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IBM CORP. (WIP)
c/o WALDER INTELLECTUAL PROPERTY LAW, P.C.
17304 PRESTON ROAD
SUITE 200
DALLAS, TX 75252

EXAMINER
BERMAN, STEPHEN DAVID

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/801,964	Applicant(s) GIERLAK ET AL.	
	Examiner STEPHEN BERMAN	Art Unit 2192	AIA (First Inventor to File) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/17/15*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-11 and 14-22* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-11,14-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *7/17/15* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☒ All b)☐ Some** c)☐ None of the:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *7/17/15*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

2. The instant application having application No. 14/801,964 filed on July 17, 2015 and claiming priority to foreign filed application having application No. GB1413287.2 filed on July 28, 2014, presents claims 1-11 and 14-22 for examination.

Examiner Notes

3. Examiner cites particular columns, paragraphs, figures and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

4. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

Claim Objections

5. Claims 2, 15, and 19, each recite, "the relative number of installed software programs of the group of computing systems" which appears to be a typographical error that should recite -- [[the]] a relative number of installed software programs of the group of computing systems --. Appropriate correction is required.

6. Claims 5, 16, and 20 are objected to because of the following informality: each recites "wherein a software signature is removed from the base installation software catalogue if the related software program is not discovered during the second scan procedure on any of the computing systems of the group," which appears to be a typographical error that should recite -- wherein a software signature is removed from the base installation software catalogue if [[the]] a related software program is not discovered during the second scan procedure on any of the computing systems of the group --. Appropriate correction is required.

7. Claims 6, 17, and 21 are objected to because of the following informalities: each recites "wherein a software signature of the related software program is added to the base installation software catalogue if the software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group," which appears to be a typographical error that should recite -- wherein a software signature of [[the]] a related software program is added to the base installation software catalogue if the related software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group --. Appropriate correction is required.

8. Claims 7, 18, and 22 each recite, "while on all other members of the computing group the second scan procedure is performed by scanning the related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs." Since, there is no previous recitation of "related computing systems" or "member of the computing group," this appears to be a typographical error that is interpreted to mean -- while on all other [~~members of the computing group~~] computing systems of the group, the second scan procedure is performed by scanning [[the]] one or more related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 4 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

With respect to claim 4, the claim recites, "wherein the members of the sub-group of computing systems are selected based on a directive external to the computing systems." However, it is not clear whether "the computing systems" as recited at the end of claim 4 means the computing systems of the group (introduced in claim 1), or the computing systems forming the sub-group (introduced in claim 2). This renders the scope of the claim indefinite. Furthermore, there is no previous recitation of "members of the sub-group of computing systems." For purposes of compact prosecution only, "wherein the members of the sub-group of computing systems are selected based on a directive external to the computing systems" is interpreted to mean -- wherein the [[members]] computing systems of the sub-group [~~of computing systems~~] are selected based on a directive external to the computing systems of the group --.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 1-11 and 14-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.

With respect to claim 1, the claim is directed to the abstract idea of scanning information to identify installed software programs and storing information of identified installed software

programs. The "first scan," "adding," and "second scan" steps all describe this idea, which is similar to the idea of collecting data, recognizing certain data within the collected data set, and storing that recognized data in a memory, which has been held by the courts to be abstract (see Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A., 776 F.3d 1343 (Fed. Cir. 2014); see also Cyberfone Systems, LLC v. CNN Interactive Group, Inc., 558 Fed. Appx. 988 (Fed. Cir. 2014).).

The only additional limitation in claim 1, "defining a group comprising computing systems that have similar software," is simply an organization and specification of the information to be scanned, which is nothing more than insignificant pre-solution activity (see Mayo Collaborative Svcs. v. Prometheus Labs., 566 U.S. __, 132 S. Ct. 1289, 1297-1298,1300-1301 (2012); Parker v. Flook, 437 U.S. 584, 589-90 (1978); see also Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. __, 134 S. Ct. 2347 (2014)). Thus the claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claim 11, similarly to claim 1 discussed above, the claim is directed to the abstract idea of scanning information to identify installed software programs and storing information of identified installed software programs. The "first scan," "adding," and "second scan" claim limitations all describe this idea, which is similar to the idea of collecting data, recognizing certain data within the collected data set, and storing that recognized data in a memory, which has been held by the courts to be abstract (see Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A., 776 F.3d 1343 (Fed. Cir. 2014); see also Cyberfone Systems, LLC v. CNN Interactive Group, Inc., 558 Fed. Appx. 988 (Fed. Cir. 2014)).

