent (Ex. 1001)

The '041 Patent discloses “[a] storage router and storage network [that] provide virtual local storage on remote storage devices.” Ex. 1001, Abstract. One embodiment of the storage network appears in Figure 3, reproduced below. *Id.* at col. 3, ll. 19–21, col. 4, ll. 25–27.

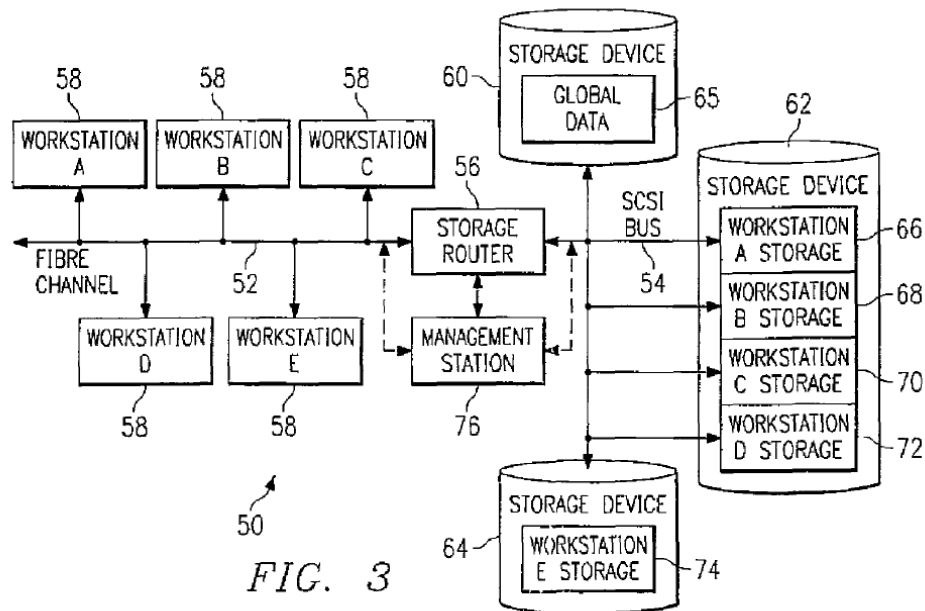


Figure 3 of the '041 Patent shows storage network 50, which includes storage router 56 bridging Fibre Channel high speed serial interconnect 52 and SCSI bus 54. *Id.* at col. 4, ll. 25–30. Storage router 56 allows a number of workstations 58 to interconnect on a common storage transport and “access common storage devices 60, 62 and 64 through native low level, block protocols.” *Id.* at col. 4, ll. 30–33. Storage router 56 also implements security controls to allow each workstation 58 to access a specific subset of data stored in storage devices 60, 62, and 64. *Id.* at col. 4, ll. 35–39.

The '041 Patent shows more details of one embodiment of storage router 56 in Figure 4, reproduced below. *Id.* at col. 3, ll. 22–23, col. 5, ll. 34–35.

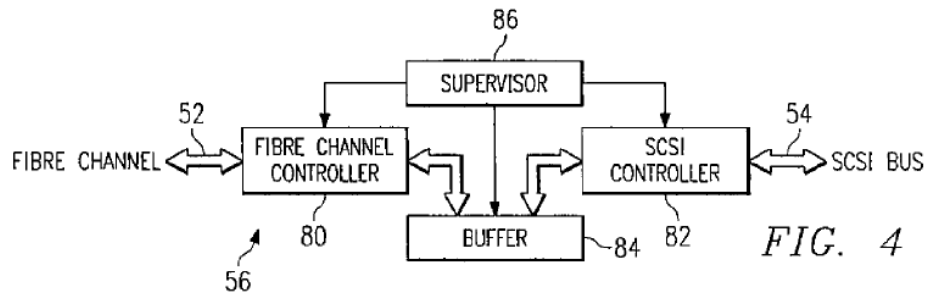


Figure 4 of the '041 Patent shows components of storage router 56, including supervisor 86, buffer 84, Fibre Channel controller 80, and SCSI controller 82. *Id.* at col. 5, ll. 35–41. Buffer 84 connects to Fibre Channel controller 80 and SCSI controller 82. *Id.* at col. 5, ll. 37–39. Memory work space is provided by buffer 84. *Id.* Supervisor unit 86 includes a microprocessor for controlling storage router 56. *Id.* at col. 5, ll. 41–43. The microprocessor of supervisor unit 86 also processes mapping and security access for requests between Fibre Channel 52 and SCSI bus 54. *Id.* at col. 5, ll. 41–44.

