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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM,

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Published:

- with international search report (Art. 21(3))
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11 October 2012

(54) **Title:** AUTOMATED INFRASTRUCTURE MANAGEMENT SYSTEMS AND METHODS FOR ENABLING REAL TIME ENERGY MANAGEMENT

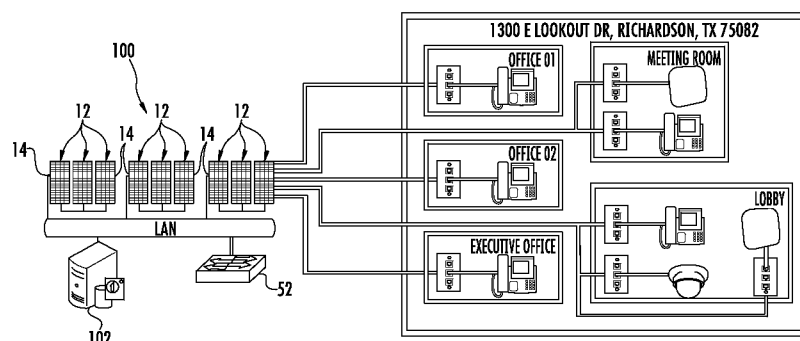


FIG. 5

(57) **Abstract:** Automated infrastructure management systems and methods document infrastructure elements within a facility, provide a comprehensive record of all network-connected equipment within a facility, and facilitate trouble shooting of network-connected equipment. An automated infrastructure management system includes a plurality of intelligent patch panels, each comprising a plurality of connector ports connected to individual communication channels of a network, a controller in communication with at least some of the intelligent patch panels that obtains connectivity information for the intelligent patch panel's ports, and management software in communication with the controller. The management software performs various functions including correlating the interconnection information for the intelligent patch panels with the physical location information for telecommunications in its database, applying energy management policies to a respective communication channel, providing real time physical location information for devices connected to communication channels to a network switch, and displaying real time physical location information of the devices.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/021998

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04Q1/14
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
H04Q G06F H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 734 692 A1 (PANDUIT CORP [US]) 20 December 2006 (2006-12-20)	1-6
Y	paragraphs [0004], [0023], [0024], [0027]	7-20
Y	----- US 2009/112373 A1 (FELDMAN DANIEL [US] ET AL) 30 April 2009 (2009-04-30) paragraphs [0040], [0041]	7-20
A	----- US 2010/141379 A1 (TUCKER PETER T [US] ET AL) 10 June 2010 (2010-06-10) abstract	1-6

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

10 August 2012

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20/08/2012

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/021998

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2012/021998

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 1734692	A1	20-12-2006	EP 1734692 A1	20-12-2006
			KR 20060130517 A	19-12-2006
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			DE 112009003517 T5	06-06-2012
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			US 2010141379 A1	10-06-2010
			WO 2010065807 A1	10-06-2010

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6

An automated infrastructure management system comprising a plurality of patch panels and a processor which provides real time physical information

2. claims: 7-20

An automated infrastructure management system comprising a plurality of patch panels and a processor which can turn on the power over ethernet on a switch port.