The claim does not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional limitation of defining a group comprising computing systems that have similar software is simply an organization and specification of the information to be scanned, which is nothing more than an insignificant pre-solution activity (see Mayo Collaborative Svcs. v. Prometheus Labs., 566 U.S. __, 132 S. Ct. 1289, 1297-1298,1300-1301 (2012); Parker v. Flook, 437 U.S. 584, 589-90 (1978); see also Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. __, 134 S. Ct. 2347 (2014)), and the only remaining additional limitations are related to a generic computer implementation (e.g., processor and memory), which are not sufficient to amount to significantly more than the abstract idea itself (see Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. __, 134 S. Ct. 2347 (2014)). Thus the claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claim 14, similarly to claims 1 and 11 discussed above, the claim is directed to the abstract idea of scanning information to identify installed software programs and storing information of identified installed software programs. The "first scan," "adding," and "second scan" claim limitations all describe this idea, which is similar to the idea of collecting data, recognizing certain data within the collected data set, and storing that recognized data in a memory, which has been held by the courts to be abstract (see Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A., 776 F.3d 1343 (Fed. Cir. 2014); see also Cyberfone Systems, LLC v. CNN Interactive Group, Inc., 558 Fed. Appx. 988 (Fed. Cir. 2014)).

The claim does not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional limitation of defining a group comprising computing systems that have similar software is simply an organization and specification of the information to be scanned, which is nothing more than insignificant pre-solution activity (see Mayo Collaborative Svcs. v. Prometheus Labs., 566 U.S. __, 132 S. Ct. 1289, 1297-1298,1300-1301 (2012); Parker v. Flook, 437 U.S. 584, 589-90 (1978); see also Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. __, 134 S. Ct. 2347 (2014)) and the only remaining additional limitations are related to a generic implementation as a computer program product, which is not sufficient to amount to significantly more than the abstract idea itself (Planet Bingo, LLC v. VKGS LLC, 576 Fed. Appx. 1005 (Fed. Cir. 2014); see also Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 573 U.S. __, 134 S. Ct. 2347 (2014)). Thus the claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 2, 15, and 19, generating a list of computing systems in the group that are found to have a number of identical identified installed software merely represents insignificant post-solution activity and thus does not amount to significantly more than the abstract idea itself (see Mayo at 1300-1301 and Flook at 589-590). Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 3 and 4, additional details regarding how the list is defined and how member are selected is also insignificant post-solution activity and thus does not amount to significantly more than the abstract idea itself (see Mayo at 1300-1301 and Flook at 589-590).

Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 5, 16, and 20, deletion of software signatures if related software is not discovered merely represents insignificant post-solution activity and thus does not amount to significantly more than the abstract idea itself (see Mayo at 1300-1301 and Flook at 589-590). Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 6, 17, and 21, scanning and recording data also describes the abstract idea identified above with respect to claims 1, 11, and 14. Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 7, 18, and 22, the limitations are also only directed to scanning and recording data, and therefore the limitations are also directed towards the abstract idea identified above with respect to claims 1, 11, and 14. Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

With respect to claims 8-10, merely providing details of which computing system is selected for the first scan procedure represents insignificant pre-solution activity and thus does not amount to significantly more than the abstract idea itself (see Mayo at 1300-1301 and Flook at 589-590). Thus each claim as a whole does not amount to significantly more than the abstract idea itself.

13. Claims 14-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter (the claims do not fall within at least one of the four categories of patent eligible subject matter).

With respect to claim 14, lines 2-3 recites, "a computer readable storage medium" and Applicant's specification at paragraph [0067] teaches, "**A computer readable storage medium** may be, for example, but not limited to, an electronic, magnetic, optical, electromagnetic, **infrared**, or semiconductor system, apparatus, or device, or any suitable combination of the foregoing." Thus, under the broadest reasonable interpretation in light of the specification, the invention of claim 14 includes transitory media. Under current USPTO policy, claims drawn to computer-readable media cannot encompass transitory media. It is suggested that Applicant amend this claim to recite "a non-transitory computer readable storage medium."

