UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RICOH AMERICAS CORPORATION and XEROX CORPORATION
Petitioner

v.

MPHJ TECHNOLOGY INVESTMENTS, LLC
Patent Owner

Case IPR2013-00302
Patent 7,986,426 B1

Before SALLY C. MEDLEY, MICHAEL P. TIERNEY, and

EASTHOM, Administrative Patent Judge.

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


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

Pursuant to the defined threshold under 35 U.S.C. § 314(a), the Board institutes an *inter partes* review of claims 1-11 of the ’426 Patent.

A. Related Proceedings


B. The ’426 Patent

The ’426 Patent describes the “Virtual Copier” (VC) system. The system enables a personal computer user to scan paper from a first device and copy an
electronic version of it to another remote device, or integrate that electronic version with a separate computer application in the network. See Ex. 1001, Abstract.

According to the ’426 Patent, “VC can be viewed as a copier. Like a copier, VC takes paper in, and produces paper going out. The only difference is that VC does not distinguish between electronic and physical paper.” Id. at col. 70, ll. 37-39.

VC extends from “its simplest form” to its “more sophisticated form”:

In its simplest form it extends the notion of copying from a process that involves paper going through a conventional copier device, to a process that involves paper being scanned from a device at one location and copied to a device at another location. In its more sophisticated form, VC can copy paper from a device at one location directly into a business application residing on a network or on the Internet, or [vice] versa.

Id. at col. 5, ll. 48-55.

The VC includes “five essential modules”: input module, output module, process module, client module, and server module. “Each module is a counterpart to an aspect that is found on a conventional copier.” Id. at col. 70, ll. 41-43. Notwithstanding that the latter sentence refers to each module, the ’426 Patent ambiguously states that “[t]here is no counterpart to VC’s Server Module on a conventional copier.” Id. at col. 71, ll. 26-27. In any event, the other four modules have “counterparts” on “conventional” copiers: “The Input Module manages paper or electronic paper entering VC. . . . The counterpart to VC’s Input Module on a conventional copier is the scanner subsystem.” Id. at col. 70, ll. 47-53. “The Output Module manages paper or electronic paper exiting VC. . . . The counterpart to VC’s Output Module on a conventional copier is the printer or fax subsystem.” Id. at ll. 54-61. “The Process Module applies processing to the electronic paper as it is being copied. . . . The counterpart to VC’s Process Module on a conventional
copier is the controller.” *Id.* at l. 61 – col. 71, l. 3. “The Client Module presents the electronic paper as it is being copied, and any relevant information related to the input or output functions. . . . The counterpart to VC’s Client Module on a conventional copier is the panel.” *Id.* at col. 71, ll. 4-12. “Unlike conventional copiers, VC’s Server Module is a unique subsystem that can communicate with the other modules as well as third-party applications.” *Id.* at ll. 13-15.

Figure 28 of the ’426 Patent, reproduced below, represents an embodiment of VC:

![Diagram of a Virtual Copier](image)

**FIG. 28**

Figure 28 depicts various peripheral devices attached to a Virtual Copier on a network. *See id.* at Abstract.
**C. Exemplary Claims**

Of the challenged claims, claims 1-5 and 9-11 are independent. Challenged claims 1, 5, and 10 follow:

1. A computer data management system including at least one of an electronic image, graphics and document management system capable of transmitting at least one of an electronic image, electronic graphics and electronic document to a plurality of external destinations including one or more of external devices and applications responsively connectable to at least one of locally and via Internet, comprising:
   - at least one scanner, digital copier or other multifunction peripheral capable of rendering at least one of said electronic image, electronic graphics and electronic document;
   - at least one memory storing a plurality of interface protocols for interfacing and communicating;
   - at least one processor responsively connectable to said at least one memory, and implementing the plurality of interface protocols as a software application for interfacing and communicating with the plurality of external destinations including the one or more of the external devices and applications,
   - wherein the computer data management system includes integration of at least one of said electronic image, electronic graphics and electronic document using software so that said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations.

5. A computer data management system including at least one of an electronic image, graphics and document management system capable of transmitting at least one of an electronic image, electronic graphics and electronic document to a plurality of external destinations including one or more of external devices and
applications responsively connectable to at least one of locally and via Internet, comprising:

at least one scanner, digital copier or other multifunction peripheral capable of rendering at least one of said electronic image, electronic graphics and electronic document;

at least one memory storing a plurality of interface protocols for interfacing and communicating;

at least one processor responsively connectable to said at least one memory, and implementing the plurality of interface protocols as a software application for interfacing and communicating with the plurality of external destinations including the one or more of the external devices and applications,

wherein the software application comprises:

at least one input module managing data comprising at least one of paper and electronic input to the computer data management system, and managing said at least one scanner, digital copier or other multifunction peripheral, and managing the electronic input from at least one third-party software application;

at least one output module managing the data output from the computer data management system, managing at least one imaging device to output the data to at least one of a standard windows printer, an image printer, and a digital copier, and managing the output of the data to the third-party software application;

at least one process module applying at least one data processing to the data comprising the at least one of the paper and the electronic input as it is being copied, applying additional functionality including at least one of workflow and processing functionality to the data comprising the at least one of paper and electronic input as it is being copied, and applying multiple processes to a single virtual copy;
at least one client module presenting the data comprising the at least one of paper and electronic input as it is being copied, and information related to at least one of input and output functions; and

at least one server module communicable with said at least one input, output, client, and process modules and external applications, and capable of dynamically combining the external applications with at least one of digital capturing devices and digital imaging devices.

