

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LEXMARK INTERNATIONAL, INC.,
Petitioner,

v.

FLEXIWORLD TECHNOLOGIES, INC.,
Patent Owner.

IPR2023-00846
Patent 9,965,233 B2

Before TERRENCE W. McMILLIN, CHRISTOPHER L. OGDEN, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Petitioner, Lexmark International, Inc., requests that we institute an *inter partes* review challenging the patentability of claims 1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 47, 48, 50, 52, 57, and 61 (the “challenged claims”) of U.S. Patent 9,965,233 B2 (Ex. 1001, “the ’233 patent”). Paper 2 (“Pet.”). Patent Owner, Flexiworld Technologies, Inc., did not file a Preliminary Response.

Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we grant the Petition and institute an *inter partes* review.¹

B. *Related Matters*

The parties identify the following pending related district court litigation: *Flexiworld Technologies, Inc. v. Lexmark International, Inc.*, No. 5:22-cv-00110 (E.D. Ky). Pet. 2; Paper 4, 2.

C. *The ’233 Patent*

The ’233 patent is entitled, “Digital Content Services or Stores over the Internet that Transmit or Stream Protected or Encrypted Digital Content to Connected Devices and Applications that Access the Digital Content Services or Stores.” Ex. 1001, code (54). Its Specification describes the purpose:

Fueled by ever-increasing bandwidth and processing power [in] . . . wireless mobile devices [(i.e. pervasive computing devices)] . . . , millions of users are or will be creating, downloading, and transmitting content and information As a result,

¹ Our findings and conclusions at this stage are preliminary, and thus, no final determinations are made.

there is a need to allow users to easily output content and information from their pervasive computing devices to any output device. People need to output directly and conveniently from their pervasive information apparatus, without depending on synchronizing with a stationary computer (e.g., desktop personal computer) for printing, as an example.

Id. at 1:45–56.

Figure 1, reproduced below, “is a block diagram of a pervasive output system [98] that can implement the . . . present invention.” *Id.* at 4:40–42.

Fig. 1

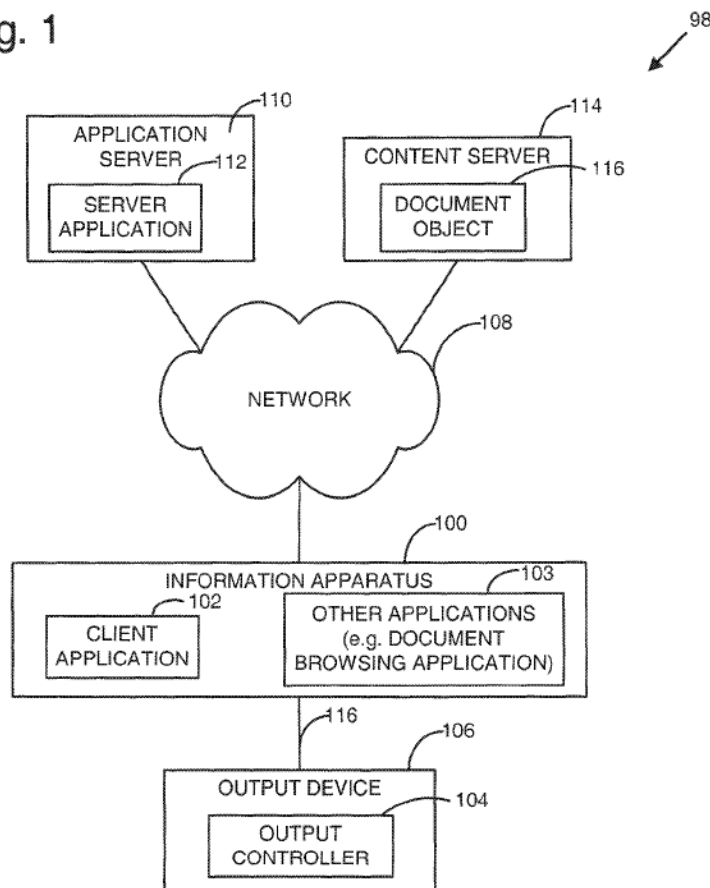


Figure 1, above, shows information apparatus 100 (incorporating client application 102 and other applications 103) that communicates through network 108 with application server 110 (incorporating server application 112) and content server 114 (incorporating document object 116)—as shown above, information apparatus 100 also communicates with

output device 106, which incorporates output controller 104. *Id.* at Fig 1. “Information apparatus 100 is a computing device with processing capability,” which can be a “laptop computer,” a “PDA,” or a “smart phone,” for example. *Id.* at 8:25–31. Information apparatus 100 also communicates with output device 106 over communication link 116. *Id.* at 8:13–15. “A typical example of output device 106 may be a printer” *Id.* at 11:12–15. Communication link 116 “may be a short-range radio interface such as those implemented according to the Bluetooth or IEEE 802.11 standard.” *Id.* at 9:7–9.²