With respect to claims 15-18, as dependent claims of claim 14, each further recites additional components and/or functionalities; however, none of the additions precludes the interpretations as covering transitory media. Thus, claims 15-18 are also rejected as failing to remedy the 35 USC 101 subject matter deficiency suffered by claim 14.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious

> before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-11, and 19-22 are rejected under 35 U.S.C. 103 as being unpatentable over Vidal et al. (20120054733 -- hereinafter Vidal) in view of Perrone et al. (7506038 -- hereinafter Perrone).

With respect to claim 1, Vidal discloses **A method for identifying installed computer programs, the method comprising:**

defining a group comprising computing systems that have similar software program installations (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0028], the managed network 174 can comprise or contain a set of clients 102 .... For instance, package manager 110... installed in each client [each managed network client in the set of managed network clients 102 has packet manager 110 installed, i.e. defining a group comprising computing systems that have similar software program installations]),

performing a first scan procedure by scanning each computing system of the group [using a first software signature catalogue] **to identify installed programs** (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0016], The local package manager can be configured to access the set of installed packages and/or selectable subsets of those packages, and their related attributes on the client or other machine, and derive or generate an inventory of the packages and/or constituent files present on that associated machine; [0034], the set of installed packages 112, the set of component files 158, the set of package attributes 114, and/or other data related to the package complement of ... multiple clients 102 can be captured and/or accessed, for instance

via package manager 110 and/or other logic [accessing each managed client 102, i.e. scanning each computing system of the group, to generate an inventory of installed packages, i.e. to identify installed program]. In aspects, the set of installed packages 112 and/or other information can be discovered and recorded for multiple clients at the same time, and/or different clients at different times, based on a network-wide interval or schedule, and/or at other times.),

adding software signatures of identified installed programs to a base installation software catalogue (e.g., Figs. 1, 2, 3a, 4-5 along with associated text, e.g., [0027], the one or more package servers 162 receiving the inventory of the set of installed packages 154 from the client 102 can accept that data and use it to build aggregate package population record 170 [base installation software catalogue]. .... The aggregate package population record 170 [base installation software catalogue] can reflect or incorporate the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [identifiers for each of the identified installed packages are added to the aggregate package population record 170, i.e. adding software signatures of identified installed programs to a base installation software catalogue].), **and**

performing a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs (e.g., Figs. 1-2, 3a, 5 along with associated text, e.g., [0040-41], In 524, the inventory engine 148 of

the one or more package servers 162 and/or other logic can update the aggregate package population record 170 [base installation software catalogue]... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients to update the aggregate package population record 170 to identify installed packages, i.e. performing a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs]).

Although Vidal discloses **performing a first scan procedure by scanning each computing system of the group to identify installed programs,** it does not appear to explicitly disclose that the scanning is **using a first software signature catalogue**. However, this is taught by Perrone (e.g., Figs. 1-2 and associated text, e.g., col. 4:47-53, the agents that are assigned to perform a scan...download one or more catalogs of product signatures from the central server 114. These catalogs can include information for all the supported platforms (e.g., Linux, AIX, HP, Solaris, etc.). Then, the discovery agents process all the catalogs and use them for executing a software inventory scan.).

Vidal and Perrone are analogous because they are both in the same field of endeavor of software management. Therefore it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to combine the package management invention of Vidal with the software discovery invention of Perrone because it provides an effective means "to efficiently scan and/or perform a complete software inventory," as suggested by Perrone (see col. 10:55-57).