10. A computer data management system including a server module comprising:

   enable virtual copy operation means for initiating, canceling, and resetting at least one operation managed by said computer data management system;

   maintain list of available module means for maintaining a list of input, output, and process modules that can be used in said computer data management system, said list being used by at least one module object accessible by said server module;

   maintain currently active modules means for maintaining input, output, and process modules currently being used for a current computer data management system operation in a program object; and

   maintain complete document information means for maintaining information regarding a current file.
D. References Relied Upon

Petitioner relies upon the following prior art references:

Ohkubo, U.S. Patent No. 5,123,063 (June 16, 1992) (Ex. 1004);


Motoyama, U.S. Patent No. 5,818,603 (Oct. 6, 1998, filed Mar. 29, 1996) (Ex. 1007);


¹ The ’426 Patent claims priority by continuation to U.S. Provisional Application 60/108,798 (filed November 13, 1998), and claims priority by continuation-in-part to several provisional applications (filed October 18, 1996). Ex. 1001, col. 1, ll. 7-35. The filing and publication dates of the references upon which this inter partes review is instituted, respectively, Salgado and XNS, predate October 18, 1996. Therefore, it is not necessary to determine if the involved claims are entitled to priority benefit back to October 18, 1996.

² Petitioner refers to “GIS 150” to show inherent features of the Xerox 150 Scanner, which is described in XNS. Pet. 13-14. However, GIS 150 consists of Parts I and II, each of which employs the same chapter numbers (“4-3,” etc.). For clarity, the Board delineates the first and second parts, GIS 150-1 and GIS 150-2, respectively.
E. The Asserted Grounds

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. §§ 102 and 103:

Claims 1-11 as anticipated under 35 U.S.C. § 102(b) by XNS;
Claims 1-11 as anticipated under 35 U.S.C. § 102(b) by Ohkubo;
Claims 1-11 as anticipated under 35 U.S.C. § 102(e) by Salgado;
Claims 1-11 as anticipated under 35 U.S.C. § 102(a), (b), or (e) by Harkins;
Claims 3, 5-9, and 11 as obvious under 35 U.S.C. § 103(a) over Ohkubo and Admitted Prior Art;
Claims 3, 5-9, and 11 as obvious under 35 U.S.C. § 103(a) over Salgado Admitted Prior Art; and
Claims 1-8 as obvious under 35 U.S.C. § 103(a) over Harkins and Motoyama.
See Pet. ii.

II. ANALYSIS

A. Claim Construction

In an inter partes review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); see also Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012) (Claim Construction). Under the broadest reasonable construction 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 entire disclosure. In re Translogic Tech., Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a special
definition or other consideration, “limitations are not to be read into the claims from the specification.” In re Van Geuns, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

The Board construes the following claim phrases and terms:

At least one, at least one of, and related phrases

The claims recite the phrase “at least one of,” or “at least one,” in a number of places. The phrase “at least one” means “one or more.” See Rhine v. Casio, Inc., 183 F.3d 1342, 1345 (Fed. Cir. 1999) (“Use of the phrase ‘at least one’ means that there could be only one or more than one.”).

Petitioner does not propose a definition for phrases of the type, “at least one of A and B.” Under Superguide Corp. v. DirecTV Enters. Inc., 358 F.3d 870, 886 (Fed. Cir. 2004), the plain meaning of “at least one of A and B” is “at least one of A and at least one of B.” Quoting a “common treatise on grammar,” Superguide focuses on an example wherein the preposition “in” precedes a list (i.e., “[i]n spring, summer, or winter’ means ‘in spring, in summer, or in winter’”), and reasons that the phrase “‘at least one of,’ modifies each member of the list, i.e., each category in the list.” Id. (quoting example in W. Strunk, Jr. & E.B. White, The Elements of Style 27 (4th ed. 2000) (brackets from Superguide)). However, Superguide points out that the specification involved there does not enlarge the scope of the plain meaning, and reasons that each term in the list embraces a different category, each of which must take on a chosen value: “Every disclosed embodiment teaches that the user must choose a value for each designated category.” Id. at 887 (“Importantly, the flow chart uses a conjunctive criteria list, i.e., the system’s user must choose at least one value for each designated criteria, or the logic would be inoperable.”).

Accordingly, Superguide has been distinguished on the basis that the normal conjunctive meaning does not apply when the specification or claims imply a
broader meaning. See Joao v. Sleepy Hollow Bank, 348 F. Supp. 2d 120, 124 (S.D.N.Y. 2004) (a conjunctive reading of the phrase, “wherein the banking transaction is at least one of a clearing transaction, a check clearing transaction, an account charging transaction, and a charge-back transaction,” would be nonsensical because a single banking transaction cannot be all four). ³

Following the principles outlined supra, the claim 5 phrase, “at least one input module managing data comprising at least one of paper and electronic input,” is reasonably broad enough to encompass one input module managing data from electronic paper, such as from a software application. A conjunctive reading is not required, because the claim does not reference, implicitly or explicitly, different categories of paper, or different categories of electronic paper.

Similar remarks apply to similar claim phrases in other claims. For example, claim 1 recites “[a] computer data management system including at least one of an electronic image, graphics and document management system.” The ’426 Patent does not describe three different types of computer data management systems, and a document management system appears to include, or overlap with, an electronic image management system.

Moreover, the ’426 Patent indicates the intent to treat different inputs and outputs, and perform the other recited functions, in the alternative, using separate input modules for each type of input, and separate output modules for each type of

³ At least one practitioner describes an established contrary view of the plain meaning prior to Superguide, which published after the effective filing date involved here: “It is therefore better practice to avoid the word ‘or.’ Several accepted techniques for doing this were developed in the past. One was to recite ‘at least one of element A and element B,’ which is equivalent to ‘or’ but avoids the troublesome word itself.” Allen Wood, Drafting Patent Claims for use in the United States in Mechanical and Electrical Cases 23 (2003), http://www.awoodpatents.com/claims_booklet_(rev._nov_28__03).pdf.
output. In other words, at least one or more modules perform at least one or more of certain functions. Each module is tailored specifically to one type of device or application:

[I]n order to support outputting to a third-party application, an Output Module is developed that is unique to that third-party application. Likewise, an Input Module is developed that is unique to a third-party application in order to support reading images from that application.

It is the optional Input and Output Modules that render VC extendable. For each third-party application there is a unique pair of Input and Output Modules that understand the third-party application, and how to copy images to and from that application. . . . In this way[,] Virtual Copier can grow indefinitely, to support any number of third-party applications.