D. Illustrative Claim

Of the challenged claims, claims 1, 18, 27, 47, and 50 are independent. Each of the independent claims are quite lengthy, but can be better understood when referring to the structure shown in Figure 1. Claim 47 is illustrative, with reference numbers added in brackets referring to Figure 1:

47. In a computer memory or storage device at a server system [110], containing one or more server applications [112] executable by one or more processors at one or more servers in the server system for transmitting device dependent output data acceptable for rendering at an output system [100 & 106], the output system including one or more devices, and the server system including one or more servers that are accessible by the one or more devices over a network [108] that includes the Internet, the server system being distinct and separate from the one or more devices of the output system, the one or more server applications in the computer memory or storage device, when executed by the one or more processors at the one or more servers, configures the server system to:

² Document object and communication link are both associated with the reference number 116 but this appears to be an error in the Specification.

receive, by the server system [110] from the output system [100 & 106], one or more content objects, the one or more content objects including one or more pointers or references to digital content corresponding to one or more selection by a user at the output system, the one or more pointers or references to digital content are related to available digital content at the server system, and the available digital content are provided, at least in part, to the output system by the server system;

receive, by the server system from the output system, one or more objects, the one or more objects having information related to the output system that includes the one or more devices;

receive, by the server system and from the output system, security or authentication information associated with a user operating the output system for authentication of the user;

retrieve, by the server system, at least part of the digital content from a content server [114] employing, at least in part, the one or more pointers or references to the digital content included in the one or more content objects received from the output system;

generate, by the server system, output data associated with at least part of the digital content, the output data having a relationship, at least in part, to the information included in the one or more objects received by the server system;

apply, by the server system, an encoding operation on at least part of the digital content for transmitting the output data that is associated with at least part of the digital content;

apply, by the server system, an encryption scheme on at least part of the digital content for ensuring security of at least part of the digital content for rendering at the output system; and

transmit, by the server system to the output system over the network that includes the Internet, at least part of the output data that is associated with at least part of the digital content, and the at least part of the output data includes the encryption scheme applied to at least part of the digital content, and wherein the transmitting of at least part of the output data is after the server

system receives, from the output system, at least (i) the security or authentication information, (ii) the one or more content objects, and (iii) the one or more objects from the output system; and

wherein the one or more devices of the output system [100 & 106] include at least an information apparatus [100], and at least part of the transmitted output data being device dependent for rendering at least part of the digital content at the output system that includes the one or more devices.

Ex. 1001, 46:4–67.

E. Evidence

Petitioner’s grounds of unpatentability rely on the following evidence:

Name	Patent Document	Exhibit
Keeney	US 6,748,471 B1 (June 8, 2004)	1004
Vatland	US 6,091,507 (July 18, 2000)	1005

F. Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 5³), supported by the declaration of Dr. Majid Rabbani. (Ex. 1002):

Claim(s) Challenged	35 U.S.C. § ⁴	Reference(s)/Basis
1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 47, 48, 50, 52, 57, 61	103(a)	Keeney
47, 48, 61	103(a)	Keeney, Vatland

³ The Petition’s listing of claims 5 and 37 appears to be a typographical error as they are absent from the analysis. *See* Pet. 13–60.

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. We refer to the pre-AIA version of § 103.

II. ANALYSIS

A. Legal Standards

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). At this preliminary stage, we determine whether the information presented in the Petition shows a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims would have been obvious over the proposed combinations of prior art. *See* 35 U.S.C. § 314(a).

A claim is unpatentable as obvious under 35 U.S.C. 103(a) if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of obviousness or nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition’s challenges.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention (POSA). *Id.* at 13, 17. Petitioner asserts that a person of ordinary skill in the art

would have had a bachelor's degree in computer science, computer engineering, or electrical engineering (or equivalent experience) and at least two years of practical experience with printer technology.

