

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VEEAM SOFTWARE CORPORATION,
Petitioner,

v.

SYMANTEC CORPORATION,
Patent Owner.

Case IPR2014-00088
Patent 7,480,822

Before THOMAS L. GIANNETTI, TRENTON A. WARD, and
JEREMY M. PLENZLER, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Veeam Software Corporation (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1, 2, 6, 7, and 12–15 of U.S. Patent No. 7,480,822 (Ex. 1001, “the ’822 patent”). Paper 1 (“Pet.”). The Petition was accompanied by an expert declaration from Prashant Shenoy, Ph.D. Ex. 1008 (“Shenoy Declaration”). Symantec Corporation (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We instituted trial on the following grounds: (1) obviousness of claims 1, 2, 6, 7, and 12–15 in view of VS Guide¹ and VSMT²; and (2) obviousness of claims 1, 2, 6, 7, and 12–15 in view of P2V Manual³ and ESX Guide⁴. Paper 7 (“Dec. on Inst.”). Trial was not instituted for the additional challenges to claims 1, 2, 6, 7, and 12–15 as (1) obvious over the combination of Rob’s Guide⁵ and ESX Guide and (2) as obvious over the combination of Le⁶ and ESX Guide. Dec. on Inst. 30.

During trial, Patent Owner filed a Patent Owner Response (Paper 16, “PO Resp.”), which was accompanied by an expert declaration from

¹ MICROSOFT, VIRTUAL SERVER 2005 ADMINISTRATOR’S GUIDE (2004) (Ex. 1002, “VS Guide”).

² MICROSOFT, MICROSOFT VIRTUAL SERVER 2005: SERVER CONSOLIDATION AND MIGRATION WITH THE MICROSOFT VIRTUAL SERVER 2005 MIGRATION TOOLKIT (2004) (Ex. 1003, “VSMT”).

³ VMWARE, INC., VMWARE P2V ASSISTANT USER’S MANUAL (2004) (Ex. 1004) (“P2V Manual”).

⁴ VMWARE, INC., ESX SERVER 2.1 ADMINISTRATION GUIDE (2004) (Ex. 1005, “ESX Guide”).

⁵ ROB BASTIAANSEN, ROB’S GUIDE TO USING VMWARE (2004) (Ex. 1006, “Rob’s Guide”).

⁶ U.S. Patent No. 8,209,680 (issued June 26, 2012) (Ex. 1007, “Le”).

Matthew Green, Ph. D (Ex. 2003, “Green Declaration”). Patent Owner additionally filed a Motion to Amend (Paper 18, “Mot. to Amend”), which was accompanied by a supplemental declaration from Dr. Green (Ex. 2010, “Supplemental Green Declaration”). Petitioner filed a Reply to the Patent Owner Response (Paper 23, “Pet. Reply”) and a Response to the Motion to Amend (Paper 22, “Pet. MTA Resp.”), accompanied by a supplemental declaration from Dr. Shenoy (Ex. 1010, “Supplemental Shenoy Declaration”). Patent Owner filed a Reply to Petitioner’s MTA Response. Paper 25 (“PO Reply to MTA Resp.”). Upon authorization from the Board, Petitioner and Patent Owner each filed supplemental briefing on 35 U.S.C. § 103(c) relative to alleged common ownership of the ’822 patent and U.S. Patent No. 7,093,086 (Ex. 1012, “the ’086 patent”), asserted by Petitioner in response to Patent Owner’s Motion to Amend. Papers 32, 33. Petitioner and Patent Owner each filed a Motion to Exclude Evidence. Papers 31, 35. An oral hearing was held on December 18, 2014. A transcript of the hearing has been entered into the record. Paper 44 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a).

We determine that Petitioner has shown by a preponderance of the evidence that claims 1, 2, 6, 7, and 12–15 of the ’822 patent are unpatentable. We further determine that Patent Owner’s Motion to Amend is denied.

B. Related Proceedings

The ’822 patent is the subject of the following co-pending federal district court case: *Symantec Corp. v. Veeam Software Corp.*, No. 3:12-cv-

5443-SI (N.D. Cal.) (consolidated with No. 3:12-cv-00700-SI (N.D. Cal.)).
Pet. 1.

On July 29, 2014, we issued final decisions in four *inter partes* review proceedings based on Petitioner’s challenges to the patentability of certain claims of Patent Owner’s U.S. Patent Nos. 6,931,558 (IPR2013-00141, IPR2013-00142), 7,191,299 (IPR2013-00143), and 7,093,086 (IPR2013-00150). Additionally, we instituted *inter partes* review on April 25, 2014 based on Petitioner’s challenges to the patentability of certain claims of Patent Owner’s U.S. Patent Nos. 7,831,861 (IPR2014-00089), 7,024,527 (IPR2014-00090), and 8,117,168 (IPR2014-00091).