The significant point is that the Input and Output Modules have their own interface, and can be developed independently from any other module. As long as the input and output Module conforms to the API specified in this document it will plug-and-play with VC. VC will be able to mix and match the custom Input and Output Module with its standard and other custom Input and Output Modules.

Ex. 1001, col. 9, ll. 17-36.

Other examples also refer to modules and their functions in the alternative:

“The Input Module manages paper or electronic paper entering VC. This module manages imaging devices to input paper through, scanners, MFPs, or the new breed of digital copiers. The Input Module also manages reading electronic paper from third-party or proprietary applications.” Id. at col. 8, ll. 8-14 (emphases added). The Specification also states that the Virtual Copier’s “GO button can copy paper, whether physical or electronic, from one device and/or application to another device and/or application.” Id. at col. 6, ll. 44-46; col. 46, ll. 30-33. In other words, the Specification consistently reveals an intent to treat choices alternatively, and in some cases, blurs distinctions, by grouping “and” and “or” together.
Accordingly, the claim 5 phrase, “at least one input module managing data comprising at least one of paper and electronic input to the computer data management system, and managing said at least one scanner, digital copier or other multifunction peripheral, and managing the electronic input from at least one third-party software application,” is interpreted to embrace one or more input modules each having either paper or electronic input, and each managing one or more of the recited peripherals, and managing one or more third-party software applications. Although claim 5 recites “at least one scanner, digital copier or other multifunction peripheral,” which may seem to imply a distinction over phrases that use “and,” such as “at least one of paper and electronic input,” as discussed, the ’426 Patent, and the claim phrases, indicate an intent to blur any such distinction. As another example, claim 8 recites “maintaining a first list of available input, output, and process modules.” That claim phrase omits the antecedent phrases “at least one” or “at least one of” directly preceding the word “available,” thereby generally indicating an intent to read phrases conjunctively in the absence of “at least one” and “at least one of.”

Claim 5 also recites the phrase “at least one server module communicable with said at least one input, output, client, and process modules and external applications, and capable of dynamically combining the external applications with at least one of digital capturing devices and digital imaging devices.” The phrase requires the “at least one module” to be communicable with at least one input module, output module, client module, or process module, or external application. As noted, the term “at least one” means “one or more,” and the preposition “of” is not recited, unlike the claims at issue in Superguide. Hence, the above-listed phrase in claim 5 means one or more modules communicable with one or more input, output, client, or process modules, or external applications.
The Specification supports the interpretation, by stating that the server module functions to create a variety of systems in the alternative, as follows:

Server Module - Unlike conventional copiers, VC’s Server Module is a unique subsystem that can communicate with the other modules as well as third-party applications. . . . A virtual copier can be created by combining a scanner with a printer; or by combining a scanner with an application; or by combining an application with an image printer. . . . There is no counterpart to VC’s Server Module on a conventional copier.

Ex. 1001, col. 8, ll. 42-56.

In general, as noted, phrases of the type “at least one of A and B” appear throughout the claims and Specification, usually in terms of functions performed by “one or more modules.” Based on the foregoing discussion, unless otherwise noted, at this juncture, phrases of the type discussed here, “at least one of A and B,” and “at least A and B,” are interpreted in the alternative, “one or more A or B.”

Applications

The term “applications,” recited in the claim 1 phrase “external devices and applications,” does not preclude software programs that reside in printers, scanners, or other devices. The Specification refers to “third-party” software as “proprietary” software. See Ex. 1001, col. 8, ll. 13-14. It also refers to “business applications (such as Microsoft Office, Microsoft Exchange, Lotus Notes).” See id. at col. 6, ll. 58-60; col. 45, ll. 44-46. The Specification also refers to copying from “one device and[/]or application to another device and/or application,” thereby broadly blurring any distinction between a device and a device having a software application. See id. at col. 6, ll. 44-46; col. 46, ll. 30-33. Therefore, the term means a program that may or may not be stored on a device such as a printer or scanner.
Managing

Claim 5 requires that the input module manages data. The Specification does not specify what “managing,” in the context of data means. Managing may include “conventional copier . . . scanner subsystem” commands. See id. at col. 8, ll. 14-15. In other words, managing may require receiving or transferring the data, and possibly, but not always, transforming the data to conform to a specific format. See id. at ll. 8-24 (generally using the term “manages”). As noted in the discussion of “at least one of,” each disclosed module is tailored as a specific plug-and-play module, indicating that each module may perform a custom transform function. See also Ex. 1001, col. 9, ll. 20-21 (input module “is unique to a third-party application in order to support reading images from that application”). Therefore “managing” means sending or employing signals to facilitate receiving or transmitting data, or transforming data, or both.

 Seamlessly

Claim 1 recites the phrase “wherein the computer data management system includes integration . . . so that [at least one of] said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations.” Relying on an expert declaration, the Melen Declaration, Ex. 1008, Petitioner proposes that “seamlessly” means “[a] low amount of effort.” Pet. 8 (citing Ex. 1008 ¶ 27). Dr. Melen provides a trade dictionary definition and points to the Specification to support the proposed definition. Ex. 1008 ¶ 27. The ’426 Patent refers to delivering “paper processing to existing Intranet and client-server business processes without any fuss.” Ex. 1001, col. 45, ll. 64-66. Petitioner’s proposed definition tracks the cited trade definition and the ’426 Patent Specification. The Board adopts Petitioner’s definition.
Module

Claim 5 recites a software application comprising at least five modules: “at least one input module,” “at least one output module,” “at least one process module,” “at least one client module,” and “at least one server module.” Petitioner does not propose a definition for these module terms.

One plain meaning of “module” is “[a] distinct and identifiable unit of a computer program for such purposes as compiling, loading, and linkage editing.” McGraw-Hill Dictionary of Scientific and Technical Terms 1285 (5th Ed. 1994) (Ex. 3001). Another plain meaning of “module,” which is similar, but broader slightly, is “a logically separable part of a program. Note: The terms ‘module,’ ‘component,’ and ‘unit’ are often used interchangeably or defined to be sub-elements of one another in different ways depending upon the context. The relationship of these terms is not yet standardized.” IEEE 100 The Authoritative Dictionary of IEEE Standards Terms Seventh Edition 704 (2000), available at http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4116801 (last visited Sept. 19, 2013).