### C. Illustrative Claim

Petitioners challenge claims 1–53 of the '041 Patent. Claims 1, 20, and 37 are independent. Each of claims 2–19, 21–36, and 38–53 depends directly or indirectly from one of claims 1, 20, and 37. Claim 1 is illustrative and is reproduced below:

1. A storage router for providing virtual local storage on remote storage devices, comprising:  
  
a first controller operable to interface with a first transport medium, wherein the first medium is a serial transport media; and

a processing device coupled to the first controller, wherein the processing device is configured to:

maintain a map to allocate storage space on the remote storage devices to devices connected to the first transport medium by associating representations of the devices connected to the first transport medium with representations of storage space on the remote storage devices, wherein each representation of a device connected to the first transport medium is associated with one or more representations of storage space on the remote storage devices;

control access from the devices connected to the first transport medium to the storage space on the remote storage devices in accordance with the map; and

allow access from devices connected to the first transport medium to the remote storage devices using native low level block protocol.

Ex. 1001, col. 9, ll. 35–56.

*D. The Prior Art*

Petitioners rely on the following references and Declaration in support of their grounds for challenging the identified claims of the '041 Patent (Pet. iv–vi, 5–6):

| <b>Exhibit Nos.</b> | <b>References and Declaration</b>                                                                                                                                                                                                                                                           |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1003                | CMD Technology, Inc., CRD-5500 SCSI RAID Controller User's Manual, (1996) ("CRD-5500 User Manual")                                                                                                                                                                                          |
| 1004                | CRD-5500 RAID Disk Array Controller, (Dec. 4, 1996), <a href="http://web.archive.org/web/19961226091552/http://www.cmd.com/brochure/crd5500.htm">http://web.archive.org/web/19961226091552/http://www.cmd.com/brochure/crd5500.htm</a> (last visited July 23, 2014) ("CRD-5500 Data Sheet") |
| 1005                | Judith A. Smith and Meryem Primmer, <i>Tachyon: A Gigabit Fibre Channel Protocol Chip</i> , Hewlett-Packard J., 1–17 (1996) ("Smith")                                                                                                                                                       |
| 1006                | U.S. Pat. No. 6,219,771 B1, issued Apr. 17, 2001 ("Kikuchi")                                                                                                                                                                                                                                |

| Exhibit Nos. | References and Declaration                                                                                |
|--------------|-----------------------------------------------------------------------------------------------------------|
| 1007         | U.S. Pat. No. 6,073,209, issued June 6, 2000 (“Bergsten”)                                                 |
| 1008         | Japanese Patent Application Publication No. HEI 5[1993]-181609, pub. July 23, 1993 (“Hirai”) <sup>1</sup> |
| 1010         | Declaration of Jeffrey S. Chase, Ph.D. (“Chase Declaration”)                                              |

*E. The Asserted Grounds of Unpatentability*

Petitioners challenge the patentability of claims 1–53 of the ’041 Patent based on the following grounds (Pet. 5–6):

| Reference[s]                                         | Basis | Claims Challenged |
|------------------------------------------------------|-------|-------------------|
| CRD-5500 User Manual, CRD-5500 Data Sheet, and Smith | § 103 | 1–53              |
| Kikuchi and Bergsten                                 | § 103 | 1–53              |
| Bergsten and Hirai                                   | § 103 | 1–53              |

## II. ANALYSIS

*A. Claim Interpretation*

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). However, if

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<sup>1</sup> Our citations to Hirai are directed to the English Translation contained in the corrected version of Exhibit 1008 filed by Petitioners on July 30, 2014.

an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). Petitioners proffer one claim construction. Pet. 11–12. No claim terms require express construction for purposes of this Decision.