With respect to claim 11, Vidal discloses **A software discovery system for identifying installed computer programs, the system comprising:**

a processor; and a memory coupled to the processor, wherein the memory comprises instructions which, when executed by the processor, cause the processor to (e.g., Fig. 4, and associated text, e.g., [0033], FIG. 4 illustrates an exemplary diagram of hardware and other resources that can be incorporated in a server of one or more package servers 162 configured to install, host, manage, and analyze the aggregate package population record 170, the package subset enumeration table 156, and other data or resources, according to embodiments. In embodiments as shown, a server of one or more package servers 162 can comprise a processor 130 communicating with memory 132, such as electronic random access memory, operating under control of or in conjunction with operating system 136.... Processor 130 also communicates with each client 102 of the managed network 174, package manager 110, and/or other resources to execute control logic and control the inventorying, subset selection, updating, installation, analysis and management of software packages and their associated processes.)**:**

define a group comprising computing systems that have similar software program installations (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0028], the managed network 174 can comprise or contain a set of clients 102 .... For instance, package manager 110... installed in each client [each managed network client in the set of managed network clients 102 has packet manager 110 installed, i.e. define a group comprising computing systems that have similar software program installations])**;**

perform a first scan procedure by scanning each computing system of the group [using a first software signature catalogue] **to identify installed programs** (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0016], The local package manager can be configured to access the set of installed packages and/or selectable subsets of those packages, and their related attributes on the client or other machine, and derive or generate an inventory of the packages and/or constituent files present on that associated machine; [0034], the set of installed packages 112, the set of component files 158, the set of package attributes 114, and/or other data related to the package complement of ... multiple clients 102 can be captured and/or accessed, for instance via package manager 110 and/or other logic [accessing each managed client 102, i.e. scanning each computing system of the group, to generate an inventory of installed packages, i.e. to identify installed program]. In aspects, the set of installed packages 112 and/or other information can be discovered and recorded for multiple clients at the same time, and/or different clients at different times, based on a network-wide interval or schedule, and/or at other times.)**;**

add software signatures of identified installed programs to a base installation software catalogue (e.g., Figs. 1, 2, 3a, 4-5 along with associated text, e.g., [0027], the one or more package servers 162 receiving the inventory of the set of installed packages 154 from the client 102 can accept that data and use it to build aggregate package population record 170 [base installation software catalogue]. .... The aggregate package population record 170 [base installation software catalogue] can reflect or incorporate the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software

catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [identifiers for each of the identified installed packages are added to the aggregate package population record 170, i.e. add software signatures of identified installed programs to a base installation software catalogue].)**; and**

perform a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs (e.g., Figs. 1-2, 3a, 5 along with associated text, e.g., [0040-41], In 524, the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170 [base installation software catalogue]... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients to update the aggregate package population record 170 to identify installed packages, i.e. performing a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs])**.**

Although Vidal discloses **perform a first scan procedure by scanning each computing system of the group to identify installed programs** (see above)**,** it does not appear to explicitly disclose that the scanning is **using a first software signature catalogue**. However, this is taught by Perrone (e.g., Figs. 1-2 and associated text, e.g., col. 4:47-53, the agents that are assigned to perform a scan...download one or more catalogs of product signatures from the central server 114. These catalogs can include information for all the supported platforms (e.g., Linux, AIX,

HP, Solaris, etc.). Then, the discovery agents process all the catalogs and use them for executing a software inventory scan.).

Vidal and Perrone are analogous because they are both in the same field of endeavor of software management. Therefore it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to combine the package management invention of Vidal with the software discovery invention of Perrone because it provides an effective means "to efficiently scan and/or perform a complete software inventory," as suggested by Perrone (see col. 10:55-57).

With respect to claims 2 and 19, Vidal also discloses **generating a list of computing systems forming a sub-group of the group of computing systems having similar software program installations, wherein those computing systems are put on the list whose relative number of identical installed software programs is higher than the relative number of installed software programs of the group of computing systems** (Please note claim objections above; e.g. Figs. 2, 3B-C, and 5 along with associated text, e.g., [0019], newly connected machines in a managed network [computing systems in the group of similar software program installations] can be automatically discovered or identified, and have their package inventories automatically captured, reported, and added to the total complement. According to aspects, the one or more package servers and/or other logic can automatically assign newly discovered machines to one or more existing machines groups, based on the selected package subsets that may be present on those newly attached systems [the managed network clients, i.e. computing systems with similar software program installations, are divided into sub-groups where all