The ’426 Patent states that the disclosed input and output modules are unique to each third party printer or scanner application, and “understand the third party application, and how to copy images to and from that application.” Ex. 1001, col. 49, ll. 7-10. The ’426 Patent also states that “[t]he Client module is generally simply an interface to the Server Module.” Id. at col. 49, ll. 30-32. As noted supra, the modules have “counterparts” in prior art copier or scanner systems. In other words, modules may include other modules and may overlap in functionality.

In addition, the ’426 Patent states that modules “all support COM-based interfaces for simple and direct support from all major Windows development
environments.” Id. at col. 9, ll. 55-57. On the other hand, the ’426 Patent indicates that the “standard COM component” constitutes a mere example, and that modules can have different structure:

The computer architecture is implemented, for example, as a standard COM component, as an ActiveX control; the specifications designed by Microsoft, published in the technical literature, and incorporated herein by reference. ActiveX control (COM) support is currently available within any Microsoft 32-bit Windows operating environment. ActiveX controls are supported by all OLE-based applications, including all of Microsoft’s end-user products (e.g., Microsoft Office, Word, Access, Powerpoint, Access), the main Internet Browsers (Microsoft’s Internet Explorer and Netscape’s Navigator--the latter with an add-in product and by 4Q97 directly), most other name-brand end-user Windows products (e.g., Lotus Notes), and all major development environments (e.g., Microsoft Visual Basic and Visual C++, Delphi, Borland C++, Power Builder). By implementing the architecture as, for example, an ActiveX control, complex technologies can be programmed by virtually any Windows or Intranet user or developer. Of course, other component specifications may also be used.

Ex. 1001, col. 52, ll. 45-63 (emphasis added). In addition to embracing “standard COM components” and “other component specifications,” the ’426 Patent embraces “many other languages (e.g. Java) and distributed architectures (e.g., COBRA).” Id. at col. 52, ll. 66-67. The ’426 Patent also indicates that typically, in the prior art, “[e]very engine, such as text retrieval or an OCR (Optical Character Recognition) engine, has a unique interface. This interface is generally a ‘C’-level API (Application Program Interface).” Id. at col. 53, ll. 1-4. However, the ’426 Patent does not specify that a module must have a unique or a generic interface. Claim 10 in the related ’381 Patent supports this interpretation, by specifically claiming “at least one server module application programmer interface (API).”
According to the foregoing discussion, the ’426 Patent Specification is consistent with both ordinary meanings of a module. Therefore, a “module,” as recited in claim 5, is a logically separable part of the recited software application, and may include another module and may overlap with another module in functionality.

Go operation

Claim 3 recites “wherein the computer data management system includes an interface that enables copying of at least one of said electronic image, electronic graphics and electronic document between two or more of said external devices and applications using a single GO operation.” Claim 11 similarly recites the “GO operation.”

The ’426 Patent describes employing the “GO operation” as similar to using a “START” button on a conventional copy machine. Ex. 1001, col. 46, l. 24; Ex. 1008 ¶ 28 (quoting and discussing Ex. 1001, col. 46, ll. 36-43). Further, according to the ’426 Patent, “[t]his Go button can copy paper, whether physical or electronic, from one device and[/]or application to another device and/or application,” Ex. 1001, col. 46, ll. 30-33, and “the user simply has one sequence to execute: select From, select To, and then press GO,” id. at ll. 53-54. Dr. Melen, relying on the ’426 Patent, concludes that the term means “[a]n operation that begins a process.” Pet. 8 (citing Ex. 1008 ¶ 28). The ’426 Patent supports, and the Board adopts, the proposed definition.

Modules object, program object, document object, and system management event object

Claim 8 recites “at least one server module application programmer interface” including “at least one modules object maintaining a first list of available input, output, and process modules.”
The ’426 Patent does not provide a definition for a “modules object.” The ’426 Patent states that “a preferred embodiment . . . has, for example the following structure illustrated in FIG. 36, however, alternative structures and/or functionality may optionally be used for this object and/or other objects used in the present invention.” Ex. 1001, col. 73, ll. 34-38 (emphasis added). Figure 36 portrays a box with the following text in the box: “Collections of Copier[]Module objects, of types Input[]Module, Output[]Module, and Process[]Module respectively.” No apparent structure is depicted.

Accordingly, a “modules object” has “alternative structures and/or functionality” and represents a program, file, or other structure. The phrase “at least one modules object maintaining a first list” means one or more programs, files, or other structures, each of which can store, or point to, a list or portions of a first list. (The term “maintain” is discussed below.)

Claim 8 also recites “at least one program object maintaining a second list,” “at least one document object maintaining information,” and “at least one system management event object used to provide feedback.” Figure 36 also depicts five boxes, without specifying any type of structure, with the boxes labeled as follows: “Object,” “Collection,” “Property,” “Method,” “Event.” These apparent objects, according to the ’426 Patent, also have “alternative structures and/or functionality.” Therefore, the objects include similar definitions: one or more programs, files, or structures for performing the designated functions.

Means-plus-function limitations, maintain

In general, the ’426 Patent describes the server module as follows: “a scheduler of activities, providing the information and initiating the modules at the appropriate time in the virtual copy operation. The Server Module Manages the
other Modules. It does not know about the internal workings of the modules, nor the contents of the information being copied.” Ex. 1001, col. 73, ll. 7-13.

Claim 6 recites a server module that includes the following four means-plus-function limitations:

enable virtual copy operation means for initiating, canceling, and resetting said computer data management system;

maintain list of available module means for maintaining a registry containing a list of said input, output, and process modules that can be used . . . , said list being read on startup, and maintaining another copy of said list in a modules object accessible by said input, output, client, process, and server modules;

maintain currently active modules means for maintaining said input, output, and process modules currently being used, . . . and saving the currently active modules in a process template file; and

maintain complete document information means for maintaining information . . . , and saving the information in a document template file.