C. The ’822 Patent

The ’822 patent is titled “Recovery and Operation of Captured Running States from Multiple Computing Systems on a Single Computing System” and generally relates to a method and system for restoring access to previous running states of a plurality of computing systems onto a single computing system. Ex. 1001, Abstr. The ’822 patent explains that the running states of multiple primary computing systems are recovered to a single recovery computing system that provides the functionality offered by all of the primary computing systems by operating upon the restored running states. *Id.* at 4:31–41.

Figure 3 of the '822 patent is reproduced below.

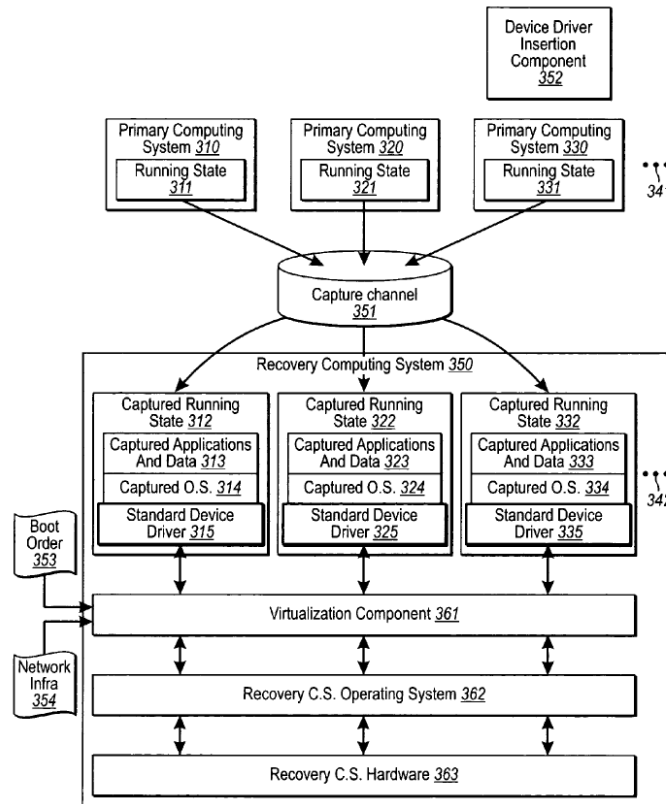


Fig. 3

Figure 3 is an illustration of primary computing systems 310, 320, 330 and recovery computing system 350. Running states 311, 321, 331 from primary computing systems 310, 320, 330 are restored by capturing running states 311, 321, 331 via capture channel 351 and providing captured running states 312, 322, 332 to recovery computing system 350. *Id.* at 5:1–5. Capture channel 351 may include communications media or storage media. *Id.* at 5:5–10. Common virtualization component 361 interfaces with captured running states 312, 322, 332 on recovery computing system 350 via device drivers 315, 325, 335 included in each captured running state 312, 322, 332.

Id. at 5:11–30. The '822 patent identifies VMware® as an example of common virtualization component 361.

Each running state 311, 321, 331 includes application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system. *Id.* at 4:56-60. Therefore, in addition to device drivers 315, 325, 335, captured running states include captured applications and data 313, 323, 333 and captured operating systems 314, 324, 334. *Id.* at 5:60–6:3. Virtualization component 361 interfaces with hardware 363 of recovery computing system 350 via recovery computing system's operating system 362, allowing a variety of different applications and operating systems to run on hardware 363. *Id.* at 6:17–20.

D. Illustrative Claim

Of challenged claims 1, 2, 6, 7, and 12–15, claims 1 and 15 are independent. Claims 2, 6, 7, and 12–14 depend from claim 1. Claim 1 illustrates the claimed subject matter, and is reproduced below:

1. A method for restoring access to running states of a plurality of primary computing systems onto a single computing system, the method comprising the following:

- an act of accessing a captured running state of each of the primary computing systems on the single computing system, wherein the captured running states each include, or are altered to include, at least one device driver that is configured to interface with a common virtualization component that runs on the single computing system, wherein the common virtualization component is configured to at least indirectly interface with hardware on the

single computing system that operates at least part of the hardware using a different interface than the at least one device driver is configured to interface with;

an act of identifying a boot order for each of the primary computing systems; and

an act of booting the captured running states for each of the primary computing systems in the identified boot order on the single computing system.

Ex. 1001, 13:3–22.

II. ANALYSIS

For the challenged claims, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e). We begin with a claim construction analysis, and then follow with specific analysis of the prior art.

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification in which they appear and the understanding of others skilled in the relevant art. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC.*, No. 2014-1301, 2015 WL 448667, at *7–8 (Fed. Cir. Feb. 4, 2015) (“Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”). Applying that standard, we interpret the claim terms of the ’822 patent according to their ordinary and customary meaning in the context of the patent’s written description. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. “*running state/captured running state*”

In our Decision on Institution, we construed “running state” as “application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system existing during computer operation (i.e., when the computer is powered on).” Dec. on Inst. 6–8. We construed “captured running state” as “a copy of the ‘running state’ during computer operation.” *Id.*