*B. Obviousness of Claims 1–53 Based on CRD-5500 User Manual, CRD-5500 Data Sheet, and Smith*

The Petition argues that it would have been obvious to combine the system taught by the CRD-5500 User Manual with the Tachyon chip taught by Smith. Pet. 17. The Petition contends that the CRD-5500 Data Sheet specifically suggests such a combination. *Id.* The Petition asserts that it would have been obvious to a person of ordinary skill in the art to combine the teachings of the references “to enhance the communication and storage options of a host computing device on a Fibre Channel transport medium, benefit from the ‘Host LUN Mapping’ feature of the storage controller, and avail the host computing device of ubiquitous mass storage applications (*e.g.*, RAID).” *Id.* In concert with this, the Petition describes a “combined system” that results from combining the teachings of the CRD-5500 User Manual and Smith. *Id.* at 17–19.

Neither the Petition’s description of the “combined system” nor its preceding discussion of the references addresses any specific limitation of the challenged claims. *See id.* at 13–19. After explaining the configuration of “the combined system,” however, the Petition offers a discussion that the Petition contends “demonstrates the correspondence between the claim terms and the structure and/or operation of the combined system of *CRD-5500 User Manual, CRD-5500 Data Sheet, and Smith.*” *Id.* at 19–29.

Patent Owner argues that the Petition does not show where the references teach the limitations of the claims. Prelim. Resp. 15. Patent Owner contends that “Petitioners improperly use the 172-page Chase declaration to provide the necessary explanation, effectively expanding the petition well over sixty pages in violation of 37 C.F.R. § 42.24(a) (1) (i).” *Id.* As a specific example, Patent Owner points to the portion of the Petition addressing the recitation in claim 1 of “a first controller operable to interface with a first transport medium, wherein the first medium is a serial transport medium.” *Id.* at 16. Patent Owner notes that the Petition addresses this limitation with one sentence, citing only the Chase Declaration as supporting evidence. *Id.* (citing Pet. 20). Patent Owner further notes that, in the portion addressing the limitations of claim 1 after the “first controller,” the Petition does not contain a single citation to the references on which Petitioners rely. *Id.* (citing Pet. 20–22).

Under our rules, the Petition must contain a “full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence . . . .” 37 C.F.R. § 42.22(a) (2). We, therefore, decline to consider information presented in a supporting declaration but not discussed sufficiently in a petition; doing so would permit the use of declarations to circumvent the page limits that apply to petitions. For the same reasons, our rules prohibit arguments made in a supporting document from being incorporated by reference into a petition. 37 C.F.R. § 42.6(a) (3).

Given this, we agree with Patent Owner that the Petition does not explain adequately how the references teach the limitations of the claims. With respect to independent claim 1, the Petition’s one-sentence explanation

of how the references allegedly teach “a first controller operable to interface with a first transport medium, wherein the first medium is a serial transport medium” is not persuasive by itself. *See* Pet. 20 (“In the combined system, the FC-enabled host device interface module installed in the CRD-5500 controller is coupled to Fibre Channel, a serial transport media, on the host side.”). Because we decline to consider information presented in a supporting declaration but not sufficiently explained in the Petition, the citations to the Chase Declaration do not cure the deficiency of the Petition with respect to addressing the “first controller” limitation.

Following the “first controller” limitation, independent claim 1 recites a number of limitations related to “a processing device.” The Petition also fails to explain adequately how the references teach or render obvious these limitations. In the portion addressing these limitations, the Petition repeatedly cites the Chase Declaration. *See id.* at 20–22. Aside from the Chase Declaration, this portion of the Petition only once cites any other evidence, specifically Exhibit 1009, which contains Patent Owner’s infringement contentions from a district court proceeding. *See id.* at 22 (citing Ex. 1009, 33–34). The cited portion of Exhibit 1009 outlines relationships between the claim limitations and “Pillar Axiom” systems; it does not demonstrate which portions of the references teach or render obvious the claim limitations. *See* Ex. 1009, 33–34. Thus, the Petition does not explain which parts of the references teach or render obvious each of the limitations related to the claimed “processing device.” Indeed, in addition to not identifying adequately which portions of the references Petitioners rely on, the Petition addresses the multiple limitations related to the “processing device” by grouping the limitations together and providing an extended

discussion of the “combined system.” In this discussion, the Petition does not explain which parts of the “combined system” purportedly correspond to which specific limitations. See Pet. 20–22.