Claim 10 recites similar means-plus-function limitations. In both claims, the word “maintain” precedes the last three means clauses. As disclosed, a “[m]odules [o]bject,” an interface of the server module, maintains a list of input, process, and output modules. Id. at col. 73, ll. 17-18. The word “maintain,” in the context of the claims, and normally, means “[t]o preserve or retain” for a certain time period. See The American Heritage Dictionary of the English Language 787 (1975). Therefore, claims 6 and 10 generally recite three preserving, keeping, or retaining means clauses.
These means-plus-function limitations invoke 35 U.S.C. § 112, ¶ 6, as Petitioner maintains. Petitioner also maintains that the ’426 Patent Specification does not disclose sufficient corresponding structure in the form of an algorithm or hardware. See Pet. 8-9 (citing Aristocrat Techs. v. Int’l Game Tech., 521 F.3d 1328, 1333 (Fed. Cir. 2008)). Petitioner generally proposes that all the means-plus-function “terms are construed to include any hardware and/or software that can achieve the stated functions.” Pet. 9.

The first server module means clause recited in claim 10 follows: “enable virtual copy operation means for initiating, canceling, and resetting at least one operation managed by said computer data management system.” The ’426 Patent generally states that “[t]he Server Module supports simple methods that accomplish the basic copier functionality of go, cancel, and reset.” Ex. 1001, col. 76, ll. 65-67. The discussion supra of the Go operation similarly shows that the corresponding structure encompasses basic copier structure, including known algorithms associated with the known hardware structure. The ’426 Patent also indicates that the reset function involves returning to default settings. Id. at col. 81, ll. 38-42. Accordingly, the corresponding structure for the enable copy operation means clause includes the “basic” buttons, processor, and memory to process and store known begin, stop, and reconfigure algorithms, i.e., corresponding to known structure in prior art copiers or scanners.

Similarly, the ’426 Patent also appears to embrace known algorithms, memory, and other structure for the remaining means clauses. See Ex. 1001, col. 72, ll. 40-63. As indicated supra, the ’426 Patent discusses objects in the context

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of structure that appears to be associated somewhat, on this record, with the functions involved here, and the ’426 Patent embraces broad structure for the objects (see construction of objects supra). Therefore, the “maintain list of available module means” corresponds to a generic listing algorithm and memory that stores, or points to, a list of modules. The “maintain currently active module means” corresponds to a generic storing algorithm and memory that stores, or points to, the active input, output, and process modules. The “maintain complete document information means” corresponds to a generic algorithm and memory that stores, or points to, information regarding a current document or file being copied.

Patent Owner will have an opportunity, in its Patent Owner Response, to inform the Board as to its construction of the means-plus-function (and other) limitations, or to forgo that opportunity, leaving the Board with the intrinsic record and Petitioner’s construction. Any claim construction of a means-plus-function should set forth the corresponding structure disclosed in the specification that performs the claimed function, including any computer or microprocessor, computer program, and algorithm. WMS Gaming, Inc. v. Int’l Game Tech., 184 F.3d 1339, 1349 (Fed. Cir. 1999) (“In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.”).

Merely referencing a specialized computer, or some undefined component of a computer system, or elements that are essentially black boxes designed to perform the recited function, will not be sufficient, because there must be some explanation of how the computer or the computer component performs the claimed function. Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1383-85 (Fed.
B. Asserted Grounds of Unpatentability

1. XNS – Anticipation, Claims 1-11

Relying on the Melen Declaration, Ex. 1008, Petitioner reads the elements of claims 1-11 onto the XNS document management system. Pet. 13-23. According to XNS, “[t]he general objectives of XNS [are] therefore to increase the ROIA [(return-on-information assets)] by facilitating the creation, capture, storage, communication, printing, and replicating of electronic or paper documents within the office . . . . This is what Xerox calls document management.” Ex. 1002, 8. XNS generally describes producing electronic or paper processing “of a variety of complex images, including typeset quality documents, line graphics, and even photographs that have been converted into electronic form by a scanner.” Id. at 91. “In XNS, the electronic subsystem usually receives information over the network (Ethernet or larger internet). This information consists of data to be printed and instructions on how it is to be printed.” Id. at 92. XNS discloses e-mail, network filing, network printing, and network scanning. See id. at 71-76, 83-116.

Petitioner explains that XNS discloses “at least one scanner, digital copier or other multifunction peripheral capable of rendering at least one of said electronic image, electronic graphics and electronic document,” as claim 1 recites. Pet. 15-16. Petitioner explains that the XNS scanner, which includes a user interface for cropping and scaling, communicates with other devices and services over the Internet, and sends the image data to specified files in a File Service for storage, or to a Print Service for printing. Id. (quoting and citing Ex. 1002, 112, 126-135).
Petitioner also explains that XNS discloses “at least one memory storing a plurality of interface protocols for interfacing and communicating,” as claim 1 recites. In XNS, workstations, scanners, or servers generally employ several protocol layers to communicate with the network. See Pet. 16 (citing Ex. 1002, 17-18, and 112). XNS states that “[s]ome servers are actually general-purpose minicomputers programmed to perform the requisite functions; file servers are also implemented this way,” and “certain workstations themselves can also function as servers.” Ex. 1002, 18. Further, in XNS, “[a] server is a device connected to Ethernet whose purpose is to provide a service to network users. The services are high-level functional activities such as filing, printing, mailing, and external communications. They represent high-level applications.” Id. “These dedicated servers tend to consist of the necessary computer peripheral related to the service – a printing subsystem for example, or a large disk file.” Id. In addition, “[t]he XNS services implement various application-layer protocols.” Id.

In other words, servers include files and provide external communication services, the services implement protocols, and a server includes a workstation or a minicomputer. A server also has “necessary electronics, software, and peripheral equipment necessary to deliver the [communication] service.” Id. Therefore, XNS implicitly includes “at least one memory storing a plurality of interface protocols for interfacing and communicating,” as claim 1 requires. See Pet. 16 (citing Ex. 1008 ¶ 34).