Patent Owner “agree[s] in principle” with our constructions of “running state” and “captured running state,” but proposes clarification regarding the parenthetical “(i.e., while the computer is powered on).” PO Resp. 18. Specifically, Patent Owner notes that “to the extent that this parenthetical was simply intended to indicate that, ‘running’ does not necessarily require that an active process is currently being executed, Patent Owner does not object to this distinction.” *Id.* This was our intent. We do not construe “running” to require simply that “the computer has power (*e.g.*, is connected to the power supply and/or the power button has been pressed),” which Patent Owner indicates as a potential disagreement. *Id.* at 18–19. Patent Owner additionally indicates that it “understands the Board’s constructions to mean that the ‘running state’ is a state that exists while the computer is turned on and operating *normally* (*e.g.*, ready for use) and, likewise, that a ‘captured running state’ requires that the running state be captured during such *normal* operation of the computer.” *Id.* at 18. (emphasis added). Patent Owner contends that, therefore, “[t]he broadest reasonable construction for [running state] is the state of the computer

during normal operation (i.e., when the computer is ready for use and capable of providing its intended functionality).” *Id.* at 19.

Petitioner contends that Patent Owner’s proposed construction including *normal operation* and *intended functionality* of the computer is an overly narrow construction. We agree. Although Patent Owner alleges that its proposed construction “is consistent with the specification, the cited references, other relevant materials, and how one of ordinary skill in the art would have generally understood the term around the time of the ’822 Patent” (PO Resp. 18), it offers no persuasive explanation for this allegation. The claim does not specify a type of computer operating condition during the “running state.” Rather, the claim simply recites “running states of a plurality of primary computing systems” and “accessing . . . captured running states.” Patent Owner does not identify, and we do not see, anything in the specification of the ’822 patent that requires “running state” to be construed as corresponding to a particular operating condition of the computer. For example, the specification of the ’822 patent explains that “[t]he running state . . . includes application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system,” without specifying an operating condition corresponding to the “running state.” Ex. 1001, 4:56–60.

Accordingly, for purposes of this decision, we determine that “running state” includes “application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system,” and does not require a specific computer operating condition.

We also see no requirement that the “captured running state” requires anything beyond a copy of the “running state,” as defined above. The claims simply recite “accessing a captured running state,” without specifying how or when the running state is captured. Thus, we determine that a “captured running state” is simply “a copy of the application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system.”

2. “*boot order*”

In our Decision on Institution, we construed “boot order” as “the order of booting, independent of any relationship between the computing systems being booted.” Dec. on Inst. 9–10. Both Patent Owner and Petitioner agree with our construction of “boot order.” PO Resp. 16; Pet. Reply 9. Accordingly, we are not aware of any reason to alter our construction of “boot order” noted above.

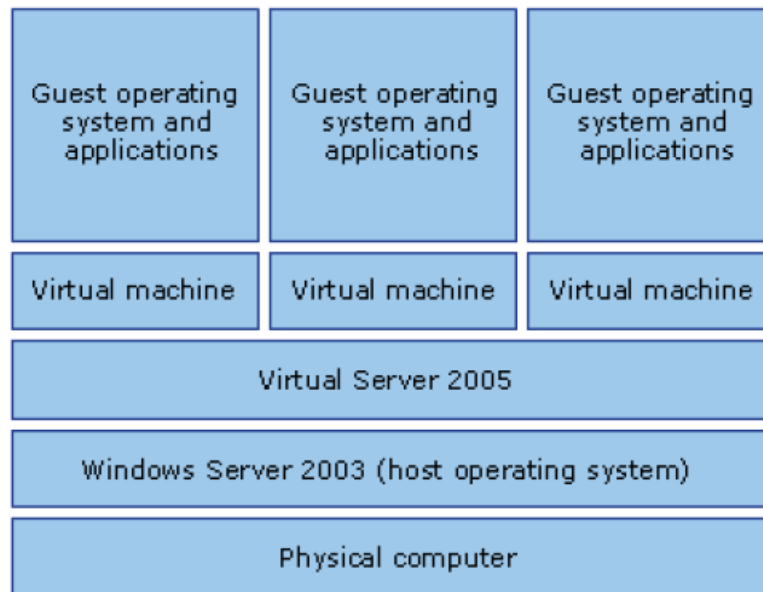
B. Obviousness over VS Guide and VSMT

We have reviewed the Petition, the Patent Owner Response, and Petitioner’s Reply, as well as the relevant evidence discussed in those papers. We are persuaded that Petitioner has established, by a preponderance of the evidence, that claims 1, 2, 6, 7, and 12–15 would have been obvious over the combination of VS Guide and VSMT.

Initially, we note that Patent Owner alleged in its Response that neither VS Guide nor VSMT qualifies as printed publications. PO Resp. 29–36. At oral hearing, however, Patent Owner acknowledged that it no longer maintains this contention. See Tr. 64:1–9.

1. Overview of VS Guide

VS Guide is the Microsoft® Virtual Server 2005 Administrator's Guide. Ex. 1002, 1. VS Guide explains how to create and run one or more virtual machines, each with its own operating system, on a single physical computer using Microsoft® Virtual Server 2005. *Id.* An illustrative figure from page 124 of VS Guide ("VS Guide figure") is reproduced below.