With respect to independent claims 20 and 37, the Petition asserts that these claims are similar to claim 1, that “[t]he discussion set forth above applies with equal force to claim 20” and claim 37, and that Professor Chase provides a detailed explanation regarding claims 20 and 37. Pet. 28–29. By relying on the inadequate explanation regarding independent claim 1 and the improper incorporation of the testimony in the Chase Declaration, the Petition does not explain adequately how the references relied on teach or render obvious the limitations of claims 20 and 37.

For the foregoing reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their challenge of independent claims 1, 20, and 37 as obvious over the CRD-5500 User Manual, the CRD-5500 Data Sheet, and Smith. For the same reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their challenge of claims 2–19, 21–36, and 38–53, each of which depends from and necessarily includes the limitations of one of independent claims 1, 20, and 37.

*C. Obviousness of Claims 1–53 Based on Kikuchi and Bergsten*

The Petition argues that it would have been obvious to incorporate emulation drivers 21, physical drivers 22, and virtualized network storage taught by Bergsten into the system taught by Kikuchi. Pet. 33–35. The Petition states that

Professor Chase explains that a skilled storage engineer would have been motivated to incorporate the virtual storage emulation of *Bergsten* into the disk apparatus of

*Kikuchi* to increase both the number of storage devices accessible to hosts connecting to the disk apparatus and the storage address range available within the combined system.

*Id.* at 35. In concert with this, the Petition describes a “combined system” that results from combining the teachings of *Kikuchi* and *Bergsten*. *Id.* at 33–35.

Neither the Petition’s description of the “combined system” nor its preceding discussion of the references addresses any specific limitation of the challenged claims. *See id.* at 29–35. After explaining the configuration of “the combined system,” however, the Petition offers a discussion that the Petition contends “demonstrates the correspondence between the claims terms and the structure and/or operation of the combined system of *Kikuchi and Bergsten*.” *Id.* at 35–44.

Patent Owner argues that the Petition does not show where the references teach the limitations of the claims. Prelim. Resp. 15. Patent Owner contends that “Petitioners improperly use the 172-page Chase declaration to provide the necessary explanation, effectively expanding the petition well over sixty pages in violation of 37 C.F.R. § 42.24(a) (1) (i).” *Id.*

We agree with Patent Owner that the Petition does not explain adequately how the references teach or render obvious the limitations of the claims, for example, the recitation in claim 1 of “a first controller operable to interface with a first transport medium, wherein the first medium is a serial transport media.” To address this claim limitation, the Petition provides only one sentence and cites only the Chase Declaration as supporting evidence. *See Pet.* 36. As noted above, we decline to consider information

presented in a supporting declaration but not discussed sufficiently in the Petition. Accordingly, the citation to the Chase Declaration does not remedy the Petition's inadequate discussion of the "first controller" limitation.

Additionally, the Petition does not explain adequately how the references teach or render obvious the multiple subsequent limitations of claim 1 related to "a processing device." The portion of the Petition addressing these limitations repeatedly cites the Chase Declaration as supporting evidence. *See id.* at 36–37. This portion of the Petition only once cites any other evidence, specifically Exhibit 1009, which contains Patent Owner's infringement contentions from a district court proceeding. *See id.* (citing Ex. 1009, 33–34). The cited portion of Exhibit 1009 does not explain which portions of the references on which Petitioners rely teach or render obvious the limitations of independent claim 1. *See* Ex. 1009, 33–34. Thus, the Petition does not explain which parts of the references teach or render obvious each of the limitations related to the claimed "processing device." Indeed, in addition to not identifying adequately which portions of the references Petitioners rely on, the Petition addresses the multiple limitations related to the "processing device" by grouping the limitations together and providing an extended discussion of the "combined system." In this discussion, the Petition does not explain which parts of the "combined system" purportedly correspond to which specific limitations. *See* Pet. 36–37.

With respect to independent claims 20 and 37, the Petition asserts that these claims are similar to claim 1, that "the discussion set forth above applies with equal force to claim 20" and claim 37, and that Professor Chase provides a detailed explanation regarding claims 20 and 37. Pet. 43–44. By

relying on the inadequate explanation regarding independent claim 1 and the improper incorporation of the testimony in the Chase Declaration, the Petition does not explain adequately how the references relied on teach or render obvious the limitations of claims 20 and 37.

For the foregoing reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their challenge of independent claims 1, 20, and 37 as obvious over Kikuchi and Bergsten. For the same reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their challenge of claims 2–19, 21–36, and 38–53, each of which depends from and necessarily includes the limitations of one of independent claims 1, 20, and 37.