Petitioner also explains how the system uses a processor connectable to the memory, wherein the data management system includes “integration of at least one of said electronic image, electronic graphics and electronic document . . . so that said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations,”
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as claim 1 further requires. For example, Petitioner explains how XNS provides services “‘to network users on a transparent basis, leaving them free to concentrate’” on other tasks. Pet. 17 (emphasis omitted) (quoting Ex. 1002 at 121). In XNS, the minicomputer, or other type of communication server or workstation, as described supra, inherently includes a processor, as part of the described necessary equipment for providing communication and electronic printing services.

According to the ’426 Patent, “VC can be viewed as a copier,” even though “VC does not distinguish between electronic and physical paper.” Ex. 1001, col. 70, ll. 37-39. It follows, based on the foregoing description of the two systems, that the two systems are similar, at least in terms of the functionality as a basic copier operating on electronic and physical paper. Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground of unpatentability of claim 1 as anticipated by XNS.

Whereas claim 1 requires seamless replication and transmission, as discussed, independent claim 2 is similar in scope, and requires integrating one or more of an electronic image, electronic graphics, and electronic document into a destination application without the need to modify the destination application. Petitioner explains that XNS discloses computer applications and devices compatible with XNS applications, including editing and filing of documents at a workstation, or as part of e-mail, facsimile, printing, or other service. See Pet. 17-18. As noted above, XNS provides transparent services to users, thereby rendering it unnecessary for a user to modify existing XNS applications.

Independent claim 3, which is similar in scope to claim 1, further requires the enabling of copying of an electronic image between two external devices “using a single GO operation.” Petitioner explains how XNS provides a START
button that “‘causes the 150 GIS to begin scanning. . . . After scanning is complete the image is automatically sent to the selected destination.’” Pet. 18 (emphasis omitted) (quoting Ex. 1003, GIS-2, 4-3). Therefore, on this record, according to the claim construction section, the XNS START button and functionality associated therewith reads on the enabling of copying using a single GO operation, as claim 3 recites.

Independent claim 4, which is similar in scope to claim 1, further requires “adding at least one of electronic document, data and paper processing means via a single programming step.” Petitioner relies on “cropping” as adding such a processing means. Pet. 19. The Specification describes “a one step programming method . . . including at least one of a one step method of supporting paper within electronic business process application optionally including legacy systems with no or minimal reprogramming.” Ex. 1001, col. 14, ll. 63-67. Therefore, on this record, “a single programming step” embraces a single function such as the XNS cropping function or other disclosed XNS paper processing functions.

Independent claim 5 further recites “wherein the software application comprises: at least one input module,” which manages data, at least one scanner, and electronic input from a third-party software application. Petitioner points to the XNS protocol support system, which provides support for different types of inputs and outputs, as discussed supra. For example, the XNS system includes “[a]ny personal computer, workstation, or terminal,” or an interface thereto, as “at least one input module.” Ex. 1002, 120. Such a computer, workstation, or other terminal, or its network interface, constitutes or includes a logically separable part of the XNS program, an input module, as discussed supra in the claim construction section.
As an example cited by Petitioner, the XNS Kurzweil System manages electronic data from a scanner and manages the scanner, thereby providing bidirectional control. Any work station, including but not limited to the Kurzweil System, can send or receive messages or documents, thereby also “managing the electronic input from at least one third-party software application,” as claim 5 requires. See Pet. 19 (citing Ex. 1008 ¶¶ 42-46).

Claim 5 also recites at least one server module performing several functions. For this limitation, Petitioner points the Board to “[5.4a-b] of Claim Chart I.” Pet. 20. According to the discussion supra, XNS discloses a myriad of servers, which read on the claimed servers. Portions of the XNS software also function as a server. See Ex. 1008 ¶ 45. As also discussed, XNS discloses workstations functioning as servers, and the software supports a wide variety of communication between the software and an input module, as claim 5 requires. See id. XNS also supports communication to external devices or applications and other modules, including Xerox and non-Xerox equipment. See id.

Claims 6-8 depend from claim 5. Petitioner persuasively describes how XNS reads on the claimed features. See Pet. 20-22. Primarily, the claimed features appear to require standard document management features, including maintaining list means of active and available modules, and information about current files (claim 6); the server module including an application programmer interface (claim 7); and the server including a document object maintaining current document information, a method object used to initiate, cancel, and reset a print operation, and feedback about the system to a client module (claim 8).

For example, with respect to claim 7, Petitioner relies on Dr. Melen, who declares that skilled artisans would understand that “[a]pplication programming interfaces are necessary in order to link the various programs, layers, etc., so that
they may interact as described throughout the XNS disclosure.” Ex. 1008 ¶ 35, see also ¶ 43 (listing compatible XNS devices and applications). The evidence of record supports the declaration, in particular, that in addition to standard COM components in Windows type applications, the ’426 Patent embraces other known systems, including “many other languages (e.g. Java) and distributed architectures (e.g., COBRA).” Ex. 1001, col. 52, ll. 66-67.

As Petitioner indicates, claim 10 recites elements similar to those recited in claims 6 and 8. See Pet. 22-23. Independent claims 9 and 11 recite elements that are similar to those discussed supra in connection with claims 1-4. Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground that XNS anticipates claims 1-11.

2. Salgado – Anticipation, Claims 1-11

Salgado describes a system for transferring and processing electronic or paper media using an application server. See Ex. 1005, Abstract. A user employs a user interface and a screen to create job tickets to direct the execution of a job. Users create job tickets by selecting a “metaphorical combination,” id. at. col. 21, l. 27, of devices and applications, such as a printer and e-mail, id. at col. 22, ll. 18-24. An application server 122 controls many of the processes and communicates with workstations and other devices on the network. See id. at Fig. 6.
Figure 13, illustrating the metaphorical concept, is reproduced below:

**FIG. 13**

Figure 13 represents “a partial screen display[] including exemplary metaphorical workflow representations used to create job tickets for directing the execution of a job.” Ex. 1005, col. 9, ll. 6-8.