VS Guide Figure

The VS Guide figure above illustrates the system architecture, and includes guest operating systems and applications, virtual machines, a virtual server, a host operating system, and a physical computer. *Id.* at 124. VS Guide explains that “[s]tarting from the bottom of the logical stack [in the VS Guide figure], the host operating system manages the physical computer. The Virtual Machine Monitor (VMM) virtualization layer manages virtual machines, providing the software infrastructure for hardware emulation. Each virtual machine consists of a set of virtualized devices.” *Id.* (emphasis omitted).

2. Overview of VSMT

VSMT is a white paper describing the Microsoft® Virtual Server Migration Toolkit, which “is designed to help solve problems associated with migrating to Virtual Server 2005 by creating a reliable and repeatable process for migrating an operating system and installed applications from a physical server to a virtual machine.” Ex. 1003, 5. VSMT discusses migrating physical servers to virtual machines running on a single physical server and explains that “Virtual Server 2005 allows multiple, disparate operating systems to run simultaneously on a single server computer.” *Id.*

3. Claims 1 and 15

As seen above, claim 1 is directed to “[a] method for restoring access to running states of a plurality of primary computing systems onto a single computing system” and includes “accessing a captured running state of each of the primary computing systems on the single computing system,” “identifying a boot order for each of the primary computing systems,” and “booting the captured running states for each of the primary computing systems in the identified boot order on the single computing system.” Claim 15 is directed to “[a] computer program product” having similar limitations. We have reviewed, and are persuaded by, Petitioner’s contentions regarding the teachings of VS Guide and VSMT relative to these claims, and that one skilled in the art would have combined these teachings.

For example, with respect to the “running state” limitations, Petitioner contends that “VS Guide describes having multiple virtual machines running on a single physical computing system” and the virtual machines in VS Guide restore access to a running state by executing the running state as a captured running state. Pet. 12 (citing Ex. 1002, 17; Ex. 1008 ¶ 40).

Petitioner cites VSMT as describing the migration from the physical computer to the virtual machine and, therefore, teaching “capturing ‘running states’ of a physical computer by converting physical computers into Virtual Server 2005 virtual machines.” *Id.* As noted above, we do not construe “running state” as requiring a specific computer operating condition.

Petitioner contends, however, that even with the construction of running state proposed by Patent Owner, including the additional limitations of the computer “operating normally” and providing its “intended functionality,” the prior art applied in the challenges meets the “running state” and “captured running state” limitations. Pet. Reply 6–9; Tr. 126:14–128:12. Petitioner explains that “[s]ince the contents of the disk do not change when the computer is shutdown, when VSMT [] capture[s] the contents of the disk, [it is] capturing the running state of the computer when it was operating normally (i.e., providing its intended functionality).” Pet. Reply 8 (citing Ex. 1010 ¶ 4). Petitioner contends that “[t]he virtual machine data is the ‘captured running state’ since it was migrated from a physical machine into the virtual machine running on the single computing system.” *Id.* at 13. Petitioner contends that VS Guide’s discussion of “allowing users to access a particular virtual machine, thus accessing its associated data,” therefore, corresponds to the “accessing a captured running state” recited in the claims. *Id.*

Petitioner reasons that a person of ordinary skill in the art would have combined VS Guide and VSMT because both are Microsoft® products and are designed specifically to work together. Pet. 11 (citing Ex. 1003, 5). Petitioner contends that “it would have been obvious to one having ordinary skill in the art to combine VS Guide with VSMT as doing so is nothing more

than combining known elements using known techniques to yield a predictable result (e.g., server consolidation).” *Id.* (citing Ex. 1008 ¶ 38).

Patent Owner responds that “[n]either *VS Guide*, nor *VSMT*, include[s] any teaching or suggestion of capturing the state of any computing system while it is running.” PO Resp. 42–43. Patent Owner argues that “*VSMT* makes clear that the physical (*i.e.* source computer) is not and cannot be running during its migration process” and “expressly discloses that the physical source computer (*i.e.*, the asserted primary computing system) must first be shut down, rebooted into a specialized pre-boot environment to perform the P2V conversion, and then shut down and rebooted again to resume normal operation.” *Id.* at 43. Patent Owner contends, therefore, that “the physical computer is not capable of operating normally or providing any of its intended functionality at any point during the conversion process.” *Id.*

Patent Owner focuses on the state of the computer in the “pre-boot” mode in *VSMT*, but this is not the state that is captured from the physical computer, migrated to the virtual machine, and later accessed on the virtual machine. Regardless of whether the source computer is running during the migration process, or is running in a specialized pre-boot environment during the migration process, the source computer is running before it is shut down for migration. As Petitioner contends, this state of the source computer prior to migration is saved and migrated to the virtual machine. Pet. Reply 8 (citing Ex. 1010 ¶ 4). Dr. Shenoy’s testimony supports this understanding of the migration process, explaining that “the data captured after the computer has been shut down or rebooted is the same data as it existed when the computer was previously running.” Ex. 1010 ¶ 4. Thus,

the data migrated to, and ultimately accessed on, the virtual machine in Petitioner's proposed combination of VS Guide and VSMT is a copy of application data, the executable instructions for application programs, the executable instructions for the operating system, and configuration information for the application programs and the operating system existing during computer operation. We are persuaded, therefore, that the combination of VS Guide and VSMT teaches restoring access to a "running state," as construed above, and accessing a copy of the running state (i.e., "accessing a captured running state").