*D. Obviousness of Claims 1–53 Based on Bergsten and Hirai*

The Petition argues that it would have been obvious to incorporate the functionality of Hirai’s access controls into Bergsten’s storage controllers in order to improve Bergsten’s access controls. Pet. 47–49. The Petition notes that

Professor Chase explains that one advantage of doing so would be that the blocks of host computers may be allocated varying levels of access to particular sets of data, such that certain systems within a business entity could modify the data while other systems within the business entity have read-only access, and further systems within the business entity may be denied access altogether (e.g., due to a level of sensitivity of the stored data).

*Id.* at 49. In concert with this, the Petition describes a “combined system” that results from combining the teachings of Bergsten and Hirai. *Id.* at 46–49.

Neither the Petition's description of the "combined system" nor its preceding discussion of the references addresses any specific limitation of the challenged claims. *Id.* at 30–32, 44–49. After explaining the configuration of "the combined system," however, the Petition offers a discussion that the Petition contends "demonstrates the correspondence between the claims terms and the structure and/or operation of the combined system of *Bergsten* and *Hirai*." *Id.* at 49–58.

Patent Owner argues that the Petition does not show where the references teach the limitations of the claims. Prelim. Resp. 15. Patent Owner contends that "Petitioners improperly use the 172-page Chase declaration to provide the necessary explanation, effectively expanding the petition well over sixty pages in violation of 37 C.F.R. § 42.24(a) (1) (i)." *Id.*

We agree with Patent Owner that the Petition does not explain adequately how the references teach or render obvious the limitations of the claims, for example, the recitation in claim 1 of "a first controller operable to interface with a first transport medium, wherein the first medium is a serial transport media." To address this claim limitation, the Petition provides only one sentence and cites only the Chase Declaration as supporting evidence. *See* Pet. 50. As noted above, we decline to consider information presented in a supporting declaration but not discussed sufficiently in the Petition. Accordingly, the citation to the Chase Declaration does not remedy the Petition's inadequate discussion of the "first controller" limitation.

Additionally, the Petition does not explain adequately how the references teach or render obvious the multiple subsequent limitations of claim 1 related to "a processing device." The portion of the Petition

addressing these limitations repeatedly cites the Chase Declaration as supporting evidence. *See id.* at 50–51. This portion of the Petition only once cites any other evidence, specifically Exhibit 1009, which contains Patent Owner’s infringement contentions from a district court proceeding. *See id.* (citing Ex. 1009, 33–34). The cited portion of Exhibit 1009 does not explain which parts of the references on which Petitioners rely teach or render obvious the limitations of independent claim 1. *See* Ex. 1009, 33–34. Thus, the Petition does not explain which parts of the references teach or render obvious each of the limitations related to the claimed “processing device.” Indeed, in addition to not identifying adequately which portions of the references Petitioners rely on, the Petition addresses the multiple limitations related to the “processing device” by grouping the limitations together and providing an extended discussion of the “combined system.” In this discussion, the Petition does not explain which parts of the “combined system” purportedly correspond to which specific limitations. *See* Pet. 50–51.

With respect to independent claims 20 and 37, the Petition asserts that these claims are similar to claim 1, that “the discussion set forth above applies with equal force to claim 20” and claim 37, and that Professor Chase provides a detailed explanation regarding claims 20 and 37. Pet. 57–58. By relying on the inadequate explanation regarding independent claim 1 and the improper incorporation of the testimony in the Chase Declaration, the Petition does not explain adequately how the references relied on teach or render obvious the limitations of claims 20 and 37.

For the foregoing reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their

challenge of independent claims 1, 20, and 37 as obvious over Bergsten and Hirai. For the same reasons, we are not persuaded that the Petition demonstrates a reasonable likelihood that Petitioners would prevail in their challenge of claims 2–19, 21–36, and 38–53, each of which depends from and necessarily includes the limitations of one of independent claims 1, 20, and 37.

### III. CONCLUSION

For the foregoing reasons, we are not persuaded that the information presented in the Petition establishes a reasonable likelihood that Petitioners would prevail in establishing the unpatentability of any of claims 1–53 of the '041 Patent.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied as to claims 1–53 of the '041 Patent.

IPR2014-01177  
Patent 7,934,041 B2

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