Pet. 10 (citing Ex. 1002 ¶¶ 21–25).

We are persuaded, on the present record, that Petitioner's proposal is consistent with the problems and solutions in the '233 patent and prior art of record. We adopt Petitioner's definition of the level of skill for the purposes of this Decision.

C. Claim Construction

In *inter partes* review, we construe claims using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2022).

The Petition states that no terms require express construction at this stage. Pet. 9–10. We agree. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. 35 U.S.C. 103(a) – Keeney

Petitioner argues that Keeney renders obvious claims 1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 47, 48, 50, 52, 57, and 61. Pet. 13–60. As previously noted, Patent Owner did not file a preliminary response. In our analysis below, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that claim 47 is unpatentable.

1. Keeney

Keeney is entitled “Methods and Apparatus for Requesting and Receiving a Print Job Via a Printer Polling Device Associated with a Printer.” Ex. 1004, code (54). Keeney relates to “requesting and receiving print jobs over a communications network” in a way that “enables a user to obtain print jobs at a location which may be unspecified, and which may be remote from the source of the print job.” *Id.* at 1:9–14.

Keeney Figure 1, below, illustrates an embodiment of the system:

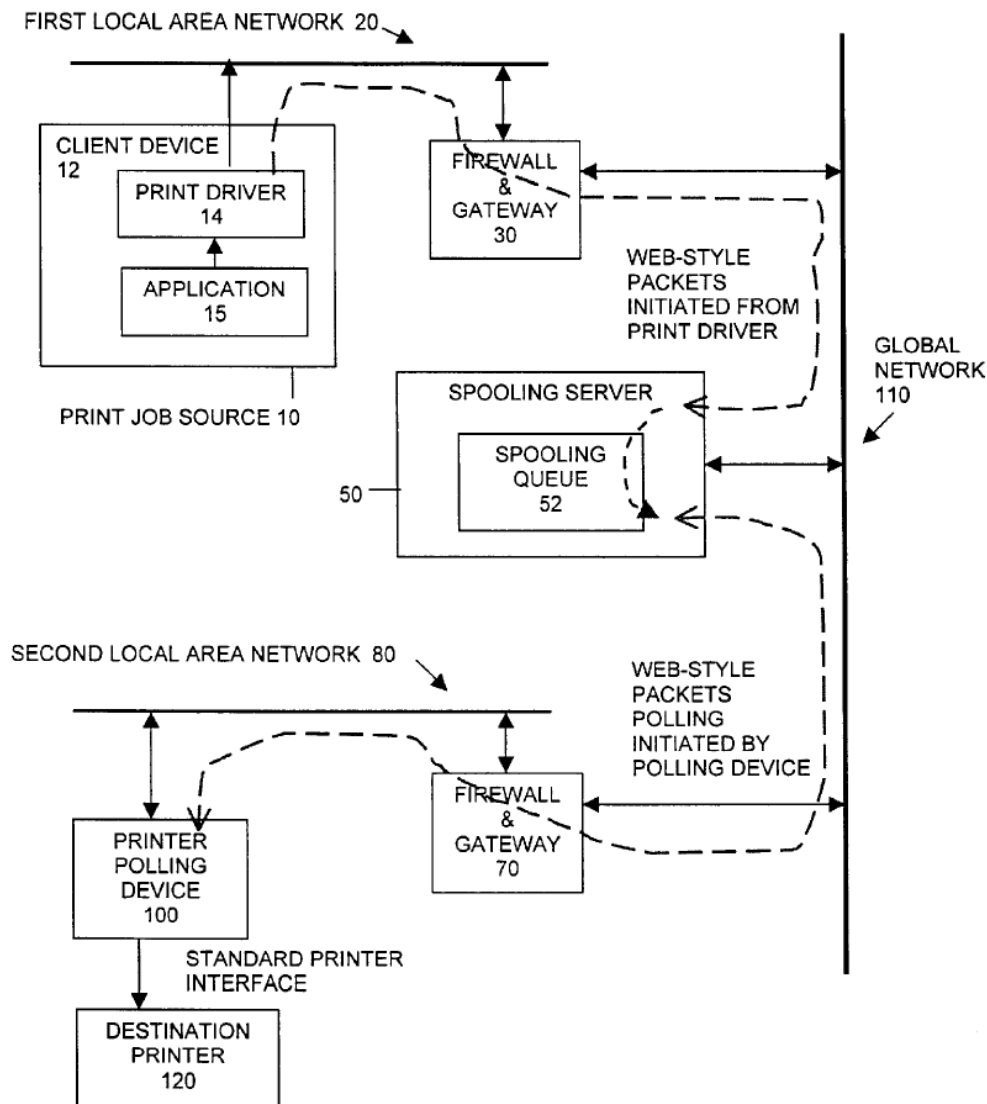


FIG. 1

As shown in Figure 1 above, “a spooling server 50 . . . is capable of receiving and storing one or more print jobs from a print job source 10 via a network 110,” where a printer polling device 100 can poll “the spooling server 50 via the network 110 to identify a print job associated with the printer polling device 100.” *Id.* at 6:42–47. In this way, the spooling server can provide “compatibility with virtually all printers that may be connected to the network . . . so that a document can be printed anywhere regardless of a specific printer’s requirements.” *Id.* at 6:34–37.

2. *Claim 47*

a) *Preamble*

Claim 47 starts with the following preamble:

In a computer memory or storage device at a server system,

containing one or more server applications executable by one or more processors at one or more servers in the server system for transmitting device dependent output data acceptable for rendering at an output system,

the output system including one or more devices, and

the server system including one or more servers that are accessible by the one or more devices over a network that includes the Internet,

the server system being distinct and separate from the one or more devices of the output system,

the one or more server applications in the computer memory or storage device, when executed by the one or more processors at the one or more servers, configures the server system to:

Ex. 1001, 46:4–16 (paragraphing added).

For the system structure in the preamble Petitioner relies on Figure 1 of Keeney (reproduced in the prior subsection). Pet. 14. Petitioner argues that the illustrated spooling server teaches the claimed server system and that

the combined printer polling device and destination printer reads on the claimed output system. *Id.* Petitioner provides further argument how Keeney’s spooling server teaches all of the requirements and structure of the claimed server system. *Id.* at 15–17 (citing e.g., Ex. 1004, 3:34–39, 7:11–12, 8:9, 8:54–58, 9:57–59, 14:53–57, 14:64–67).