systems in each sub-group have at least one identical software package in common in addition to the package manager 110 installed on all managed clients 102, i.e. those computing systems are put on the list whose relative number of identical installed software programs is higher than the relative number of installed software programs of the group of computing systems]; see also [0029], The grouping of machines that contain one or more of the package subset enumeration table 156 can be encoded or stored in the machine-package association table 152, to permit machines having common subsets for instance to undergo updating or maintenance on a common basis. Machines hosting a package subset related to email or other messaging can all receive a common update to the hosted email client and/or other package updates, as all or part of the set of package update files 150. All machines hosting a firewall or other security application can for instance receive an updated version to a firewall application or service, as all or part of the set of package update files 150; [0031], each package subset in the set of package subsets 178 can be assigned an ID number in a set of subset ID numbers 180, and in embodiments, each identifier in the set of subset ID numbers 180 can have an associated set of machines hosting the package subset 182 [sub-group listings].).

With respect to claim 3, Vidal also discloses **wherein the relative number of identical installed programs within the sub-group is selected to be above a threshold** (e.g. Figs. 2, 3B-C, and 5 along with associated text, e.g., [0029], The grouping of machines that contain one or more of the package subset enumeration table 156 can be encoded or stored in the machine-package association table 152, to permit machines having common subsets for instance to undergo updating or maintenance on a common basis [each machine in the same sub-group has

at least one package subset in common, i.e. the relative number of identical installed programs within the sub-group is selected to be above a threshold]. Machines hosting a package subset related to email or other messaging can all receive a common update to the hosted email client and/or other package updates, as all or part of the set of package update files 150. All machines hosting a firewall or other security application can for instance receive an updated version to a firewall application or service, as all or part of the set of package update files 150).

With respect to claim 4, Vidal also discloses **wherein the members of the sub-group of computing systems are selected based on a directive external to the computing systems** (Please note 35 USC 112(b) rejection above; e.g., Figs. 1, 2, 3A-B, and 5 along with associated text, e.g., [0037], the inventory engine 148 of the one or more package servers 162 and/or other logic can ... generate the set of package subsets 178, for instance via user input [user defines package subsets used to group the managed computing systems 102 into sub-groups, i.e. the members of the sub-group of computing systems are selected based on a directive external to the computing systems]).

With respect to claims 5 and 20, Vidal also discloses **wherein a software signature is removed from the base installation software catalogue if the related software program is not discovered during the second scan procedure on any of the computing systems of the group** (Please note claim objections above; e.g., Figs. 1-2 and 4-5, particularly Aggregate Population Record 170 [base installation software catalogue] and Update Aggregate Population Record 524, along with associated text, e.g., [0027], The aggregate package population record

170 [base installation software catalogue] can reflect ... the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [aggregate package population record 170, i.e. base installation software catalogue, lists the signatures of discovered packages]; [0041-2], the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170. .... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients after clients have been deleted to update the aggregate package population record 170 so that it reflects currently installed package signatures, i.e. a software signature is removed from the base installation software catalogue if the related software program is not discovered during the second scan procedure on any of the computing systems of the group].)

With respect to claims 6 and 21, Vidal also discloses **wherein a software signature of the related software program is added to the base installation software catalogue if the software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group** (Please note claim objections above;

e.g., Figs. 1-2 and 4-5, particularly Aggregate Population Record 170 [base installation software catalogue] and Update Aggregate Population Record 524, along with associated text, e.g., [0027], The aggregate package population record 170 [base installation software catalogue] can reflect ... the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [aggregate package population record 170, i.e. base installation software catalogue, lists the signatures of discovered packages]; [0041-2], the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170. .... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients after clients have been added to update the aggregate package population record 170 so that it reflects all currently installed package signatures, i.e. a software signature of the related software program is added to the base installation software catalogue if the software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group].).