We are also persuaded that, in VSMT, the source computer is "operating normally" and "providing its intended functionality" before it is shut down for migration, as required by Patent Owner's proposed construction of "running state." For example, the data migrated to, and ultimately accessed on, the virtual machine in Petitioner's proposed combination of VS Guide and VSMT is a copy of the running state existing during normal computer operation (i.e., when the computer is powered on, ready for use, and providing its intended functionality).

Patent Owner does not address specifically Petitioner's reasons for combining VS Guide and VSMT. Instead, Patent Owner focuses on the references not being related to disaster recovery. PO Resp. 47–49. However, the claims are not limited to "disaster recovery." Rather, the claims require accessing captured running states, which includes migration of a physical machine to a virtual machine as discussed in VS Guide and VSMT. As indicated above, Petitioner notes that VS Guide and VSMT both are Microsoft® products and are designed specifically to work together. Pet. 11 (citing Ex. 1003, 5).

Patent Owner's contentions that "[t]he process for migrating physical machines to a virtual server by converting them into virtual machines is an extremely complex and lengthy procedure with numerous steps performed manually" does not persuade us that one skilled in the art would not have combined the teachings of VS Guide and VSMT. VSMT expressly states that it "is designed to help solve problems associated with migrating legacy operating systems and line of business applications to new hardware by creating a reliable and repeatable process for migrating an operating system and installed applications from a physical server to a virtual machine running on Virtual Server 2005."⁷ Ex. 1003, 5.

Turning to the "boot order" limitations, Petitioner cites VS Guide's discussion of allowing a user to set delays for booting the virtual machines. Pet. 16 (citing Ex. 1002, 58). Specifically, Petitioner contends that by setting delays for the different virtual machines, a user can manipulate the order in which virtual machines are booted. *Id.* (citing Ex. 1008 ¶ 45). Petitioner submits that "[e]ach of the virtual machines automatically boots based on the selected order when the Virtual Server software is started." *Id.* at 17 (citing Ex. 1002, 58).

Patent Owner acknowledges that VS Guide, for example, teaches that "a user may choose to have one virtual machine boot immediately with the virtual server and have another virtual machine start booting 30 seconds after the virtual server starts up," but argues that this time delay is not a boot order. PO Resp. 46 (citing Ex. 1002, 58). Patent Owner contends that "the claimed 'boot order'" requires "certain captured running states start booting

⁷ As noted above, VS Guide is the Administrator's Guide for Virtual Server 2005. Ex. 1002, 1.

only after other captured running states finish booting-up and are operational.” *Id.* at 46–47. This limitation, however, is not found in the claims.

As discussed above, we construe “boot order” as “the order of booting, independent of any relationship between the computing systems being booted.” Patent Owner agrees with this construction. PO Resp. 16. The claims recite “an act of identifying a boot order for each of the primary computing systems” and “an act of booting the captured running states for each of the primary computing systems in the identified boot order on the single computing system.” Neither claim 1 nor claim 15 requires one captured running state to complete booting before another starts booting. Specifying the time at which a virtual machine starts booting meets our construction of boot order (i.e., a user selects the time a virtual machine boots, independent of when another virtual machine boots). Thus, we are persuaded that VS Guide teaches this limitation.

Patent Owner does not address specifically Petitioner’s contentions regarding the additional limitations of claims 1 and 15, such as the device driver and common virtualization component limitations. As indicated above, we have reviewed, and are persuaded by, Petitioner’s contentions.

For the reasons discussed above, Petitioner has established, by a preponderance of the evidence, that claims 1 and 15 would have been obvious over the combination of VS Guide and VSMT.

4. Claims 2, 6, 7, and 12–14

Claims 2, 6, 7, and 12–14 depend from claim 1, and Patent Owner does not dispute Petitioner’s contentions regarding these claims specifically. Based on our review of Petitioner’s contentions regarding these claims, we

are also persuaded that Petitioner has established, by a preponderance of the evidence, that claims 2, 6, 7, and 12–14 would have been obvious over the combination of VS Guide and VSMT.

C. Obviousness over P2V Manual and ESX Guide

Petitioner additionally challenges claims 1, 2, 6, 7, and 12–15 as being unpatentable over the combination of P2V Manual and ESX Guide. Pet. 22–37. Because we determine all challenged claims to be unpatentable over the combination of VS Guide and VSMT, we do not reach Petitioner’s challenge based on the combination of P2V Manual and ESX Guide.