b) Server System Receives

Claim 47 includes the following:

receive, by the server system from the output system, one or more content objects, the one or more content objects including one or more pointers or references to digital content corresponding to one or more selection by a user at the output system, the one or more pointers or references to digital content are related to available digital content at the server system, and the available digital content are provided, at least in part, to the output system by the server system;

receive, by the server system from the output system, one or more objects, the one or more objects having information related to the output system that includes the one or more devices;

receive, by the server system and from the output system, security or authentication information associated with a user operating the output system for authentication of the user;

Ex. 1001, 46:17–33.

For receiving content objects related to selected digital content, Petitioner points to Keeney’s teaching of “a user’s personal identification number (PIN) or by a unique job number” which are associated with a print job and received and stored by the spooling server. Pet. 17 (citing Ex. 1004, 9:20–22, 9:38–40, 9:42–45); *see also id.* at 17–19.

For receiving information related to the output system, Petitioner points to Keeney’s teaching “of an identification of the printer at which a

document is to be printed.” *Id.* at 20 (citing Ex. 1004 13:65–14:3, Ex. 1002 ¶ 103).

For receiving security or authentication information, Petitioner points to Keeney’s teachings of authentication and encryption. *Id.* at 20–22 (citing Ex. 1004, 10:9–21, Fig. 5; Ex. 1002 ¶¶ 104–105).

c) Server System Retrieves and Generates

Claim 47 includes the following:

retrieve, by the server system, at least part of the digital content from a content server employing, at least in part, the one or more pointers or references to the digital content included in the one or more content objects received from the output system;

generate, by the server system, output data associated with at least part of the digital content, the output data having a relationship, at least in part, to the information included in the one or more objects received by the server system;

Ex. 1001, 46:34–43.

For retrieving part of the digital content from the content server while employing the content objects, Petitioner points to Keeney Figure 11 and argues that the print jobs can be stored on a client device that functions as a content server remote from the spooling server. Pet. 23 (citing Ex. 1004, 12:32–38, Fig. 11).⁵ Petitioner also argues that Keeney teaches that the print job is retrieved using document information which equates to the claimed content objects. *Id.* at 24 (citing Ex. 1004, 13:6–8).

For generating output data associated with the digital content and related to the object information, Petitioner argues that Keeney teaches

⁵ Petitioner also puts forth an alternative position where the content server and the server system are not separate servers. Pet. 22. We do not address this alternative position at this stage.