With respect to claims 7 and 22, Vidal in view of Perrone discloses the inventions of claims 1 and 11 (see rejections above) and further disclose **wherein on one selected computing system the first scan procedure is performed using the first software signature catalogue to identify installed programs** (Perrone, e.g., Figs. 1-2 and associated text, e.g., col. 2:57-62, one scan...that is performed by a selected agent on a machine; see also col. 4:25-53, The user's (or the systems) selection of one or more discovery agents is then communicated to the central server 114. .... the agents that are assigned [selected] to perform a scan...download one or more catalogs of product signatures from the central server 114. These catalogs can include information for all the supported platforms (e.g., Linux, AIX, HP, Solaris, etc.). Then, the discovery agents process all the catalogs and use them for executing a software inventory scan; see also Vidal, e.g., 1-2 and 4-5 along with associated text, e.g., [0034], the set of installed packages 112, the set of component files 158, the set of package attributes 114, and/or other data related to the package complement of the client 102 or multiple clients 102 can be captured and/or accessed, for instance via package manager 110 and/or other logic [the first scan procedure to identify installed programs].)**, while on all other members of the computing group the second scan procedure is performed by scanning the related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs** (Please note claim objections above; Vidal, e.g., Figs. 1-2, 3a, 5 along with associated text, e.g., [0040], In 524, the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170 [base installation software catalogue]... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and

discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients to update the aggregate package population record 170 to identify installed packages, i.e. on all other members of the computing group the second scan procedure is performed by scanning the related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs]).

With respect to claim 8, Perrone further discloses **wherein the selected computing system on which the first scan procedure is performed is defined by an external setting** (e.g., Figs. 1-2 and associated text, e.g., col. 4:14-18, After optionally outputting (e.g., to the user or the system as will be explained below) the shared file system information, the user ... may select a single "discovery" agent [the computing system on which the first scan procedure is performed is selected by a user, i.e. defined by an external setting].).

With respect to claim 9, Perrone further discloses **wherein the selected computing system on which the first scan procedure is performed is selected based on a predefined schema** (e.g., Figs. 1-2 and associated text, e.g., col. 3:45 - col. 4:18, The central server 114 may then optionally output information related to the shared file system list to a user (or to the system) or use this information itself, so that an agent ...for scanning each of the shared file systems...can be selected.... After optionally outputting (e.g., to the user or the system as will be explained below) the shared file system information, the user ... may select a single "discovery" agent [the selection is based on specified categories of file system information, i.e. the selected

computing system on which the first scan procedure is performed is selected based on a predefined schema].).

With respect to claim 10, Perrone further discloses **wherein the selected computing system on which the first scan procedure is performed is selected based on the workload of the computing systems of the group** (e.g., Figs. 1-2 and associated text, e.g., col. 2:57-67, an inventory of a shared file system may be satisfactorily performed using one scan ... that is performed by a selected agent on a machine mounting the shared file system and the results of the scan can be shared between all other agents on machines mounting the same shared file system. Accordingly, unnecessary scanning by all the agents running on machines that share (i.e., can see the shared file system) the same shared file system can be avoided [a computing system on which the first scan procedure is performed is selected to minimize the amount of scanning work performed by all computing systems, i.e. selected based on the workload of the computing systems of the group].).

16. Claims 14-18 are rejected under 35 U.S.C. 103 as being unpatentable over Vidal in view of Back et al. (20070220507 -- hereinafter Back), and further in view of Perrone.

With respect to claim 14, Vidal discloses [A computer program product for identifying installed computer programs, comprising a computer readable storage medium having a computer readable program stored therein, wherein the computer readable program, when executed on a computing device, causes the computing device] **to:**

define a group comprising computing systems that have similar software program installations (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0028], the managed network 174 can comprise or contain a set of clients 102 .... For instance, package manager 110... installed in each client [each managed network client in the set of managed network clients 102 has packet manager 110 installed, i.e. define a group comprising computing systems that have similar software program installations])**;**

perform a first scan procedure by scanning each computing system of the group [using a first software signature catalogue] **to identify installed programs** (e.g., Figs. 1-2 and 4-5 along with associated text, e.g., [0016], The local package manager can be configured to access the set of installed packages and/or selectable subsets of those packages, and their related attributes on the client or other machine, and derive or generate an inventory of the packages and/or constituent files present on that associated machine; [0034], the set of installed packages 112, the set of component files 158, the set of package attributes 114, and/or other data related to the package complement of ... multiple clients 102 can be captured and/or accessed, for instance via package manager 110 and/or other logic [accessing each managed client 102, i.e. scanning each computing system of the group, to generate an inventory of installed packages, i.e. to identify installed program]. In aspects, the set of installed packages 112 and/or other information can be discovered and recorded for multiple clients at the same time, and/or different clients at different times, based on a network-wide interval or schedule, and/or at other times.)**;**