In the example of Figures 12 and 13, “a user obtains five metaphors, a job initiating metaphor 280, a scanner metaphor 282, a printer metaphor 284 and E-mail indicator 286, and a fax related metaphor 288, from the application server (FIG. 6).” *Id.* at col. 21, ll. 37-41. In other words, by way of these “metaphors,” users select a scanner, e-mail, and printer, etc., using a pointer, and a specific selection reveals the attributes (e.g., stock size) of the selected device. *Id.* at ll. 45-65; Fig. 12. The connector icons 300 (arrows labeled in Figure 12, not labeled in Figure 13) represent selection of electronic workflow to a specific device. See *id.* at col. 21, ll. 41-43. Figure 13 also depicts various controls (pause, restart, etc.) for each device and the status thereof.

The system includes a component module for each device. Figure 16 represents a component module that provides a “transfer function” having an input and output. Ex. 1005, col. 15, l. 48. Each transfer function is defined by a myriad
of attributes so that the system can employ specific devices and applications in the system, for example, print engines, scan functions, image processing, e-mail send function, and e-mail receive function. See id. at col. 14, ll. 49-67. The transfer function, also referred to, in some circumstances, as a service provider, can be modified by a job ticket or other software choices, to create a desired input-to-output relationship, to obtain compatibility with other selected devices, or to change the specific output (to a specific type of paper, etc.). See id. at col. 8, ll. 33-50; col. 15, ll. 55-67; col. 20, l. 54 to col. 21, l. 4; Figs. 14-15. In essence, the transfer function represents a process that modifies an input from an actual device to create a standard output for that actual device. See id. at col. 14, ll. 49-67; col. 15, ll. 55-67. Multiple devices or processes can be represented by a single service provider transfer module. Id. at col. 15, ll. 60-67.

Relying on the Melen Declaration, Petitioner reads the elements of claims 1-11 onto the Salgado network document processing system. Pet. 33-41. For example, Petitioner notes that Salgado’s processing system includes “‘devices for input including scanner or digital copier 102, . . . [and] devices for output including display terminal 112, printer 114 . . . . Input/output (I/O) devices include facsimile 120, file server 122, and telephone 124.’” Pet. 33 (emphasis omitted) (quoting Ex. 1005, col. 13, ll. 22-23). Petitioner also points out that Salgado discloses local area and wide area network connections. Pet. 33. Accordingly, as Petitioner shows, on this record, Salgado discloses the preamble phrase in claim 1, which requires a system capable of transmitting an electronic image, graphics or document to a plurality of destinations that include one or more external devices and applications.

Salgado’s Figure 6 depicts “at least one scanner, digital copier or other multifunction peripheral” as claim 1 also requires. See Pet. 34. Claim 1 also
requires “at least one processor responsively connectable to said at least one memory” that stores “interface protocols for interfacing and communicating” with “one or more of the external devices and applications,” the “at least one processor . . . implementing the . . . protocols as a software application.” Petitioner points to Salgado’s database 126 as storing device profiles for each device coupled to the network, and Petitioner relies on other stored profiles employed to support communication. See Pet. 34. Further, according to Dr. Melen, the device profiles are also protocols that aid in network communication. Ex. 1008 ¶¶ 67-68.

Petitioner also points to a server 122, which includes one or more processors and appropriate storage capacity, as reading on the claimed processor and storage. Figure 6 of Salgado shows the server connected to a storage “relational database system” 126, as Petitioner contends. See Pet. 34-35; Ex. 1005, col. 13, l. 36.

Petitioner also notes that Salgado discloses stored profiles mapped to “metaphor elements,” such as a “printer icon.” A user can select from a plurality of these metaphor elements, which can be stored in “‘a common file which is accessible to users across the network.’” Pet. 35 (quoting Ex, 1005, col. 16, ll. 58-67). Therefore, Petitioner shows that Salgado discloses the claim 1 limitations that relate to at least one processor, at least one memory, the stored protocols, and communication to external devices and applications.

Claim 1 also requires that at least one of “said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations.” Petitioner relies on Salgado’s “‘scan-to-print,’ ‘scan-to-Email,’ ‘scan-to-fax,’ ‘scan-to-file,’” and other similar functions, which provide an output to multiple locations. Pet. 35 (quoting Ex. 1005, col. 17, ll. 16-29). Based on the claim construction supra, Salgado’s system “seamlessly” replicates and transmits the claimed images, graphics, or documents,
to several destinations, according to claim 1. Similar remarks apply to claim 2, which is similar in scope to claim 1 and recites a similar limitation, “without the need to modify the destination application,” as noted supra. See Pet. 36 (citing Ex. 1008 ¶ 43).

Claims 3 and 4 are similar in scope to claims 1 and 2. Petitioner addresses the added “GO operation” of claim 3 by pointing to Salgado’s Start operation, and addresses the added “single programming step” of claim 4 by pointing to profiles in Salgado developed as “coupled component[s]” and other programming mechanisms. See Pet. 35-36.

Petitioner also explains how remaining claims 5-11 read on Salgado. See Pet. 37-41. For example, claim 5 recites limitations that are the same as or similar to those recited in claim 1, and further recites “wherein the software application comprises: at least one input module managing data comprising at least one of paper and electronic input to the computer data management system, and managing said at least one scanner, digital copier or other multifunction peripheral, and managing the electronic input from at least one third-party software application.” Claim 5 also recites an output module, which provides analogous functionality, albeit for managing output data from the computer system, managing data from an imaging device to a printer or copier, and managing data to the third-party application. Claim 5 also recites “at least one server module communicable with said at least one input, output, client, and process modules and external applications, and capable of dynamically combining the external applications with at least one of digital capturing devices and digital imaging devices.”

Petitioner points to the server module 122, which reads on the claimed server module. See Pet. 37. Each printer and scanner device on the system employs input and output modules 36, which in turn, are part of a video control
module 16, and which read respectively on the output and input modules. See Ex. 1005, Figs. 1-3.