D. Motion to Amend

Patent Owner moves to substitute claims 26 and 27 for claims 1 and 15, respectively, if we determine claims 1 and 15 to be unpatentable. Mot. to Amend 1. Because we determine that Petitioner has demonstrated, by a preponderance of the evidence, that all challenged claims are unpatentable, including claims 1 and 15, Patent Owner’s Motion to Amend is before us for consideration. Proposed substitute claims 26 and 27 are independent claims, and are reproduced below.

26. A method for restoring access to running states of a plurality of primary computing systems onto a single computing system, the method comprising the following:

an act of periodically capturing a running state of each of the primary computing systems at a particular point in time, wherein at least one of the plurality of primary computing systems is a virtual machine;

an act of accessing a most recently captured running state of each of the primary computing systems on the single computing system,

wherein the captured running states each include, or are altered to include, at least one device driver that is configured to interface with a common virtualization component that runs on the single computing system, wherein the common virtualization component is configured to at least indirectly interface with hardware on the single computing system that operates at least part of the hardware using a different interface than the at least one device driver is configured to interface with;

an act of identifying a boot order for each of the primary computing systems; and

an act of booting the most recently captured running states for each of the primary computing systems in the identified boot order on the single computing system.

27. A computer program product comprising one or more computer-readable storage media having thereon computer executable instructions that, when executed by one or more processors of a single computing system, cause the single computing system to perform a method for restoring access to running states of a plurality of primary computing systems onto the single computing system, the method comprising the following:

an act of capturing the running states of each of the primary computing systems, wherein the running states are captured during normal operation of the primary computing systems;

an act of testing a recovery operation to determine whether operation of the running states can be continued using the captured running states on the single computing system, the act of testing comprising:

an act of accessing a captured running state of each of the primary computing systems on the single computing system, wherein the captured running states each include, or are altered to include, at least one device driver that is configured to interface with a common virtualization component that runs on the single computing system, wherein the common virtualization component is configured to at least indirectly interface with hardware on the single computing system, at least part of the hardware using a different interface than the at least one device driver is configured to interface with;

an act of identifying a boot order for each of the primary computing systems; and

an act of booting the captured running states for each of the primary computing systems in the identified boot order on the single computing system;

wherein the acts of capturing and testing are performed without losing functionality of the primary computing systems.

Mot. to Amend 1–3 (emphasis added by Patent Owner to indicate changes).

Pursuant to 37 C.F.R. § 42.121(a)(2), a motion to amend may be denied if the amendments introduce new subject matter. Patent Owner has the burden to set forth written description support in the original disclosure for each proposed substitute claim. 37 C.F.R. § 42.121(b)(1). The written description test is whether the original disclosure of the application relied upon reasonably conveys to a person of ordinary skill in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). For the reasons discussed below, we determine that Patent Owner

has not established written description support in the original disclosure for the substitute claims presented in the Motion to Amend. Accordingly, Patent Owner's Motion to Amend is denied.

1. Claim 26

Substitute claim 26 seeks to add “periodically capturing a running state of each of the primary computing systems at a particular point in time.” Mot. To Amend 1. Patent Owner contends that “[s]upport for these limitations and features can be found at ¶¶ [0005]–[0008], [0028], [0032]–[0033], [0036], [0039]–[0040], [0042]–[0043], [0050], [0051], [0070] and [0073]–[0075], as well as in Figure 2, of the original disclosure for the '822 Patent and original claim 2.” Mot. to Amend 7. As indicated above, Patent Owner cites eighteen paragraphs, a figure, and a claim, but offers no specific explanation for how any of these citations provide support for the “periodically capturing a running state” limitation discussed above. Instead, Patent Owner simply alleges, generally, for example, that “these passages disclose . . . backup processes are typically run periodically and frequently to increase the freshness of the backup data.” *Id.* Patent Owner further alleges, generally, that “one of ordinary skill in the art would have understood these passages to mean that the running states are captured periodically.” *Id.* (citing Ex. 2010 ¶¶ 34–47).

None of the cited paragraphs, Figure 2, or claim 2 discusses periodically capturing a running state. “[T]he [written] description requirement does not demand any particular form of disclosure or that the specification recite the claimed invention *in haec verba*.” *Ariad Pharms.*, 598 F.3d at 1352 (citation omitted). Patent Owner's citation to eighteen paragraphs, a figure, and a claim of the original disclosure of the '822 patent

(Ex. 2019, “the ’822 application”), without explanation, however, offers no guidance as to how these portions of the ’822 application allegedly support the limitation.

Based on our review of the portions of the ’822 application cited by Patent Owner, it is not clear that the ’822 application supports the limitation. For example, paragraph 5 of the ’822 application discusses benefits of “efficiently restoring access to data and other operational state of multiple primary computing systems . . . without necessarily requiring replacement computing systems that have identical hardware as the lost primary computing systems.” Paragraph 28 describes Figure 2 of the ’822 application as “a flowchart of a method 200 for restoring access to running states of multiple primary computing systems onto a single recovery computing system.” Paragraph 32 discusses “captured running states,” but only with reference to their content (e.g., device drivers). The only portion of the ’822 application cited by Patent Owner that is directed to the act of capturing running states is claim 2, which simply recites “an act of capturing the running states of each of the primary computing systems.” Paragraph 31, which is not cited by Patent Owner, discusses capturing running states, but only states “[e]ach of the running states is captured via the use of capture channel 351,” without further detail regarding the frequency of the “capturing.”