add software signatures of identified installed programs to a base installation software catalogue (e.g., Figs. 1, 2, 3a, 4-5 along with associated text, e.g., [0027], the one or more package servers 162 receiving the inventory of the set of installed packages 154 from the

client 102 can accept that data and use it to build aggregate package population record 170 [base installation software catalogue]. .... The aggregate package population record 170 [base installation software catalogue] can reflect or incorporate the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [identifiers for each of the identified installed packages are added to the aggregate package population record 170, i.e. adding software signatures of identified installed programs to a base installation software catalogue].)**; and**

perform a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs (e.g., Figs. 1-2, 3a, 5 along with associated text, e.g., [0040-41], In 524, the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170 [base installation software catalogue]... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scans the managed clients to update the aggregate package population record 170 to identify installed packages, i.e. performing a second scan procedure by scanning the group of computing systems using the base installation software catalogue to identify installed software programs].)**.**

To the extent that Vidal does not appear to explicitly disclose **A computer program product comprising a computer readable storage medium having a computer readable program stored therein, wherein the computer readable program, when executed on a computing device, causes the computing device to**, this is taught by this is taught by Back (e.g., claim 16, A computer readable medium having computer executable instructions for performing the steps recited in claim 10.).

Vidal and Back are analogous because they are both in the same field of endeavor of software management. Therefore it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to combine the software management method of Vidal with the invention of Back such that software management method of Vidal is embodied as a computer program product comprising a computer readable storage medium having a computer readable program stored therein, because Back suggests implementing a software management method as a computer readable medium having computer executable instructions (see claim 16, "A computer readable medium having computer executable instructions for performing the steps recited in [method] claim 10").

Although Vidal discloses **perform a first scan procedure by scanning each computing system of the group to identify installed programs** (see above)**,** it does not appear to explicitly disclose that the scanning is **using a first software signature catalogue**. However, this is taught by Perrone (e.g., Figs. 1-2 and associated text, e.g., col. 4:47-53, the agents that are assigned to perform a scan...download one or more catalogs of product signatures from the central server 114. These catalogs can include information for all the supported platforms (e.g., Linux, AIX, HP, Solaris, etc.). Then, the discovery agents process all the catalogs and use them for executing

a software inventory scan.).

Perrone is analogous because it is in the same field of endeavor of software management. Therefore it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to incorporate the software discovery invention of Perrone because it provides an effective means "to efficiently scan and/or perform a complete software inventory," as suggested by Perrone (see col. 10:55-57).

With respect to claim 15, Vidal also discloses **generate a list of computing systems forming a sub-group of the group of computing systems having similar software program installations, wherein those computing systems are put on the list whose relative number of identical installed software programs is higher than the relative number of installed software programs of the group of computing systems** (Please note claim objection above; e.g. Figs. 2, 3B-C, and 5 along with associated text, e.g., [0019], newly connected machines in a managed network [computing systems in the group of similar software program installations] can be automatically discovered or identified, and have their package inventories automatically captured, reported, and added to the total complement. According to aspects, the one or more package servers and/or other logic can automatically assign newly discovered machines to one or more existing machines groups, based on the selected package subsets that may be present on those newly attached systems [the managed network clients, i.e. computing systems with similar software program installations, are divided into sub-groups where all systems in each sub-group have at least one specific software package in common in addition to the package manager 110 installed on all managed clients 102, i.e. those computing systems are put on the list whose

relative number of identical installed software programs is higher than the relative number of installed software programs of the group of computing systems]; see also [0029], The grouping of machines that contain one or more of the package subset enumeration table 156 can be encoded or stored in the machine-package association table 152, to permit machines having common subsets for instance to undergo updating or maintenance on a common basis. Machines hosting a package subset related to email or other messaging can all receive a common update to the hosted email client and/or other package updates, as all or part of the set of package update files 150. All machines hosting a firewall or other security application can for instance receive an updated version to a firewall application or service, as all or part of the set of package update files 150; [0031], each package subset in the set of package subsets 178 can be assigned an ID number in a set of subset ID numbers 180, and in embodiments, each identifier in the set of subset ID numbers 180 can have an associated set of machines hosting the package subset 182 [sub-group listings].).