“converting the print job into ‘a form that [could] be understood by the printer.’” *Id.* at 24 (citing Ex. 1004, 13:62–64); *see also id.* at 24–26.

d) Server System Applies

Claim 47 includes the following:

apply, by the server system, an encoding operation on at least part of the digital content for transmitting the output data that is associated with at least part of the digital content;

apply, by the server system, an encryption scheme on at least part of the digital content for ensuring security of at least part of the digital content for rendering at the output system; and

Ex. 1001, 46:44–51.

For the step of applying an encoding operation, Petitioner sets forth two alternative positions, both based on the knowledge of one of skill in the art. Pet. 26–28. Petitioner first argues that “compression [of the print document itself] is an example of an ‘encoding operation’” on the digital content, which was well-known “and applied to digital documents and content to reduce its size for more efficient transmission and storage.” *Id.* at 26–27 (citing Ex. 1002 ¶¶ 111–116).

Petitioner also argues that “Keeney taught applying an encoding operation on at least part of the digital content based on processing the digital content for transport via the Internet Protocol Security (IPSec) protocol.” *Id.* at 27. Petitioner further argues “that in producing data packets for transport in conformance with IPSec, the content data would be encoded . . . for transport over the network.” *Id.* (citing Ex. 1002 ¶¶ 118–120).

Concerning the step of applying an encryption scheme, Petitioner also sets forth two alternative positions based on the same scenarios as the encoding operation. *Id.* at 28–30. Petitioner first argues that Keeney teaches encrypting the print document itself. *Id.* at 28–29 (citing Ex. 1004, 8:22–24,

8:31–38, 8:51–55, 8:62–63, Fig. 2). Petitioner also argues that “IPSec protocol packets were encrypted.” *Id.* at 29 (citing Ex. 1002 ¶ 122).

e) Server System Transmits

Claim 47 includes the following:

transmit, by the server system to the output system over the network that includes the Internet, at least part of the output data that is associated with at least part of the digital content, and the at least part of the output data includes the encryption scheme applied to at least part of the digital content, and

wherein the transmitting of at least part of the output data is after the server system receives, from the output system, at least (i) the security or authentication information, (ii) the one or more content objects, and (iii) the one or more objects from the output system; and

Ex. 1001, 46:52–62 (paragraphing added).

Petitioner points to Keeney’s teaching of the spooling server transmitting a print job. Pet. 30–31. Petitioner argues that Keeney teaches that the print job includes encryption and can be sent over a network, including the internet. *Id.* at 30 (citing e.g., Ex. 1004, 7:11–12, 8:53–57, 14:40–42). Petitioner further argues that Keeney teaches transmitting the print job “after receiving the string of bits encrypted based on the user PIN ((i) security or authentication data.” *Id.* at 31 (citing the prior discussions of Keeney and the “object” claim elements).

f) Devices of the Output System

Claim 47 includes the following:

wherein the one or more devices of the output system include at least an information apparatus, and at least part of the transmitted output data being device dependent for rendering at least part of the digital content at the output system that includes the one or more devices.

Ex. 1001, 46:63–67.

Concerning this limitation, Petitioner argues “the spooling server (server system) generated output data that was device dependent for rendering at the output system (the printer) because the output data was generated according to the specific characteristics of the target printer.” Pet. 32 (citing Ex. 1004, 13:62–64).

g) Conclusion

After our review of Petitioner’s assertions with respect to claim 47 and the supporting evidence (as summarized above), we determine that Petitioner has established a reasonable likelihood of prevailing.

3. Claims 1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 48, 50, 52, 57, 61

Petitioner argues that Keeney renders obvious claims 1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 48, 50, 52, 57, and 61. Pet. 32–60. Having determined that Petitioner has met its burden for institution with respect to claim 47, we decline to address the remaining claims.

E. Claims 47, 48, 61

Petitioner argues that the combination of Keeney and Vatland renders obvious claims 47, 48, and 61. Pet. 61–65. Having determined that Petitioner has met its burden for institution with respect to claim 47, we decline to address this further ground.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, *inter partes* review of claims 1, 2, 4, 6, 7, 9, 11–13, 17–21, 27, 29, 30, 35, 36, 47, 48, 50, 52, 57, and 61 of U.S. Patent 9,965,233 B2 is instituted on all grounds in the Petition; and

FURTHER 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.

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