For the process modules, Petitioner points to functions invoked by a user interface, “(UI) 142 that uses icons and windows to represent various data objects and user applications such as a display illustrating an office desktop metaphor employing various abstractions for a typical office environment.” Ex. 1005, col. 13, ll. 58-62 (cited at Pet. 37). UI 142 includes a display, windows, and selectable icons, and invokes specific data objects for processing a document. Id. at col. 13, l. 59 to col. 14, l. 9. Therefore, the display, windows, software, or UI 142, constitutes “at least one client module presenting the data comprising the at least one of paper and electronic input as it is being copied, and information related to at least one of input and output functions,” as recited in claim 5. For example, the display, software, or windows, presents at least one of paper and electronic input and information thereto. See Pet. 37-38 (also discussing Salgado’s visual means of interacting with components in a workflow strategy, Ex. 1005, col. 16, ll. 2-13).

Each service provider transfer function, discussed supra, corresponds to “at least one process module applying at least one data processing to the data comprising the at least one of the paper and the electronic input . . . and applying multiple processes to a single virtual copy,” as claim 5 recites. Each job ticket (i.e., software associated therewith), which modifies the service provider transfer function, as also described supra, is controlled ultimately by the server 122, and corresponds to “combining the external applications with at least one of digital capturing devices and digital image devices,” as claim 5 also recites. See Ex. 1005, Figs. 14-16.

Claim 6 depends from claim 5, and further limits the server module by reciting four means-plus-function elements, as noted supra. Claim 10 recites
similar means-plus-function elements, as also noted *supra*. Petitioner points to these elements with requisite clarity to explain how they read on Salgado’s system. See Pet. 40-41. The added limitations read on Salgado’s system, generally as follows: 1) “operation means” reads on start, pause, and restart structure and functionality for each device in Salgado; 2) “list of available module means” reads on Salgado’s relational database and a common file, which store profiles and metaphor elements (i.e., the applicable information for each device and process module available) – the relational database and storage file each constitute a “list”; 3) “maintain currently active modules means” reads on workflow templates, also described as “‘plumbing’ diagram[s],” Ex. 1005, col. 16, l. 9, and reads on the related description of automatic relationship maintenance and registration by the system for each device, *id.* at col. 20, ll. 1-12; and 4) “maintain complete document information means” reads on the storage of templates or job tickets, which can be selected by a button, *id.* at col. 18, ll. 36-39, or reads on storage of a document at a local or remote location, *id.* at col. 17, ll. 12-14. See Pet. 40-41.

Claims 7 and 8 depend from claim 5 and further limit the server, as described *supra*. Claim 10 recites limitations that are similar to those recited in claims 6 and 8. Petitioner persuasively describes how Salgado reads on the claimed features. See Pet. 38-41. Primarily, claims 7 and 8 require standard document management features, including that the server module includes an application programmer interface (claim 7); and that the server module of claim 7 further includes a document object maintaining current document information, a method object used to initiate, cancel, and reset a print operation, and feedback about the system to a client module (claim 8). With respect to claim 7, Petitioner relies on inherent features of Xerox devices, including those described in the XNS reference and other publications. Salgado describes the Xerox devices and
schemes as compatible with the Salgado system, and incorporates by reference the relevant publications, including XNS. See Pet. 39 (citing Pet. 36 and the discussion of claim 2, and the Melen Declaration); Ex. 1005, col. 6, l. 43- col. 7, l. 50; col. 13, l. 58 – col. 14, l. 9; col. 16, ll. 62-63.

Independent claims 9 and 11 recite elements that are similar to those discussed supra in connection with claims 1-4. As noted supra, according to the ’426 Patent, “VC can be viewed as a copier,” even though “VC does not distinguish between electronic and physical paper.” Ex. 1001, col. 70, ll. 37-39. It follows, based on the foregoing description of the two systems, that the two systems are similar, at least in terms of the functionality as a basic copier operating on electronic and physical paper.

Pursuant to the foregoing discussion, Petitioner establishes a reasonable likelihood of prevailing on the ground that Salgado anticipates claims 1-11.

3. Remaining Asserted Grounds of Unpatentability

As indicated supra in Section I.E., Petitioner asserts additional grounds of unpatentability. These additional grounds are denied as redundant in light of the determination that there is a reasonable likelihood that the challenged claims are unpatentable based on the grounds of unpatentability on which we institute an inter partes review. See 37 C.F.R. § 42.108(a).

Petitioner maintains that various grounds are not “cumulative.” For example, citing the Melen Declaration, Petitioner maintains that “Harkins is not merely cumulative and is particularly relevant prior art for the claims of the ’426 Patent from the perspective of an end user interacting and using a networked processing system.” Pet. 42. Although Dr. Melen does discuss the asserted relevance in terms of what Harkins discloses, Ex. 1008 ¶ 86, Petitioner fails to
explain specifically why Harkins is more relevant than XNS or Salgado in terms of any of the limitations recited in claims 1-11. Petitioner does not show how any of the additional grounds are more relevant than XNS or Salgado in terms of claim limitations. Notwithstanding the lack of specific guidance, the Board carefully considered each ground as applied to the claim limitations as set forth in the Petition.

III. CONCLUSION

The Petition demonstrates a reasonable likelihood of prevailing on the following grounds of unpatentability: anticipation of claims 1-11 by XNS and by Salgado.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that pursuant to 35 U.S.C. § 314, an inter partes review is hereby instituted as to claims 1-11 of the ’426 Patent for the following grounds of unpatentability:

1. Claims 1-11 for anticipation by XNS; and
2. Claims 1-11 for anticipation by Salgado;

FURTHER ORDERED that no other grounds of unpatentability set forth in the Petition are authorized for the inter partes review as to claims 1-11 of the ’426 Patent;

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

FURTHER ORDERED that an initial conference call with the Board is scheduled for 10:00 AM ET on Dec. 17, 2013. The parties are directed to the Office Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012) for
guidance in preparing for the initial conference call, and should be prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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