With respect to claims 16, Vidal also discloses **wherein a software signature is removed from the base installation software catalogue if the related software program is not discovered during the second scan procedure on any of the computing systems of the group** (Please note claim objections above; e.g., Figs. 1-2 and 4-5, particularly Aggregate Population Record 170 [base installation software catalogue] and Update Aggregate Population Record 524, along with associated text, e.g., [0027], The aggregate package population record 170 [base installation software catalogue] can reflect ... the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all

packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [aggregate package population record 170, i.e. base installation software catalogue, lists the signatures of discovered packages]; [0041-2], the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170. .... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients after clients have been deleted to update the aggregate package population record 170 so that it reflects currently installed package signatures, i.e. a software signature is removed from the base installation software catalogue if the related software program is not discovered during the second scan procedure on any of the computing systems of the group].).

With respect to claim 17, Vidal also discloses **wherein a software signature of the related software program is added to the base installation software catalogue if the software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group** (Please note claim objections above; e.g., Figs. 1-2 and 4-5, particularly Aggregate Population Record 170 [base installation software catalogue] and Update Aggregate Population Record 524, along with associated text, e.g.,

[0027], The aggregate package population record 170 [base installation software catalogue] can reflect ... the inventory of the set of installed packages 154 received from various clients or other machines, and enumerate or identify all packages present or reported on all machines within a network under management; [0030], packages stored in the aggregate package population record 170 [base installation software catalogue] can be identified by their package name, but can in addition or instead also be identified by the set of package attributes 114 for each package, and/or using other attributes or data [aggregate package population record 170, i.e. base installation software catalogue, lists the signatures of discovered packages]; [0041-2], the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170. .... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients after clients have been added to update the aggregate package population record 170 so that it reflects all currently installed package signatures, i.e. a software signature of the related software program is added to the base installation software catalogue if the software program is discovered as an installed software program during the second scan procedure on any of the computing systems of the group].).

With respect to claim 18, Vidal in view of Back and Perrone discloses the invention of claim 14 and further discloses **wherein on one selected computing system the first scan procedure is performed using the first software signature catalogue to identify installed**

programs (Perrone, e.g., Figs. 1-2 and associated text, e.g., col. 2:57-62, one scan...that is performed by a selected agent on a machine; see also col. 4:25-53, The user's (or the systems) selection of one or more discovery agents is then communicated to the central server 114. .... the agents that are assigned [selected] to perform a scan...download one or more catalogs of product signatures from the central server 114. These catalogs can include information for all the supported platforms (e.g., Linux, AIX, HP, Solaris, etc.). Then, the discovery agents process all the catalogs and use them for executing a software inventory scan; see also Vidal, e.g., 1-2 and 4-5 along with associated text, e.g., [0034], the set of installed packages 112, the set of component files 158, the set of package attributes 114, and/or other data related to the package complement of the client 102 or multiple clients 102 can be captured and/or accessed, for instance via package manager 110 and/or other logic [the first scan procedure to identify installed programs].)**, while on all other members of the computing group the second scan procedure is performed by scanning the related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs** (Please note claim objection above; Vidal, e.g., Figs. 1-2, 3a, 5 along with associated text, e.g., [0040], In 524, the inventory engine 148 of the one or more package servers 162 and/or other logic can update the aggregate package population record 170 [base installation software catalogue]... For example, update operations can be initiated based on a predetermined schedule, such as once or week or once a month to interrogate the managed network 174 and discover recently added or recently deleted clients 102 and/or other machines [package servers 162 periodically re-scan the managed clients to update the aggregate package population record 170 to identify installed packages, i.e. on all other members of the computing group the second

scan procedure is performed by scanning the related computing systems of the group of computing systems using the base installation software catalogue to identify installed computer programs].).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN BERMAN whose telephone number is (571)272-7206. The examiner can normally be reached on Monday-Thursday, 7:30am-6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/STEPHEN BERMAN/

Examiner, Art Unit 2192