Patent Owner’s general citation to fourteen paragraphs of the Supplemental Green Declaration does not cure the deficiencies noted above. Paragraphs 34–47 of the Supplemental Green Declaration are cited only to support the conclusory allegation that “one of ordinary skill in the art would have understood the[] passages [cited in the Motion to Amend] to mean that

the running states are captured periodically.” Mot. to Amend 7. The Supplemental Green Declaration is not cited as evidence supporting any specific argument, discussed in the Motion to Amend, regarding a specific understanding of the cited portions of the ’822 application. See 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”).

For these reasons, we are not persuaded that Patent Owner has met its burden in establishing that the ’822 application provides adequate written description support for the added limitation “periodically capturing a running state of each of the primary computing systems at a particular point in time.”

Substitute claim 26 also seeks to add that “at least one of the plurality of primary computing systems is a virtual machine.” Mot. to Amend 1. Patent Owner contends that “[s]upport for this limitation can be found at least at ¶¶ [0005]–[0008], [0028], [0032]–[0033], [0036], [0039]–[0040], [0042]–[0043], [0050], [0051], [0070] and [0073]–[0075], as well as in Figure 2, of the original disclosure for the ’822 Patent.” Mot. to Amend 8. Similar to the “periodically capturing” limitation discussed above, Patent Owner offers no specific explanation for how these citations provide support for the “virtual machine” limitation discussed above. Instead, Patent Owner alleges, generally, that “these passages demonstrate that (i) the restoration mechanisms utilize virtualization; (ii) the computing systems could be implemented as software services; and (iii) the running states could already include the device driver.” *Id.* Patent Owner further alleges, generally, that “one of ordinary skill in the art would have understood these passages to mean that the primary computing systems could be virtual machines.” *Id.*

(citing Ex. 2010 ¶¶ 34–47). Patent Owner additionally indicates that Petitioner’s expert, Dr. Shenoy, agreed with this during deposition. Mot. to Amend 8 (citing Ex. 2005, 88:15–89:3).

None of the cited paragraphs or Figure 2 discusses one of the primary computing systems being a virtual machine. Patent Owner’s citation to eighteen paragraphs and a figure of the ’822 application, with no explanation other than conclusory allegations, offers no guidance as to how these portions of the ’822 application allegedly provide a written description of the limitation. Based on our review of the portions of the ’822 application cited by Patent Owner, it is not clear that the ’822 application provides such support for the limitation. Patent Owner’s citations to the ’822 application are the same as those discussed above relative to the “periodically capturing” limitation. As seen above in our discussion of the examples of those citations, we are not persuaded that the ’822 application provides adequate written description support for one of the primary computing systems being a virtual machine.

Patent Owner’s general citation to same fourteen paragraphs of the Supplemental Green Declaration as discussed above also does not cure these deficiencies. Patent Owner’s allegation that Dr. Shenoy agreed that “one of ordinary skill in the art would have understood the[] passages [cited in the Motion to Amend] to mean that the primary computing systems could be virtual machines” (Mot. to Amend 8) also is unpersuasive. The cited portion of Dr. Shenoy’s deposition transcript states that one reason a captured running state might include a device driver is “that it came from a virtual machine.” Ex. 2005, 88:21–22. Dr. Shenoy’s deposition transcript also states that “[a]nother reason is the virtualization component is simply

emulating a very common piece of hardware that the operating system already has drivers for and that it's still a physical machine.” *Id.* at 88:22–89:3. As Petitioner notes, “Dr. Shenoy merely stated that if a captured running state had a driver that interfaced with a common virtualization component it could indicate that it was a virtual machine, not that it was necessarily a virtual machine.” Pet. MTA Resp. 5. Even if one skilled in the art would understand that the primary computing systems discussed in the ’822 application *could* include virtual machines, this is not sufficient to establish possession of the claimed subject matter. *See Ariad Pharms.*, 598 F.3d at 1352 (“it is the specification itself that must demonstrate possession . . . a description that merely renders the invention obvious does not satisfy the requirement”) (citations omitted).

For these reasons, we are not persuaded that Patent Owner has met its burden of establishing that the “one of the primary computing systems is a virtual machine” limitation is supported by the ’822 application.

2. Claim 27

Substitute claim 27 seeks to add “an act of capturing the running states of each of the primary computing systems, wherein the running states are captured during normal operation of the primary computing systems” and specifies that the “act of capturing” is “performed without losing functionality of the primary computing systems.” Patent Owner contends that “[s]upport for these additional limitations and features can be found at least at ¶¶ [0005]–[0008], [0020], [0024], [0027]–[0029], [0032]–[0033], [0036], [0039]–[0040], [0042]–[0043], [0050], [0074], as well as in Figure 2, of the original disclosure for the ’822 Patent.” Mot. to Amend 9.

Similar to the limitations discussed above relative to claim 26, Patent

Owner offers no specific explanation for how these citations provide support for the proposed limitations. Patent Owner alleges for example, that “these passages explain that the restoration mechanisms can be performed, while the primary systems continue operation and without ever losing their functionality.” *Id.* Patent Owner further alleges that “one of ordinary skill in the art would have understood these passages to mean that the running states are captured (and the entire process could be performed) during normal operation of the primary computing systems.” *Id.* (citing Ex. 2010 ¶¶ 48–56).

None of the cited paragraphs or Figure 2 discusses the conditions during which a running state is captured. We conclude that Patent Owner’s citation to eighteen paragraphs and a figure of the ’822 application, without explanation, offers no guidance as to how these portions of the ’822 application allegedly support the limitation.

Based on our review of the portions of the ’822 application cited by Patent Owner, we are not able to conclude that the ’822 application supports the limitation. Paragraph 29 is the only portion of the ’822 application cited by Patent Owner that discusses the act of capturing the running states. But this citation indicates only that “[t]he method 200 includes capturing the running states of each of the primary computing systems (act 201).” Paragraph 31, which is not cited by Patent Owner, also discusses capturing running states, but only states that “[e]ach of the running states is captured via the use of capture channel 351.” It does not provide further detail regarding the operating conditions of the primary computing systems during the “capturing.” Paragraph 42 indicates that “the principles of the present invention may be practiced even if the primary computing systems continue

operation,” such that “the operation of the running states on the recovery computing system allows for testing of the recovery operation without ever losing functionality of the primary computing systems.” We cannot determine, however, whether this passage includes the running states being captured while the primary computing systems continue operation. Rather, it appears that this passage simply indicates that the physical hardware associated with the primary computing systems is not required for recovery operation or testing. Patent Owner offers no argument as to why this passage supports the limitation.

Patent Owner’s general citation to nine paragraphs of the Supplemental Green Declaration does not cure the deficiencies noted above. Paragraphs 48–56 of the Supplemental Green Declaration are cited only to support the conclusory allegation that “one of ordinary skill in the art would have understood the[] passages [cited in the Motion to Amend] to mean that the running states are captured (and the entire process could be performed) during normal operation of the primary computing systems.” Mot. to Amend 9. The Supplemental Green Declaration is not cited as evidence supporting any specific argument discussed in the Motion to Amend, regarding a specific understanding of the cited portions of the ’822 application.

For these reasons, we are not persuaded that Patent Owner has met its burden in establishing that “an act of capturing the running states of each of the primary computing systems . . . during normal operation of the primary computing systems . . . without losing functionality of the primary computing systems” is supported by the ’822 application.

Accordingly, we determine that Patent Owner has not established written description support in the original disclosure for substitute claims 26 and 27, and Patent Owner's Motion to Amend is denied.

E. Motion to Exclude

1. Petitioner's Motion

Petitioner filed a motion to exclude certain evidence including Aaron Smith's declaration (Ex. 2021, "Smith Declaration") and Exhibits 2022–2030, filed in support of the Smith Declaration. Paper 31. The Smith Declaration and supporting exhibits were filed by Patent Owner in support of arguments regarding removal under 35 U.S.C. § 103(c) of the '086 patent as prior art. That patent was cited by Petitioner in response to Patent Owner's Motion to Amend. Because we deny Patent Owner's Motion to Amend for other reasons, as discussed above, we did not reach this issue and we, therefore, dismiss Petitioner's motion as moot.

2. Patent Owner's Motion

Patent Owner filed a motion to exclude certain evidence including the ESX Guide (Exhibit 1005) and the Supplemental ESX Guide (Exhibit 1017). Paper 35. Because, as noted above, we do not reach Petitioner's challenge including the ESX Guide, we dismiss Patent's Owner's motion as moot.

III. SUMMARY

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1, 2, 6, 7, and 12–15 would have been obvious over the combination of VS Guide and VSMT, and that these claims, therefore, are unpatentable. Patent Owner has not established written description support in the original

disclosure for the substitute claims proposed in its Motion to Amend and, therefore, the Motion is denied.

IV. ORDER

For the reasons given, it is

ORDERED that:

- A. Claims 1, 2, 6, 7, and 12–15 are unpatentable as obvious over the combination of VS Guide and VSMT;
- B. Patent Owner's Motion to Amend is *denied*;
- C. Petitioner's Motion to Exclude is *dismissed*; and
- D. Patent Owner's Motion to Exclude is *dismissed*.

FURTHER ORDERED that parties to the proceeding seeking judicial review of this final written decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2014-00088
Patent 7,480,822

For PETITIONER:

Lori A. Gordon
lgordon-PTAB@skgf.com

Michael Lee
mlee-PTAB@skgf.com

Jonathan Strang
jstrang-PTAB@skgf.com

Daniel Block
dblock-PTAB@skgf.com

For PATENT OWNER:

Joseph J. Richetti
joe.richetti@bryancave.com

Daniel Crowe
dacrowe@bryancave.com